

# **POPULATION DATA ANALYSIS REPORTS**

## **Volume 1**

### **SOCIO-ECONOMIC AND DEMOGRAPHIC TRENDS ANALYSIS**

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## **PREFACE**

The Population Census is the single most important source of data on the population and its characteristics in the country. It provides information on the size, growth, composition and distribution of the entire population, and for subpopulations; as well as for geographical areas, to the lowest levels, below the district level, i.e., such as localities, villages and settlements, and residential areas in the municipal areas. In the absence of a reliable civil registration system, the population census is currently the only source of data from which population growth and estimates can be derived.

The 2000 Population and Housing Census, is therefore an indispensable source of data for planning in the country. The results of the 2000 Census are being made available to users in three stages. At the first stage, the summary results of the census were released, in 2003, in three reports. At the second stage, publications on detailed tables on the population composition and distribution by various characteristics that were collected during the census are produced. At the third, analytical reports based primarily on the census data, and complemented with data from other sources, including sample surveys and administrative records, are being made available to give a more comprehensive view of the state of the population and the policy implications of some of the observed patterns and trends.

Nineteen analytical reports have been produced as two sets of publications with funding from the United Nations Population Fund (UNFPA). The first set is published as regional reports in separate volumes, on the analysis of district data and their implications for planning. This publication is one of two-volume reports covering nine major themes. This Volume is on socio-economic and demographic trend data analysis and the second, on the implications of the census results for the demographic outlook and key policy needs of the country. Another set of reports are region-based, published in ten separate volumes corresponding to the ten regions. Each regional report is on the analysis of district data and their implications for planning.

This and all the other census-based reports are initially disseminated in print and will subsequently be made available on the web to promote a wider and easier access to census data. In addition, the reports will be issued in electronic format, on CD Rom, upon request. The tables in the basic census publications will also be made available at all the Regional Offices of the Statistical Service, located in the respective regional capitals.

The Statistical Service is exploring ways of improving its services to its stakeholders, through exchange of information and constructive feedback on how the needs of users could best be served. We would therefore greatly appreciate comments and suggestions from readers.

**August 2005**

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## **ACKNOWLEDGEMENTS**

One of the objectives of the Data Analysis Project, from which this and other analytical reports have been produced, was to equip senior professional staff with analytic and report writing skills to support policy planners and policy makers. Senior GSS professional staff, with the required background, were paired with known and experienced researchers from the University of Ghana and other institutions. A team of 4 contributed to preparing this Volume of the report, while a team of 16 worked on Volume 2.

The local consultants who contributed to the various chapters have demonstrated an appreciation of the real issues. The Editors also devoted considerable amount of time to compile additional data and re-write portions of the draft of the chapters.

The tireless effort and professional dedication of my colleagues of the Editorial Team are acknowledged with appreciation. Dr. Philomena E. Nyarko, who acted as Secretary to the Editorial Team, assisted the Team to effect suggested changes. The professional staff of the Data Processing Unit willingly and in a timely manner generated tabulations to facilitate the analysis and we are grateful. Mr. Baah Wadieh devoted time and effort in ensuring that the many editorial changes were faithfully effected by the Secretary. Ms. Agnes A. Apau provided secretarial support to the editorial team and Ms. Justina Yeaboah assisted with revisions at the final stages of the report preparation. The commitment of all these contributors is very much appreciated.

We wish finally to acknowledge with gratitude the financial and logistics support of the Government and the UNFPA, particularly in responding readily to our requests for releases of funds, without which the analysis reports could not have been prepared. The personal interest, encouragement and moral support of the Resident Representative, Mr. Moses Mukasa, are also very much appreciated.

While acknowledging the assistance of individuals and institutions in finalizing this Volume, any shortcomings and demerits remain my responsibility as National Project Director and Chief Editor.

**DR. KWAKU A. TWUM-BAAH**  
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## **CHAPTER 1: POPULATION SIZE, COMPOSITION AND AGE-SEX STRUCTURE**

### **1.1 Introduction <sup>1</sup>**

The first attempt to count the people of Ghana, then Gold Coast Colony, dates back to 1891 under the British colonial administration. The exercise, which was extended to other parts of the present Ghana, was repeated every ten years until the World War II interrupted the series in 1941. The last population count of the pre-independence Ghana took place in 1948, three years after the war ended.

Although these census counts reflect a continuing population growth, they cannot be employed to gauge accurately the past demographic trends and the actual growth rate since the beginning of the 20<sup>th</sup> century, because the censuses did not cover the entire areas now known as Ghana. The 1921 census was the only one that covered the entire area of modern Ghana as a result of the attachment of mandated territory from the old German Togoland under British trusteeship.

Since independence, Ghana has witnessed a rapid improvement in census taking; the 1960 census was a classic example of such improvements in data collection methods, objectives, scope and production of adequate and reliable demographic information. The second census of the Republic was carried out in March 1970 and since then two more censuses were conducted, in 1984 and 2000. The results of these censuses and virtually all the demographic sample surveys conducted in the country are employed in explaining the demographic trends in the country.

### **1.2 Population Size and Change**

Ghana's population of just over 2 million in 1921 increased to about 6.7 million in 1960 and 8.6 million in 1970; it thus more than tripled in a short period of nearly fifty years (i.e. 1921-1970). Although data for the early part of the 20<sup>th</sup> century are not reliable, they are, indicative of a rapid increase in the country's population. The reported average annual growth rates of 1.6 in 1931-1948 and 4.1 per cent in 1948-1960 suggest an acute under-enumeration of the 1948 population. The average annual growth rates of 2.8 per cent between 1921 and 1960 and 2.7 per cent between 1931 and 1960 also confirm the undercount that occurred in 1948. The depression in

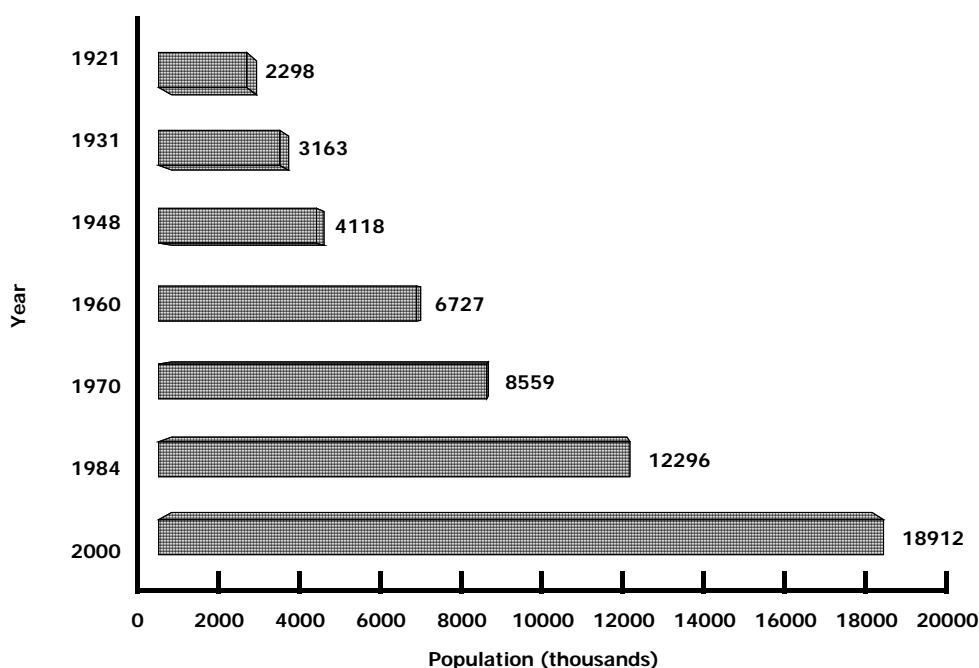
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<sup>1</sup> The Chapter has been prepared by Prof. S.K. Gaisie.

the 1930s however might have shrunk the immigration stream or even reversed it (Kimble 1960:88; Caldwell 1967:113) so that the level of incompleteness might not therefore be as high as portrayed by the results. Figure 1.1 presents a picture of the changes in population since 1921.

In view of the declining mortality and constant fertility levels until the 1980s, the reported average annual growth rate of 2.4 per cent in the decade of 1960-1970 appears to be relatively low. The population of Ghanaian by birth grew at a rate of about 3.0 per cent per annum during the same period, an indication of under-enumeration of the population of foreign origin. The 1970 census was conducted a few months after foreigners without residence permits were asked to leave the country and it was therefore not unlikely that a certain number of those who remained in the country might have declared themselves as Ghanaians or evaded enumeration. Some of these persons were counted in the 1960 census while a sizeable number of those who remained in the country might have been missed in the 1970 census for security reasons, more compelling explanations for the reported low growth rate for the period 1960-1970. Thus, both the reported average annual growth rates for the total population and population of Ghanaian origin appear to have been distorted by coverage errors. The 1960 population size therefore seems to have been more accurately reported than that of the 1970 (Gaisie and David 1974).

**Figure 1.1: Population Size, 1921-2000**



The results of the 1984 and 2000 censuses indicate that the population expanded very rapidly during the following three decades 1970-2000. It rose from 12.2 million in 1984 to 18.9 million in the year 2000; growing at the average annual growth rate of 2.7 per cent and tripling its size, once again, in four decades (1960-2000). It will be seen from table 1.1 that except the distortions of the 1948 and 1970 censuses, largely due to international migration and related issues, the average annual rate of population expansion has never fallen below 2.7 per cent and the rate of natural increase hovered around 3 per cent per annum until it started a slow decline to 2.8 per cent in the early 1990s.

**Table 1.1: Population Change, 1921-2000**

<b>Inter-censal Period</b>	<b>Population Increase (thousands)</b>	<b>percentage Increase</b>	<b>Average Annual Rate of Growth %</b>
1921-1931	866	193	3.2
1931-1948	955	30	1.6
1948-1960	2,608	63	4.1
1921-1960	4,429	193	2.8
1931-1960	3,563	113	2.7
1960-1970	1,832	27	2.4
1970-1984	3,737	44	2.6
1984-2000	6,616	54	2.7

Sources: 1921,1931,1948,1960,1970, 1984 and 2000 Population Censuses

### **1.3 Nationality**

The bulk of Ghana's population continues to be of indigenous African origin. The proportion of Africans among the Ghanaian population has never fallen below 99 per cent. Although the 1960 census results revealed that 12.3 per cent of the total population of Ghana were foreigners, about 96 per cent of them hailed from the neighbouring and nearby African countries. The enforcement of the immigration laws in 1969 reduced the foreign component of the population by almost half, to 6.6 per cent in 1970 and the proportion further declined to 3.9 per cent by the year 2000.

In absolute terms, there were almost three-quarters of a million (740,191) non-Ghanaians residing in Ghana in the year 2000 and only 133,931 were non-Africans (0.7 per cent of the total population). The non-African segment of the foreign population increased from 0.9 per cent in 1921 to 1.6 in 1948 and 2.3 per cent in 1960. It plummeted to 0.02 per cent in 1970 and rose to 0.7 per cent in 2000, due probably to economic depression in the 1970s and 1980s as well as political and economic transformation during the 1990s. Naturalised Ghanaians constituted nearly 4 per cent of the total population in 2000. The proportion of the population of Ghanaian origin increased from 87.7 per cent in 1960 to 93.4 in 1970 and 96.4 per cent in 1984 before declining slightly to 92.2 per cent in 2000.

The Ghanaian population is also made up of a large number of ethnic groups; among the major ones are the Akan, Ga-Adangbe, Guan, Ewe, Gurma, Mole-Dagbon, Grusi and Mande-Busanga. A detailed analysis of the components is undertaken at the district level.

## **1.4 Age-Sex Structure**

### Age structure

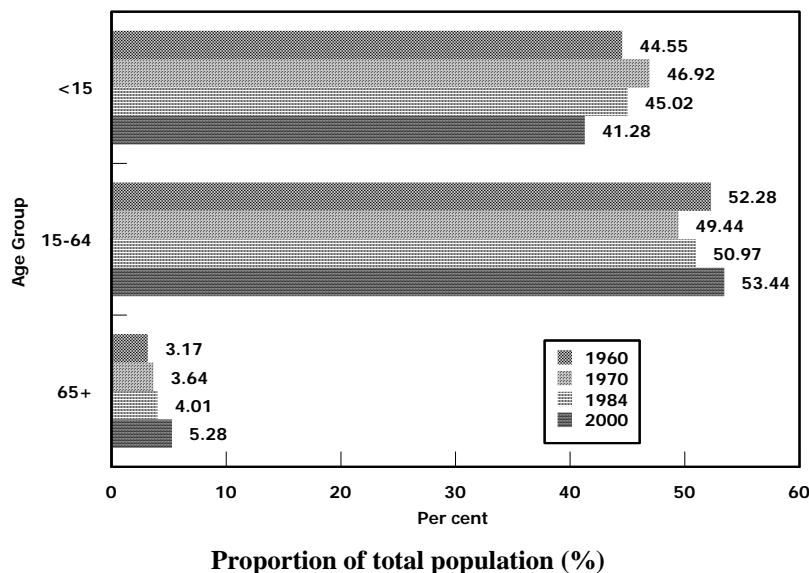
Ghana's population bears a youthful structure (table 1.2); with a broad base consisting of large numbers of children, and a conical top of a small number of elderly persons. The proportion aged less than 15 years is still more than 40 per cent, although it has been declining in recent years; falling from 45.0 per cent in 1984 to 41.3 per cent in 2000. The proportions were much higher in the 1960s and 1970s, rising from 44.5 per cent in 1960 to 46.9 per cent in 1970. The youth (15-24 years) constitute more than 18 per cent of the population, increasing from 1.1 million in 1960 to 2.3 million in 1984 and 3.5 million in 2000. About a third of the population is aged between 25 and 59 years, the proportion increased from 30.6 per cent in 1970 to 33.1 per cent in 2000. The aging process is slowly creeping in, with the proportions aged 60 years and older as well as those aged 65 years and older has been rising from 4.9 and 3.2 per cent in 1960 to 7.2 and 5.2 per cent in 2000 respectively.

**Table 1.2: Age Structure by Sex and Broad Age Groups, 1960-2000**

Age Group	Sex	Year			
		1960	1970	1984	2000
0-15 years	Males	44.6	47.6	46.2	41.9
	Females	44.5	46.3	43.9	40.6
	Both Sexes	44.5	46.9	45.0	41.3
15-64 years	Males	52.1	48.7	49.8	52.8
	Females	52.5	50.1	52.1	54.1
	Both Sexes	52.3	49.4	51.0	53.4
65+ years	Males	3.3	3.7	4.0	5.3
	Females	3.0	3.6	4.0	5.2
	Both Sexes	3.2	3.6	4.0	5.3

Source: Compiled from 1960, 1970, 1984 and 2000 Population Census reports  
Central Bureau of Statistics, Ghana and Ghana Statistical Service..

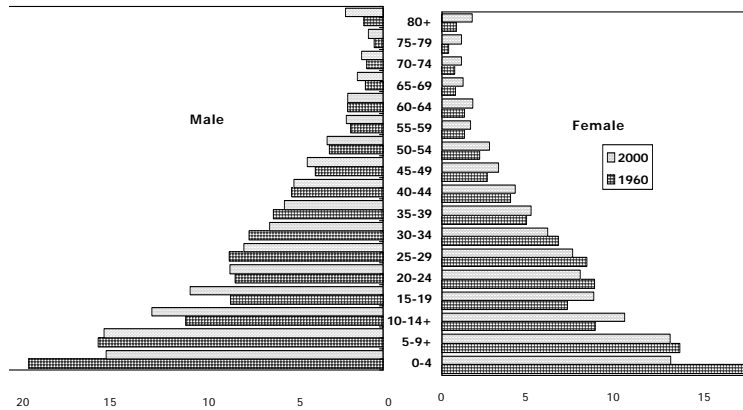
The age structure in its broad picture and the changes over the 4-decade period (1960-2000) are graphically presented in Figure 1.2.

**Figure 1.2: percentage Distribution by Broad Age Groups, 1960-2000**

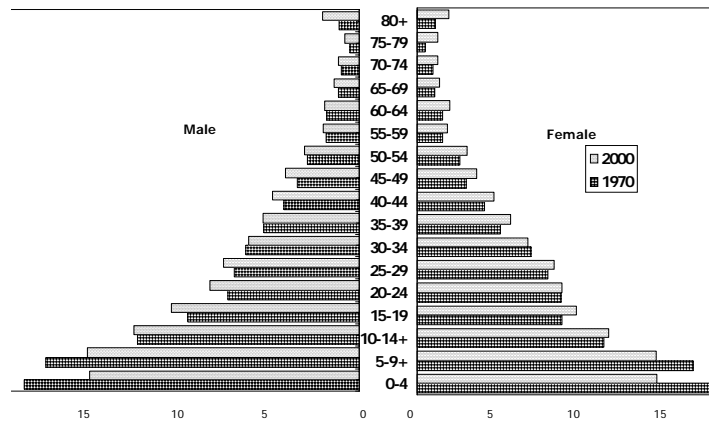
The age structure of the population has been changing gradually (figures 1.3, 1.4 and 1.5). The base of the 1960 or 1970 age structure is broader than either that of 1984 or 2000. The

proportions aged 0-4 and 5-9 years have been declining since 1960 and those of the adolescents and young adults have been rising over decades.

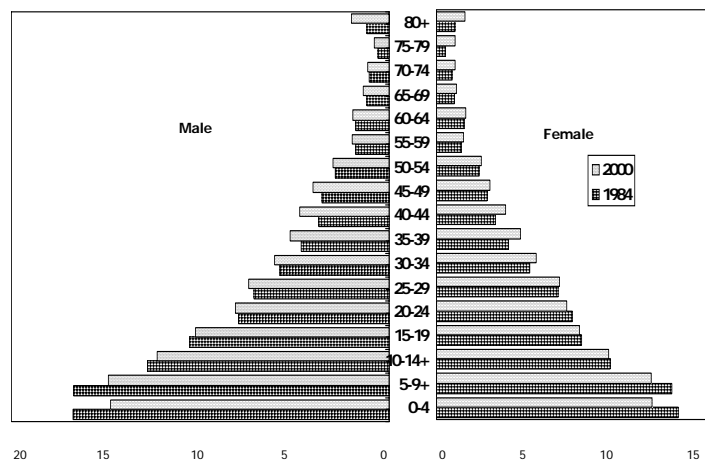
Population Pyramid By Five-Year Age Groups, 1960 and 2000



Population Pyramid By Five-Year Age Groups, 1970 and 2000



Population Pyramid By Five-Year Age Groups, 1984 and 2000



The growth of the elderly population is also evident in the gradual broadening of the tops of the pyramids in 1984 and 2000 (figure 1.5). The changes in the age structure are the outcomes of the gradual movements of fertility and mortality through the demographic transition, from high to low levels. In spite of the declines, the rates are still high, particularly fertility, and the population will continue to grow for a considerable period during the 21<sup>st</sup> century.

### **Age-structure and Population Expansion**

The age structure of Ghana's population in 2000 is typical of a country just entering the transition from high to low fertility. The population remains young and therefore has a high growth potential. Populations continue to grow after fertility reaches replacement level because of a temporary imbalance in the age structure. During the transition from high to low fertility levels, populations tend to be characterized by large numbers of men and women in the reproductive years, which lead to large numbers of children being born, even if these women have on average only 2.1 children each. Women in the reproductive ages (15-49 years) will constitute a comparatively large group in the population because they were born before fertility started a significant decline and they have experienced low levels of mortality.

The female population aged 15 to 49 years increased from 1.1 million in 1960 to 2.3 million in 1984 and then rose further to 3.5 million in 2000. The population bulge at ages 15 to 49 years tends to last for four decades. This dynamic aspect of population age structure is referred to as "population momentum"; a phenomenon which generates rapid population growth for 15 years after fertility has declined to the replacement level; the process leads to an ultimate population increase of two-thirds before growth ceases. According to the latest United Nations Projections, Ghana's total fertility rate will not drop to a replacement level until between 2030 and 2035; the population is therefore expected to grow for a considerable period of time into the latter part of the 21<sup>st</sup> century.

### **Regional Age Structures**

The age structures in the ten regions are shown in table 1.3. Although some of the regional differences in the age structures may be explained in terms of differential age reporting and the type of migration occurring in each region, they tend to mirror, in most cases, similar changes in

the country's age structure, over the four decades. The impact of immigration in the late 1940s and 1950s is reflected in the 1960 age structure with comparatively lower proportion aged less than 15 years and higher proportion in the 15-59 years age group. The regional age structures indicate that the proportion of the population aged less than 15 years has been declining slowly since 1970. But it is still above 40 per cent in all the regions except Greater Accra, the destination of most of the rural-urban migrants (table 1.3).

Table1.3: Age Structure by Region

Region	Year	Age Groups		
		0-15Yrs	15-59Yrs	60+Yrs
Ghana	1960	44.5	51.0	4.5
	1970	46.9	47.7	5.4
	1984	45.0	49.1	5.9
	2000	41.3	51.5	7.2
Western	1960	42.3	53.7	34.0
	1970	45.5	49.8	4.6
	1984	44.7	50.3	5.0
	2000	42.4	51.4	6.2
Central	1960	47.4	46.2	6.4
	1970	47.6	46.1	6.3
	1984	45.2	48.2	6.8
	2000	43.2	49.0	7.8
Greater Accra	1960	39.4	56.5	4.1
	1970	42.0	54.8	3.2
	1984	41.6	54.5	3.9
	2000	33.1	61.4	5.5
Volta	1960	45.6	48.4	6.0
	1970	47.6	45.7	6.7
	1984	44.2	47.9	7.9
	2000	41.1	50.0	8.9
Eastern	1960	45.5	49.1	5.4
	1970	47.8	46.0	6.2
	1984	44.1	49.3	6.6
	2000	41.7	50.3	8.0
Ashanti	1960	46.3	49.5	4.2
	1970	49.2	46.2	4.6
	1984	45.6	49.1	5.2
	2000	42.0	50.1	7.9
Brong Ahafo	1960	46.1	50.2	4.1
	1970	48.7	46.4	4.9
	1984	46.8	47.8	5.4
	2000	43.1	50.7	6.2
Northern	1960	48.6	47.8	3.6
	1970	47.1	48.0	4.9
	1984	48.5	45.7	5.8
	2000	46.2	47.3	6.5

Upper East	1960	48.4	44.5	6.0
	1970	42.0	51.9	6.1
	1984	44.7	48.8	6.5
	2000	43.4	47.7	8.9
Upper West	1960	46.9	47.2	5.9
	1970	49.1	44.7	6.2
	1984	47.0	46.5	6.5
	2000	43.4	47.7	8.9

Source: 1960, 1970, 1984 and 2000 Population Censuses of Ghana.

The Northern and Upper East experienced an increase in the proportion under 15 years of age between 1970 and 1984. They are among the high fertility regions (together with Brong Ahafo and Upper West) as well as regions with relatively high levels of out-migration; the proportions of children under 15 years of age ranging between 43 and 46 per cent in 2000 as compared with between 41 and 42 per cent in the other regions, and Greater Accra with the lowest 33 per cent. The rise in the proportion under 15 years may be attributed, in part, to age-selective out migration in the northern regions.

Barring age misstatement, the variations in the proportions aged 15-59 years may be explained largely in terms of net migration in the regions. The major sending regions are Northern, Upper East and Upper West while Greater Accra is the major receiving region, where six out of every ten persons are aged between 15-59 years. The population pyramids for Northern, Upper East and Upper West (Appendix A1.1) depict quite clearly the impact of out-migration on the age structures while the pyramid of the population of Greater Accra has a comparatively narrow base and a bulge between 15 and 30 years, reflecting a major fertility decline and in-migration from the other regions. The base of the population pyramids for Upper East and Upper West suggests massive underreporting of infants and young children and/or very high under-five mortality rates.

Though the data may be distorted to some extent by age misreporting, the steady increase in the population aged 60 years and older underscores the aging process. The implications of the prevailing age structure are manifold. The obvious related dimensions of such an age structure are the labour force potential, high dependency ratios, consumption needs and social and economic requirements (education, health care and jobs) for the present and future generations. These are treated in greater detail in subsequent chapters.

## **Sex Structure**

The sex composition of a population is influenced largely by the sex ratio at birth (ratio of male births to female births), differences between the sexes in death rates and differences between sexes in net migration. In most populations, there is a slightly excess of males and females at birth. This results in males outnumbering females at younger ages while the females are usually in majority at the older ages, because of higher male death rates at all ages. The average sex ratio at birth throughout the world is observed to be about 105 or 106. In African communities, however, the sex ratio at birth is much lower than those found in white societies. The sex ratio at birth among African populations is reported to be 103 and it is not known whether this lower ratio is due to differences in level of living conditions or other factors.

The sex structure is related to the age structure in the sense that although sex is much more easily determined, a differential age misstatements by sex tends to complicate the assessment of the sex balance within individual age groups. Ghana had a slight excess of males from the mid-1940s to the early 1960s. This is the consequence of immigration. The results of the 1970 and subsequent censuses show that the sex ratio of 102.3 in 1960 declined to 97.3 in 1984 and rose to 97.9 in 2000. But the sex ratio of the population of Ghana origin has always hovered around 97 males per 100 females, well within the experience of most African countries.

Females generally have lower death rates than males at all ages and in most populations. The excess of males at birth is therefore gradually reduced with advance in age. In fact 'normal' sex ratios arise as consequence of the effects of death rates. The 'normal' pattern of sex ratios exhibits slight downward trend in sex ratios at early childhood ages after which the sex ratios decrease gradually but not below 100 until age 40 years or beyond; and then decline gently at first but more precipitously at older ages. Migration is an important factor that also produces differences in sex ratios. The impact of immigration on the sex structure of the population is noticeable in the 1960 and, to some extent the 1970 age-sex structures (table 2). The irregular pattern of the sex ratios as portrayed by all the census results is a clear indication of differential age misstatement by sex. A detailed examination of this irregular trend is taken up in the next chapter.

## Appendix 1:

Figure A 1.1 Population Pyramids, Ghana 2000

Fig. 4 Western Region, 2000

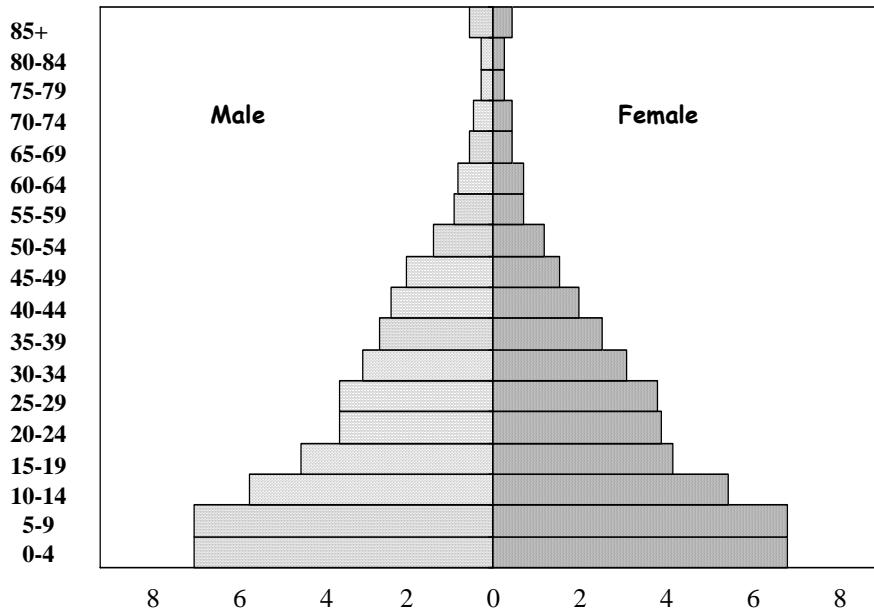
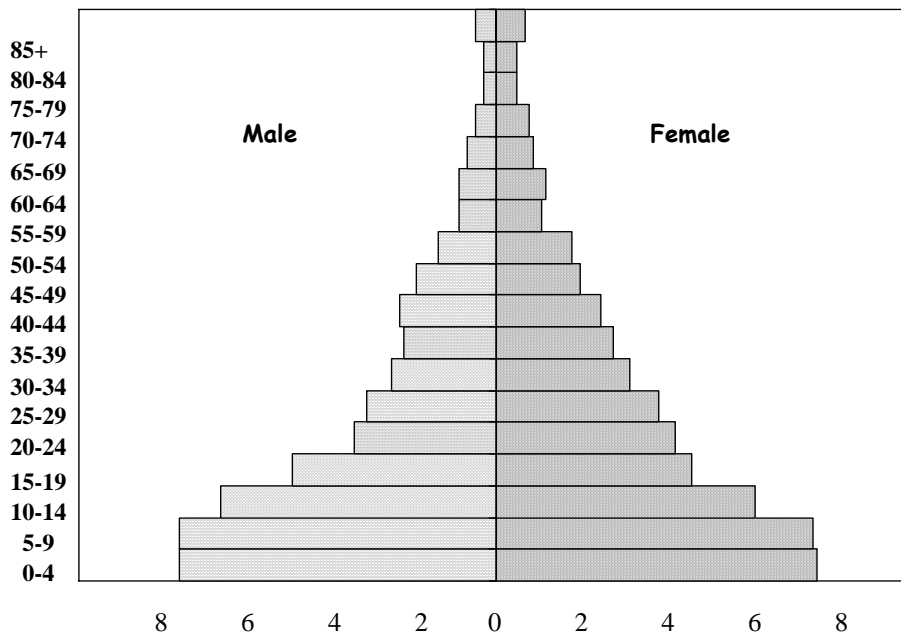
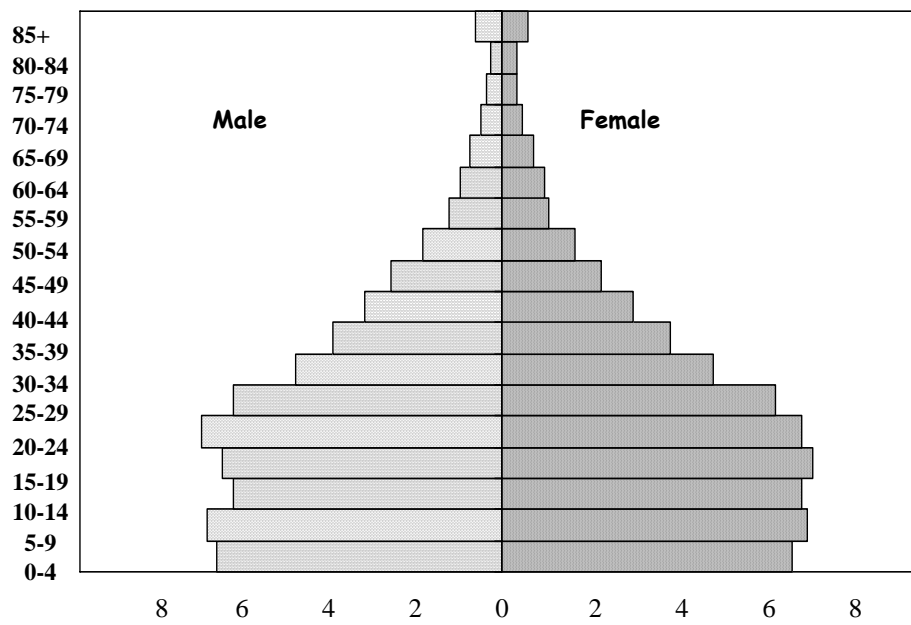


Fig. 3 Central Region, 2000



**Fig. 1 Greater Accra, 2000**



**Fig. 5 Volta Region, 2000**

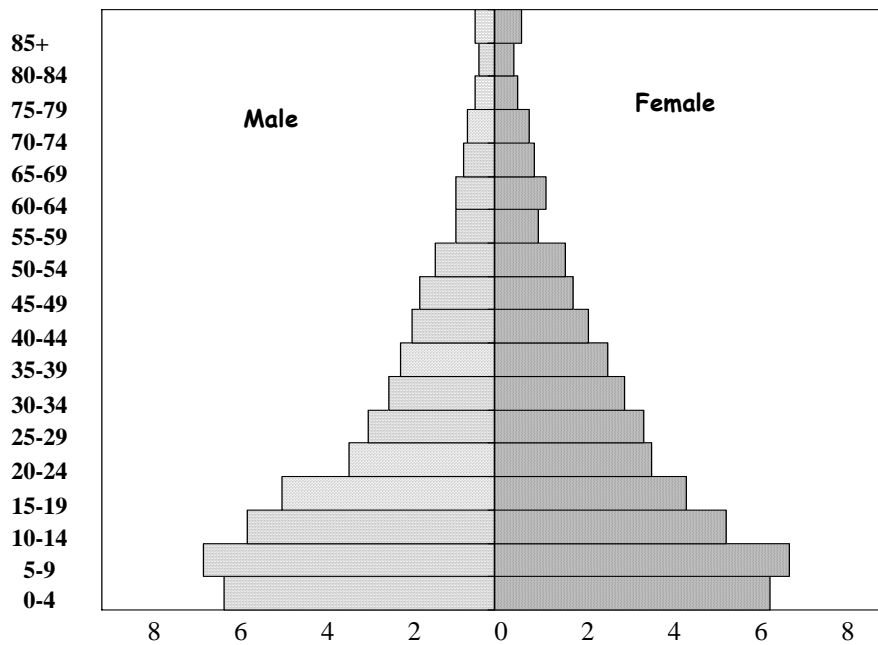
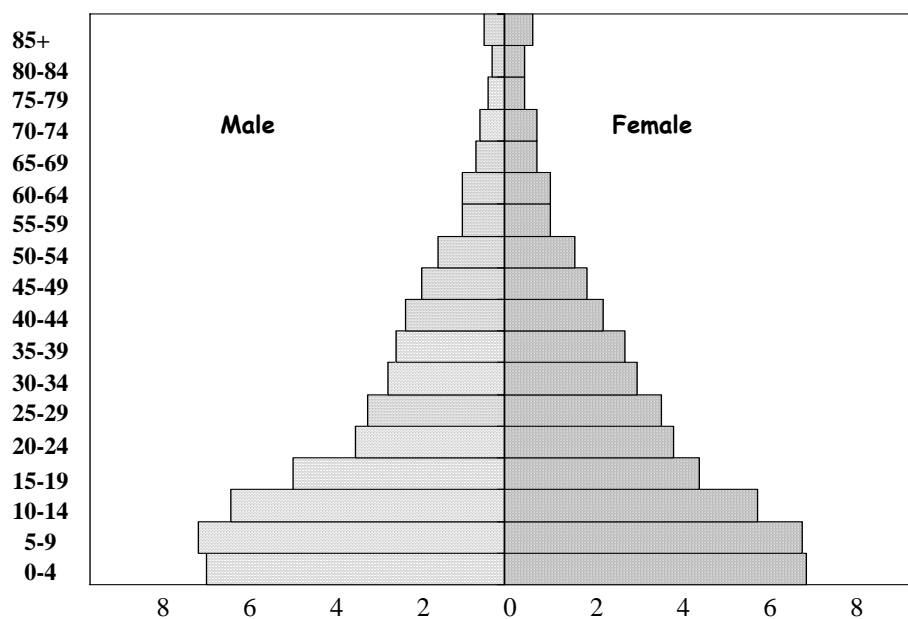
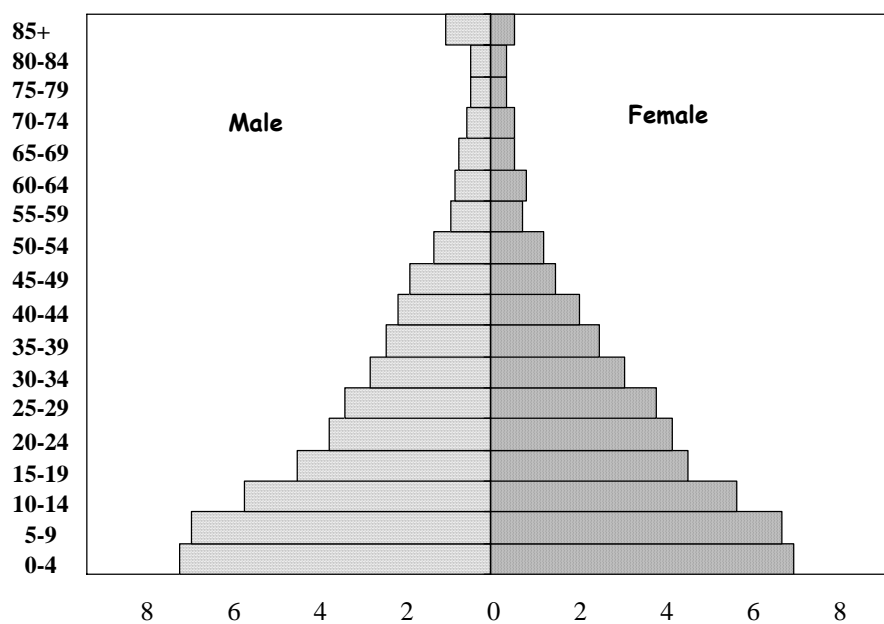


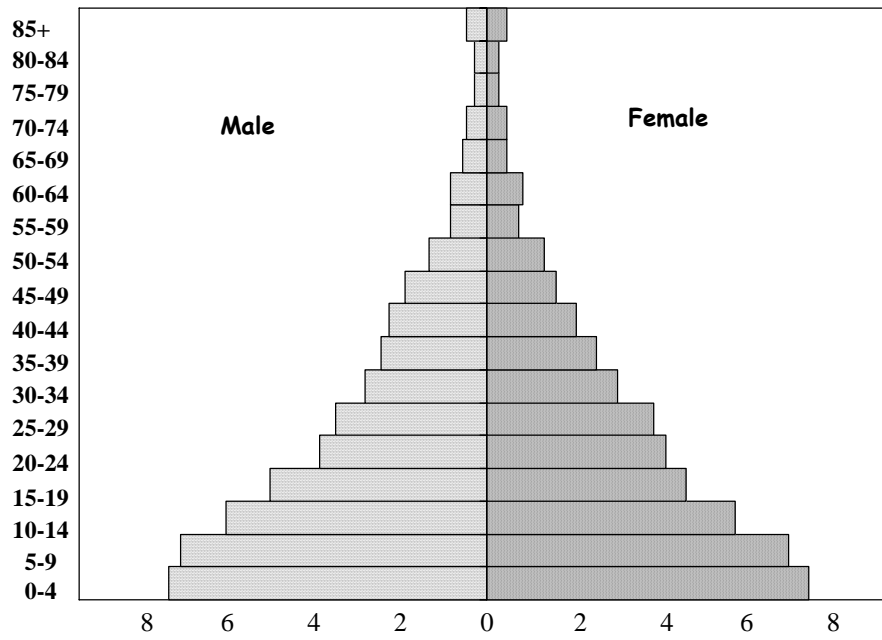
Fig. 2 Eastern Region, 2000



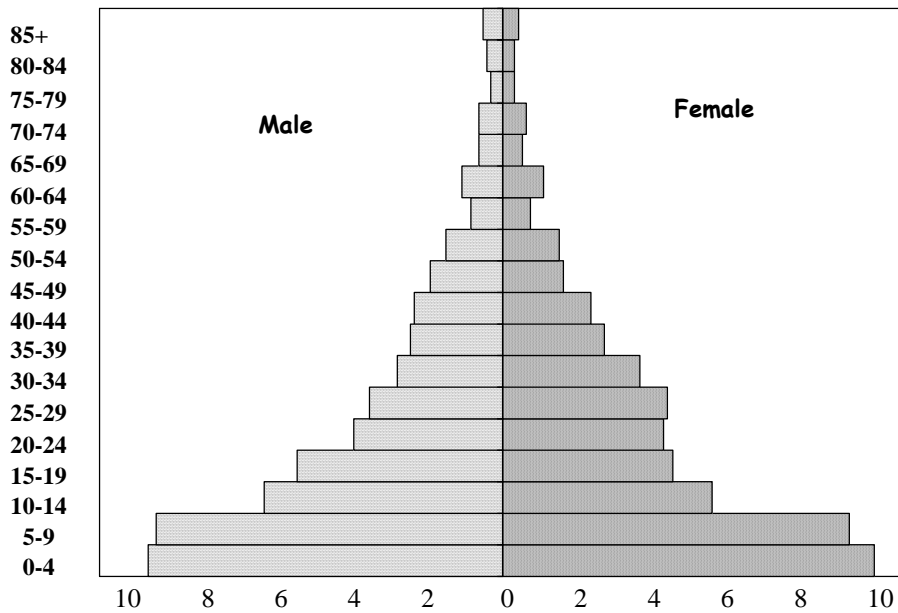
Ashanti Region, 2000



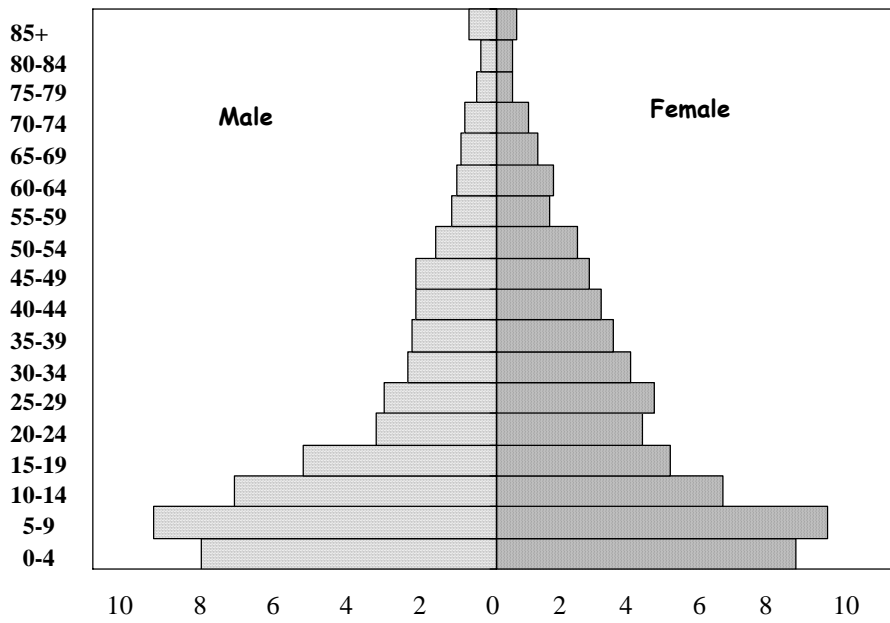
**Brong Ahafo Region, 2000**



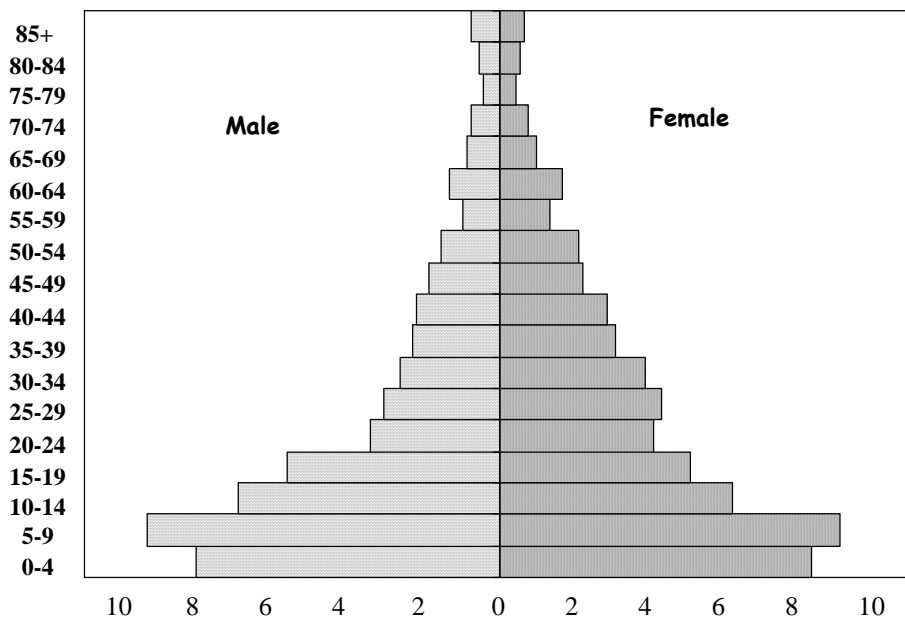
**Northern Region, 2000**



Upper East Region, 2000



Upper West Region, 2000



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## **CHAPTER 2: ASSESSMENT AND ADJUSTMENT OF POPULATION AGE AND SEX STRUCTURES, 1960-2000 GHANA CENSUSES**

### **2.1 Introduction**

Evaluation of data is an essential and fundamental step in data analysis. Evaluation provides, among other things, guidelines for data users and, at the same time, offers the data producing agencies basic information for dealing with some of the deficiencies in the data collection methodology in future operations. Evaluation also furnishes the analyst and the user with a basis for adjusting or correcting the raw data as well as for constructing demographic parameters (e.g., fertility and mortality levels and trends) for social and economic planning and research purposes.

A number of specific procedures have been developed for the evaluation of the quality of census and survey data. The underlying principle of all the methods is a determination of the consistency within the data themselves and/or the extent to which the data are consistent with other existing data. The following analysis presented in this chapter deals largely with the internal consistency methods.

### **2.2 Evaluation of Age-Sex Distributions**

Age is one of the most important items on which information is collected in all censuses and surveys. This is because it is a basic demographic characteristic of individuals and is highly correlated with most of the population phenomena, such as fertility, mortality, migration and socio-economic characteristics of the population. Age data are utilized in conjunction with other data to estimate demographic parameters for countries which lack vital statistics. The quality of age data is therefore of paramount importance to the analyst, the user and the planner. Consequently, census and survey data are subjected to rigorous examination and analysis and are eventually adjusted to meet the practical need for good quality information for planning and research purposes. Some of these activities constitute the core of this analysis.

#### **Detecting Age Misreporting**

##### Graphical cohort analysis

Comparison of a number of age distributions of a country helps to analyse data consistency. This involves graphical cohort analysis of the population data by year of birth. The historical series of age-sex distributions of the 1970, 1984 and 2000 censuses are used for this exercise, and presented in Figure 2.1 and 2.2. The graphs show how the population born in the same period of years and enumerated in the successive censuses is reduced through time. Thus, the spaces between the lines should represent the reduction of each cohort by mortality during the intercensal period. As a result, parallelism is expected for the same cohort. However, the spaces may also reflect errors in the data or different levels of census completeness.

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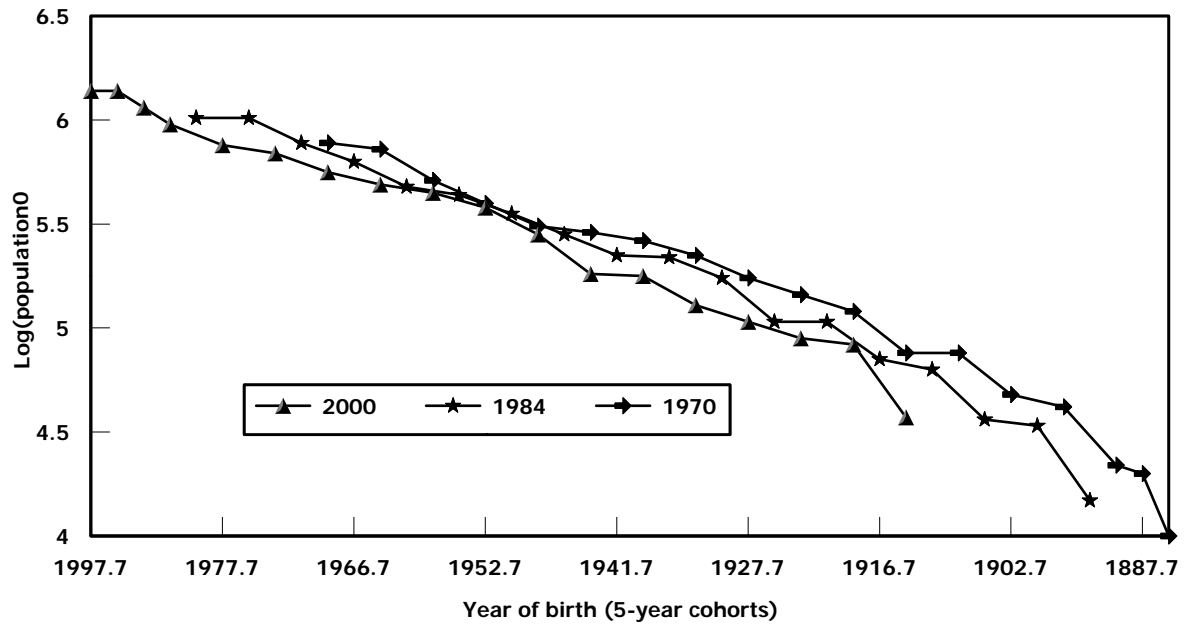
Prof. S.K. Gaisie has contributed this chapter.

The irregular pattern of the line for each census as compared with parallelism is indicative of age misreporting in both the male and female populations. It is observed from Figure 2.1 that there are virtually no spaces between the lines for male cohorts born around 1940 and 1950 and enumerated in the 1970 and 1984 censuses (aged 20-40 years) as well as cohorts born around 1960 and 1965 and enumerated in the 1984 and 2000 censuses. The implications of this pattern are that either the cohorts have not been losing members through time or there has been a constant flow of emigration during the inter-censal periods; emigration seems to be a more plausible explanation. Another factor that may be responsible for the irregular pattern is age misstatement.

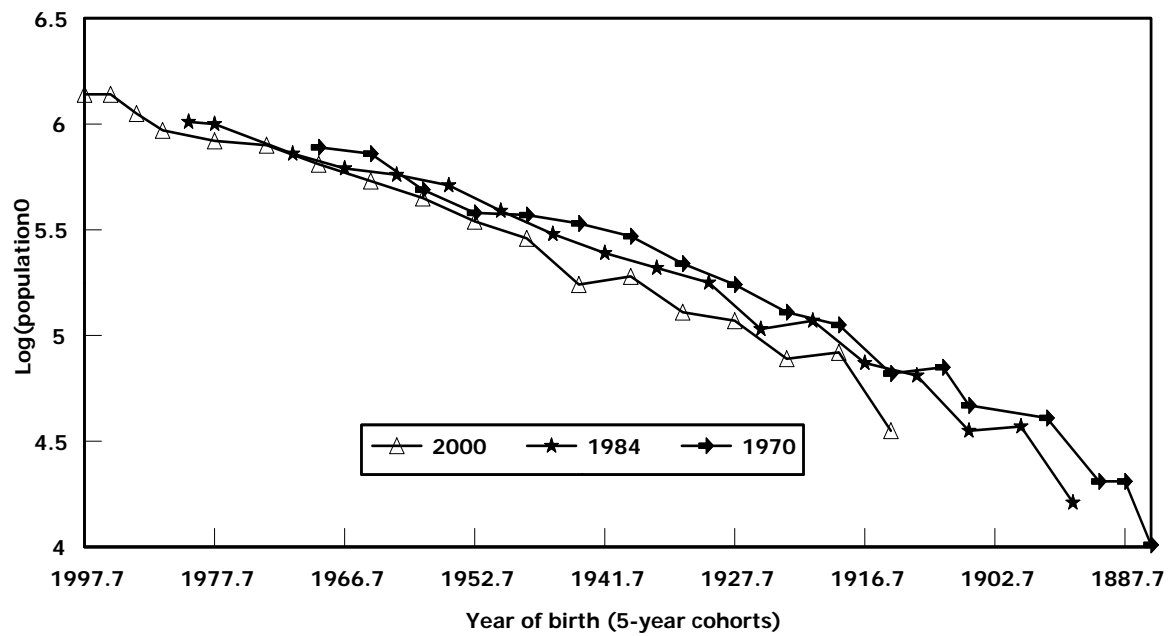
The female lines exhibit the same irregularities as the male, suggestive of marked age misreporting. Figure 2.2 indicates three noticeable features. The cohorts born around 1970 and 1975 and enumerated in the 1984 and 2000 censuses (aged about 15-30 years) replicate the pattern noted among the males (i.e. lack of spaces between the lines). Secondly, the cohort born around 1950 and 1965 and enumerated in the 1970 census is smaller in size than the same cohort enumerated in 1984. This may partly be explained in terms of the enforcement of the Aliens' Compliance Order in 1969 and partly by differential age misreporting in the two counts. Thirdly, the lines for older women aged 59 years and older seem to be much more distorted than that of their male counterparts, an indication of female age misreporting.

As pointed out already, lack of parallelism is indicative of age misreporting errors and/or different levels of census coverage. Unless under-enumeration or over-enumeration of certain cohorts is much more marked in one census than the other, different levels of completeness are not likely to distort parallelism. Thus, irregularities depicted in the graphs are largely due to age misreporting or age estimation errors. The male age structure, however, seems to have been affected by emigration, but the irregularity is difficult to determine.

**Figure 2 1. Male Population, 5-Year Cohorts, 1970-2000**



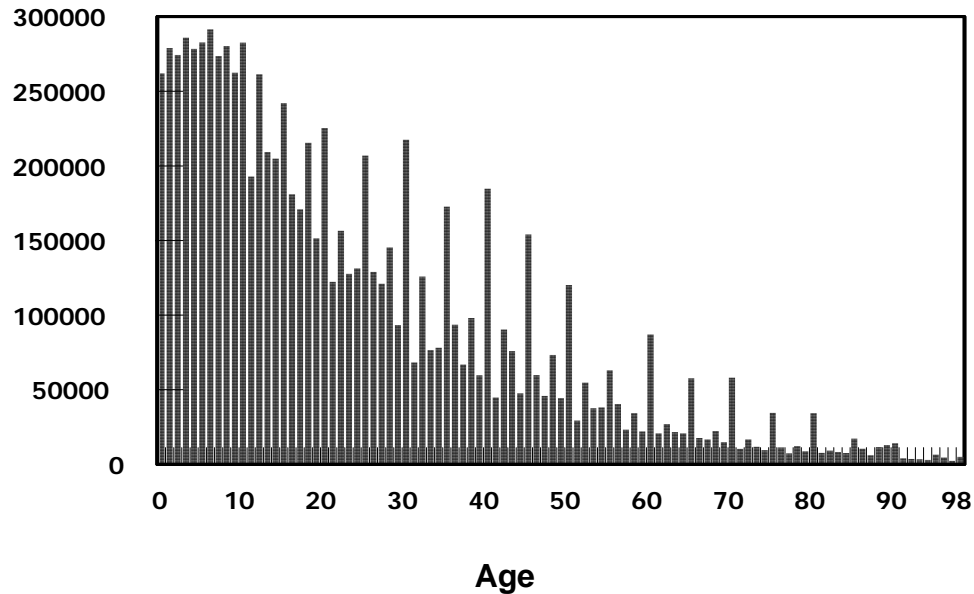
**Figure 2.2: Female Population, 5-Year Cohorts, 1970-2000**



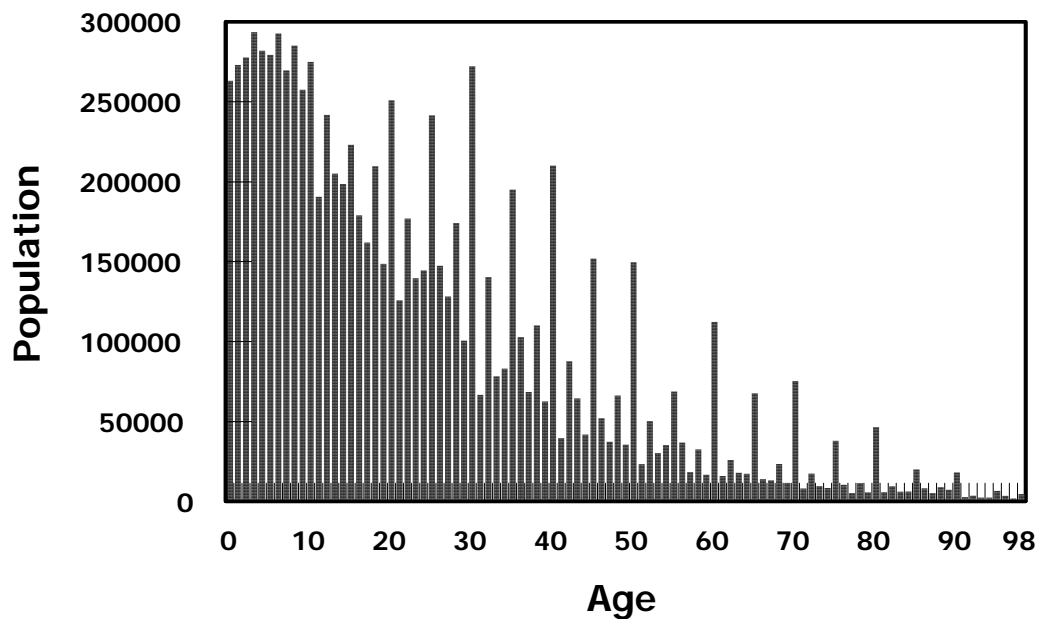
### Digit preference

Digit preference can also cause errors in the age data. This type of error can be detected more easily by either graphs or indices. Single year of age distributions of the 1984 and 2000 censuses are presented in Figure 2.3 and Figure 2.4. Age errors are quite noticeable. A very common type of age misreporting is “age heaping” caused largely by digit preference.

**Figure 2.3: Male Population by Single Years of Age, 2000**



**Figure 2.4: Female Population by Single, Ghana 2000**

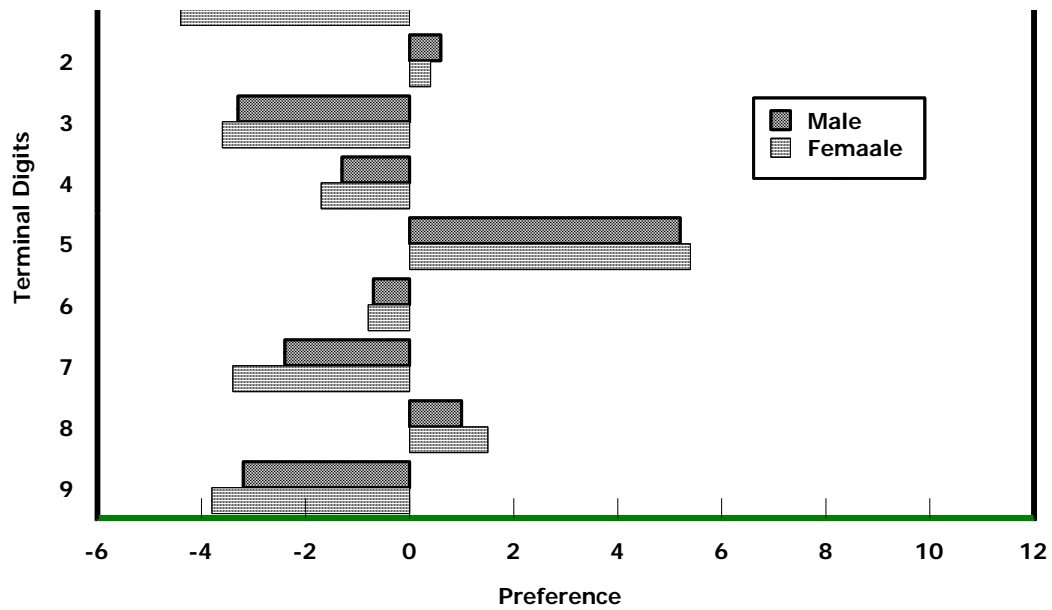


Ages ending in 0 and 5 appear to be generally preferred to other digits such as 1, 3 or 9. Hence the irregular patterns with peaks at ages 5, 10, 15, 20, etc. and troughs at ages terminating in odd numbers. A close inspection of the figures suggests that deficiencies are greatest at ages with final digits 1, 3, 7, or 9 and this is not surprising in view of the strong preference for figures ending in 0 and 5.

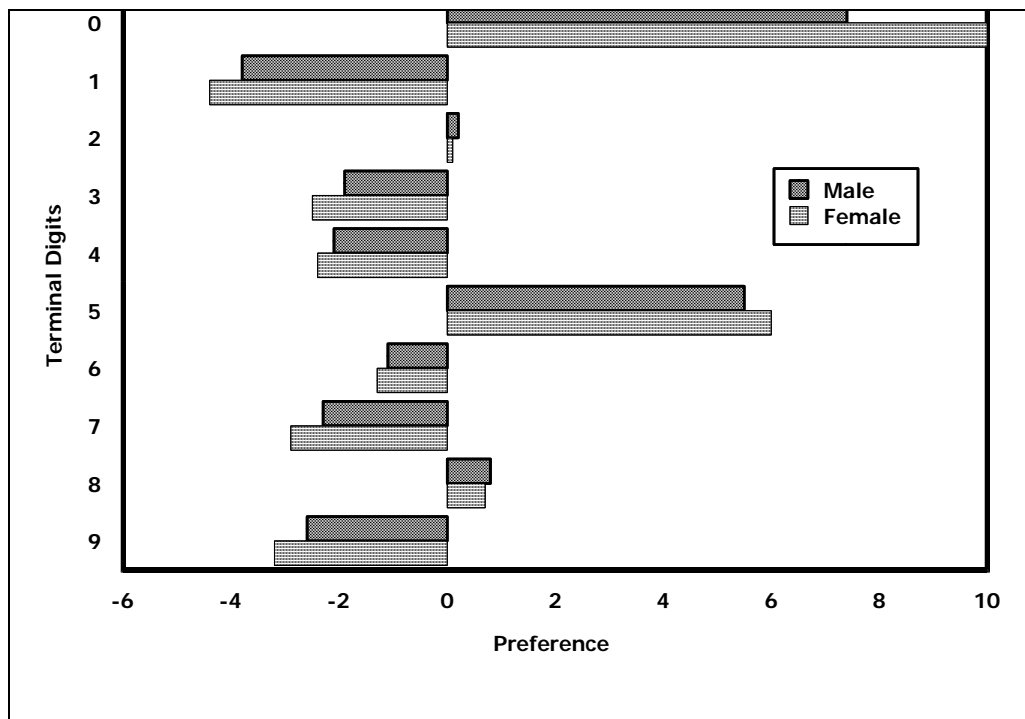
Errors in the single year age distributions can also be detected by algebraic methods such as Whipple's and Myer's indices. Whipple's index (calculated simply by expressing the population reporting age ending in 0 and 5 as a percentage of the population aged between 23 and 62 years and then multiplying by five) is a measure of preference for ages ending in 0 and 5. The computed index for the 1984 data is 186 (177 for male and 195 for females). The corresponding value for the 2000 data is 185 (176 for males and 192 for females). According to the United Nations scale for estimating reliability of age data, both the 1984 and 2000 age data may be described as extremely rough (the quality of age data is said to be very rough if the computed index is over 175). Whipple's index is a crude measure in the sense that it considers only two terminal digits and excludes ages outside 23 and 62 years. The quality of the data may, therefore, not be as bad as shown by the indices.

The "Myer's Blended Index" is the most widely known index among the more complex measures. It is more complex to calculate than the Whipple's index but its advantage is that it provides an index of preference for each digit as well as an overall measure. The indices for the 1984 age distributions are 29.6 for male and 35.2 for female (32.5 for both sexes). The corresponding indices for the 2000 are 27.6 for male and 33.6 for female age distributions (30.7 for both sexes). Values close to 0 are indicative of excellent age reporting (i.e. no heaping) and an index of 90 represents a situation where all ages are reported with the same terminal digit.

**Figure 2.5    Myers Preference by Digit, Ghana 1984**



**Figure 2.6    Myers Preference by Digit, Ghana 2000**



Figures 2.5 and 2.6 portray the extent of excess and deficit of persons at ages ending in any of the 10 digits. The strong preference for digits 0 and 5 is underlined by the larger values of the indices for these digits. There are other indices that are derived from age and sex structure of a population in five-year age groups and used to measure the extent of age-misreporting (age-sex ratio analysis).

### Age Ratio Analysis

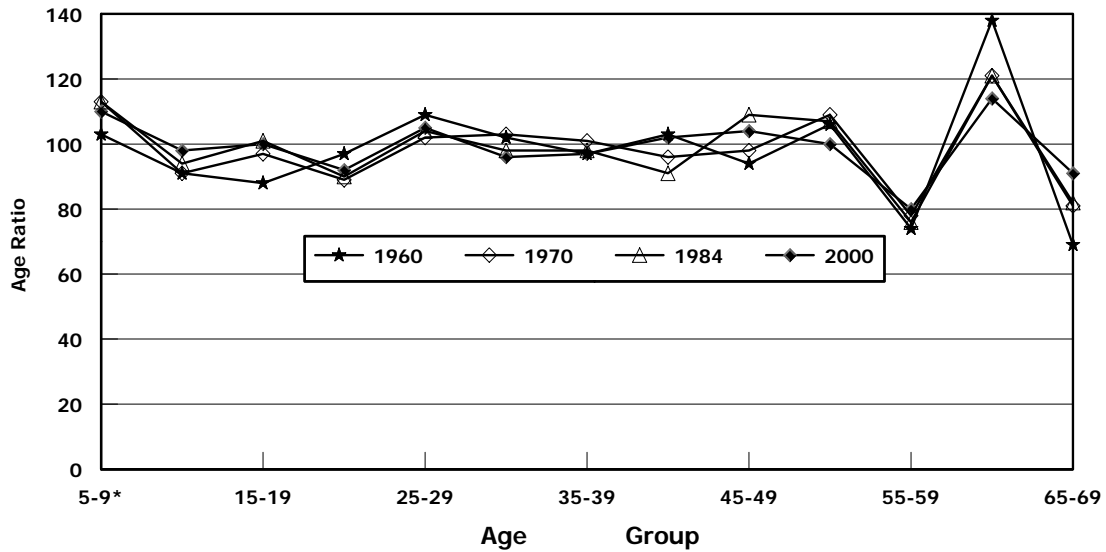
The quality of age data can also be gauged by age and sex ratios. The age ratio, defined as the ratio of the population in a given age group to an average of the sum of the populations in the adjacent age groups, is usually computed for each sex. They are a simple tool for measuring net age-misreporting. Theoretically, the age ratios are supposed to form a linear series in the absence of fluctuations in fertility, mortality and migration and they are, therefore, not expected to deviate far from 100. The age ratio score (the mean deviation of the age ratios from 100 per cent irrespective of sign) is used to appraise quality of the age data.

The data for the four censuses exhibit virtually the same pattern of female age ratios, reflecting the tendency of the number of females in their teens to be understated and that of those in adult ages (60 years and older) to be overstated (Figure 2.8). The relatively high age ratio for 5-9 age group suggests omission of young children aged 0-4 years and/or massive underreporting of ages among the 10-14 year-olds. The pattern may also be due to shifting of 0-4 year-olds across to age 5 and the 10-14 year-olds across to age 15.

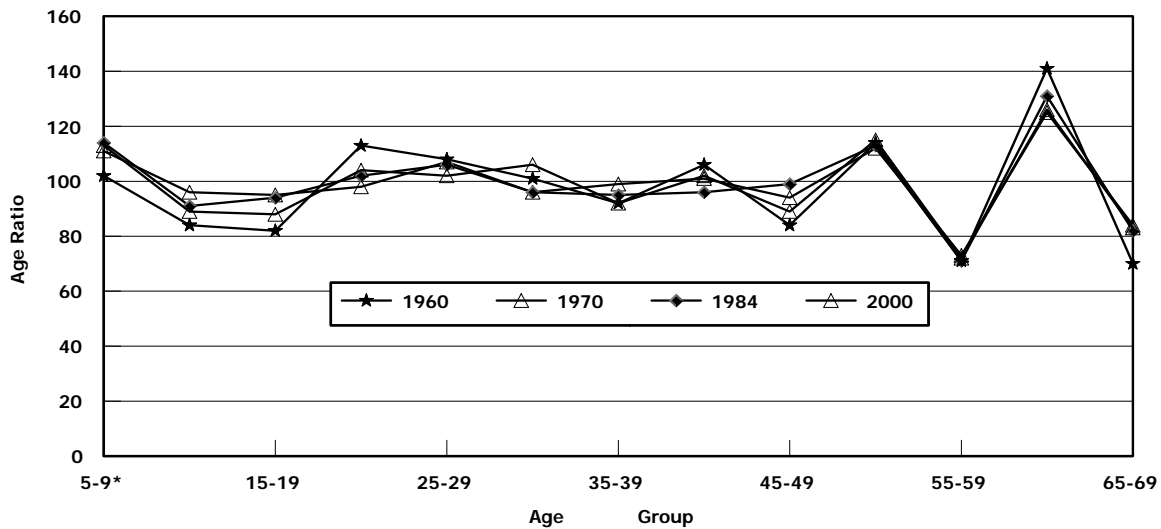
The age ratio of less than 100 for the 15-19 year age group suggests a tendency to “push” young teenagers into a higher age group. The age ratios for the age groups 25-44 years tend to be relatively stable while wide fluctuations after age 45 years and older indicate distortions by digit preference and/or overstatement of age. In general, the net under-enumeration is moderate over the age range 25-44 years. The alternation of positive and negative values over the age distribution is indicative of net age misreporting.

The male age ratios (Figure 2.7) for the age groups 5-9 years, 10-14 years and 50 years and older, follow the same pattern noted for females. The striking differences between the two sets of age ratios are that while the females ratios are positive for the age group 20-24 years and negative for the 45-49 years age group, corresponding values for the males are negative for the age group 20-24 years and positive for the age group 45-49 years; the patterns underscore the difficulty of obtaining accurate age information at both ends of the reproductive period. This is probably due to the estimation of ages on the basis of marital and/or reproductive status of the woman. Age misreporting is more widespread among persons aged 55 years and older. Overall, the deviations of the male age ratios from 100 are not as large as those of the females. The female age structure appears to be more distorted than that of the males, especially in the 15-54 years age brackets, though the male age ratios also reflect net under-enumeration and net-misreporting errors.

**Figure 2.7: Male Age Ratios by Age, 1960-2000**



**Figure 2.8 Female Age Ratios by Age, 1960-2000**



Nonetheless, age reporting seems to have improved over the years with the age ratio scores declining by 45 per cent among the males and 42 per cent among the females during the past 40 years (Table 2.1). The age ratio scores computed from age distributions, smoothed or adjusted by different methods, are also presented in the table. They indicate the extent to which age-misreporting errors are removed by different adjustment procedures.

**Table 2.1 Ghana Censuses: Summary of Indices Measuring the Accuracy of Data**

Index:	Reported	Carrier/ Farrag	K. King/ Newton	Arriaga	United Nations	Strong
Sex Ratio Score						
1960	8.77	6.06	6.40	6.11	6.26	3.14
1970	8.00	5.51	5.82	5.49	5.40	2.55
1984	6.17	4.27	4.37	4.20	4.11	1.88
2000	7.11	4.14	4.42	4.13	4.24	1.98
Male Age Ratio Score						
1960	10.95	3.51	4.30	3.60	4.21	2.45
1970	7.80	3.33	3.58	3.28	3.33	1.92
1984	8.87	1.87	1.87	1.97	3.94	1.79
2000	6.04	4.24	4.20	4.50	3.46	2.19
Female Age Ratio Score						
1960	15.42	6.45	7.34	6.33	5.59	3.07
1970	11.46	3.63	4.19	3.51	3.98	2.26
1984	10.09	3.53	3.67	3.28	3.86	1.60
2000	9.01	2.60	2.65	2.92	2.80	2.08
Accuracy Index <sup>1</sup>						
1960	52.54	28.13	30.84	28.26	28.68	14.95
1970	43.26	23.51	25.23	23.24	23.52	11.81
1984	37.47	18.22	18.66	17.86	20.12	9.04
2000	36.39	19.26	20.11	19.82	18.99	10.20

**Note:**

<sup>1</sup>The accuracy index is the sum of the male and female age ratio scores plus three times the sex ratio score, all calculated using data for ages 10-14 years through 65-69 years.

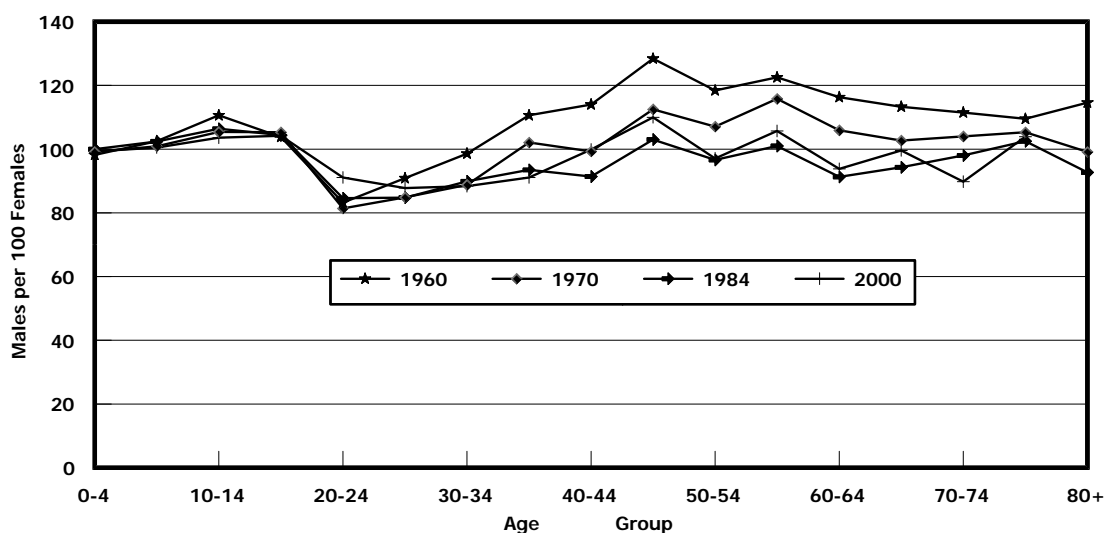
Source:

**Sex Ratio Analysis**

Sex is another important demographic characteristic. Data classified by sex can be used, among other things, as an evaluative tool or as an analytical framework. The sex ratio (number of males per 100 females) of a population is not expected to fluctuate from one period to another unless there have been major changes in the dynamics of population growth. The computed sex ratios by age are therefore supposed to provide clues to defects in the age-sex data (Figure 2.9). The sex ratio at birth, for example, is one of the few stable parameters of a population.

It usually lies between 100 and 108. The sex ratio at birth among African populations is reported to range from 100 to 104. In the absence of fluctuations in fertility, mortality and migration, the sex ratio at birth should not deviate much from the ranges pointed out above. With the higher mortality among males, the overall sex ratio of a population is expected to lie between 94 and 98. Since we are more interested in age shifting and/or omissions, the sex ratios are calculated for five-year age groups. The male dominance in 1960 is largely attributed to heavy immigration into the country during the period 1948-1960.

**Figure 2.9 Sex Ratio by Age: Ghana 1960-2000**



A comparison of this set of sex ratios with that based on the population of Ghanaian origin confirms the presence of a significant number of male immigrants (Table 2.2). The sex ratios substantially declined during the ensuing decade (1970 data), presumably due to the enforcement of the aliens' compliance order in 1969. The sex ratios computed from the 1984 and 2000 data are close to 100 at the younger ages but comparatively high at the ages 45 years and older. In view of the high mortality rates among the males, this pattern may either reflect higher female mortality (high maternal mortality) and/or overstatement of ages by the males. Although the sex ratio score (computed by summing the absolute deviations of successive sex ratios and dividing it by the number of such deviations, irrespective of sign) has been declining during the past three decades, it is still high and indicative of unremitting errors in the data. (Table 2.1 shows that even the Strong smoothing method is unable to completely remove all the errors, though it manages to reduce them to some extent).

**Table 2.2: Reported Sex Ratios by Age: 1960-2000**

Age	1960	1960*	1970	1984	2000
0-4	98.2	99.8	99.1	100.0	99.3
5-9	102.5	101.1	100.9	102.4	100.5
10-14	110.6	99.2	105.4	106.4	103.6
15-19	103.8	99.6	105.3	104.4	104.2
20-24	83.2	98.6	81.4	84.6	91.1
25-29	90.9	97.6	84.9	84.8	87.8
30-34	98.6	103.3	88.8	89.9	88.4
35-39	110.6	95.9	102.1	93.5	91.1
40-44	114.0	94.6	99.3	91.4	99.9
45-49	128.4	90.6	112.5	103.0	110.0
50-54	118.4	89.1	107.1	96.6	97.1
55-59	122.5	87.1	115.8	101.0	105.7
60-64	116.3	83.3	105.9	91.3	93.8
65-69	113.3	78.9	102.7	94.3	99.6
70-74	111.6	75.0	104.0	98.0	89.8
75-79	109.5	78.2	105.3	102.5	103.9
80-84	---	---	99.1	92.7	---

\*Ghanaians

### Combination of Age and Sex Ratios

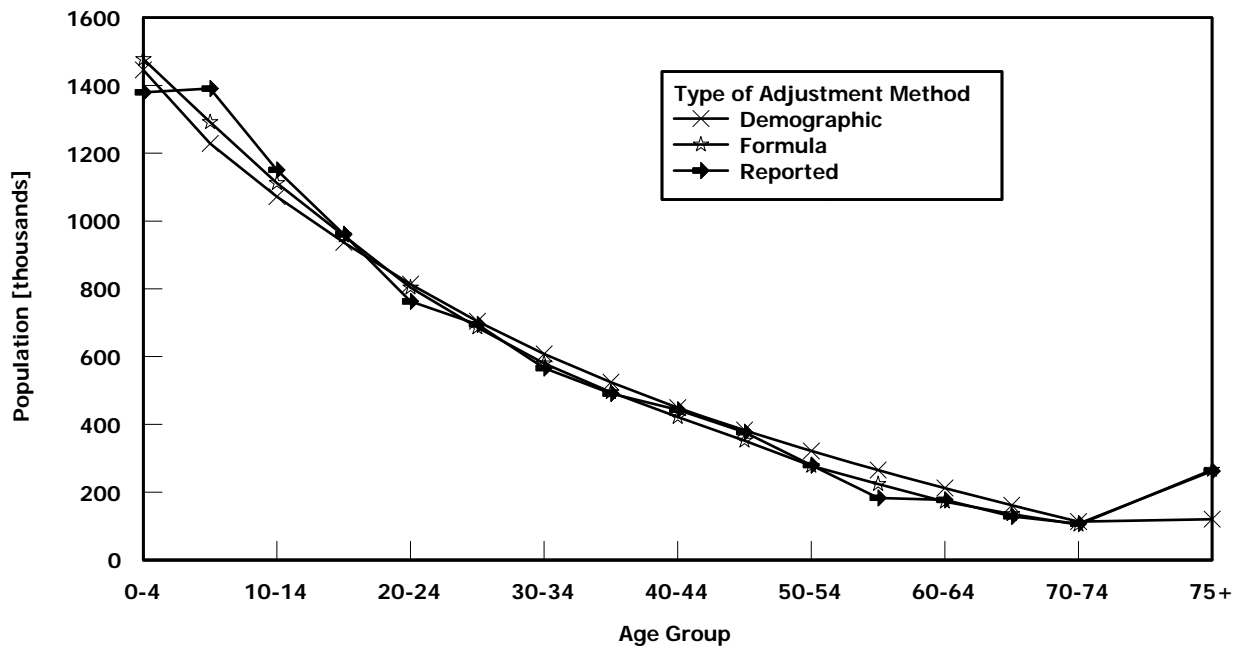
As noted earlier, the ratios are tools for carrying out a two dimensional evaluation of the consistency of census data. A combination of the two can be converted into an index of data quality. The United Nations has designed a joint index known as “age-sex accuracy index” (computed as three times the sex ratio score plus the male and female age ratio scores). Experience indicates that if the index is less than 20, then the age-sex structure could be considered as accurate; inaccurate if the joint score index is between 20 and 40 but the data are still usable with adjustment, and highly inaccurate if the value of the index is over 40. The computed indices presented in Table 2.1 show that the 1960 and 1970 data on age-sex structures are highly inaccurate, while the 1984 and 2000 censuses data may be regarded as inaccurate though the data could still be used with some amount of adjustment. The series, however, underscores improvement in the quality of the population age-sex reporting with the index declining from 53 in 1960 to 36 in 2000. Notwithstanding, there is still room for substantial improvement in the collection of age data.

### **2.3 Adjustment of the Age Distribution**

The results of the evaluation exercise show quite clearly that the reported age distributions of the enumerated populations contain age-misreporting and digit preference errors that can be removed or, at least, reduced by some adjusting instruments. The irregularities in the age structure are considerable and one needs a “Strong” adjusting method (formula or algebraic procedure) that would remove the major distortions in the age structure. The following are the essential features of the method employed: the census population is combined into 10-years age groups and those from the age 10 to 69 are smoothed by averaging the consecutive 10 year age groups with specific weights. The total population of the smoothed age groups is then adjusted proportionally to the census total. Finally, the smoothed 10-year age groups are subdivided into 5-year age groups using Arriaga’s formula (1968). A demographic procedure was also used to adjust the 2000 age structure by fitting an appropriate model population to the reported age distribution. The results are presented in Figure 2.10 and Figure 2.11.

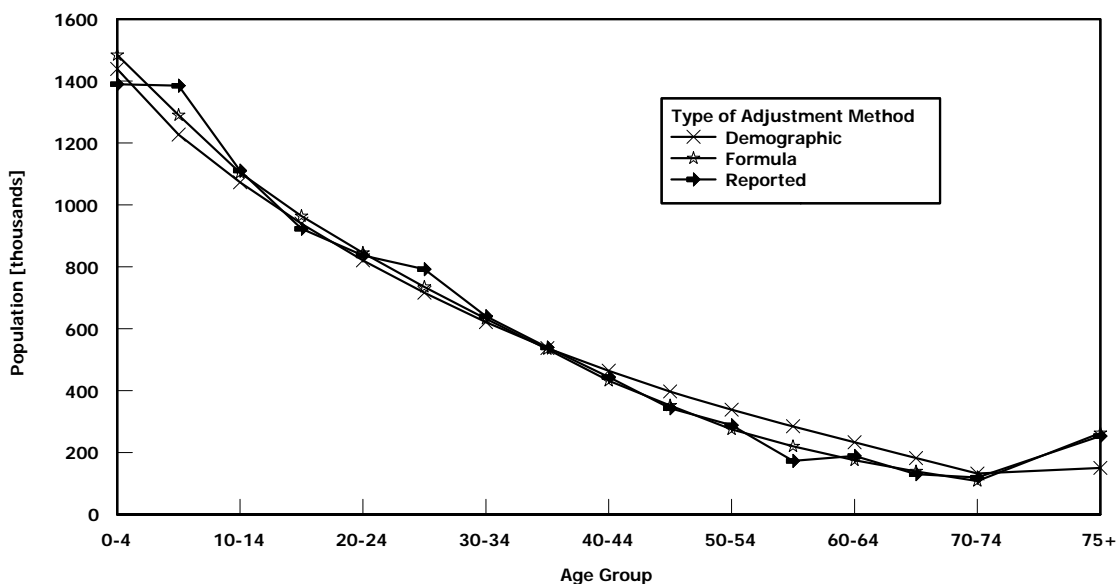
An estimated gross reproduction rate (GRR) of 2.4 (based on the 1998 DHS data) and life expectancy at birth of 57.2 years (United Nations, 2002 Revision) provided the empirical basis for identifying the most suitable model. The inter-censal rate of growth of 2.7 per cent per annum yielded a model that tended to exaggerate the populations in the 0-4 years, 5-9 years and 10-14 years age groups and did not therefore indicate the slow movement through the fertility transition. The model interpolated on the basis of GRR appears to be a more plausible one.

**Figure 2.10: Reported and Adjusted 2000 Male Population by Age**



It is important to note that at a given level of mortality, only fertility affects the age structure of a stable population in so far as it affects the intrinsic rate of natural increase. The reported rate of growth rose from 2.59 in the period 1970 -1984 to 2.69 per cent per annum between 1984 and 2000. In view of the recent incipient decline in fertility, the observed increase in the rate of growth may be explained, among other things, in terms of different levels of census completeness.

**Figure 2.11 Reported and Adjusted 2000 Female Population by Age**



One of the useful and practical tests of stability is the absence of substantial change in the age structure and of inter-censal rate of increase in three consecutive censuses. Barring errors inherent in the raw data, the rate of growth and the age structure do not seem to have undergone any substantial changes. For instance, the proportion of the population under 15 years has not been less than 40 per cent since 1960. What the population has not experienced yet are major swings in fertility producing one or more consecutive small five-year cohorts and sustained trends in mortality. The assumption of approximate stability may not therefore be far fetched.

It is observed from the diagrams that both techniques yield practically similar results at the middle section of the age distribution (i.e. 15-49 years in the case of the males and 10-44 years in the case of the females), while the demographic method provides a much better fit at the older ages and most likely at the younger ages (0-4 years age group). The algebraic procedure also tends to adjust upwards the tail ends of the age distributions. This is probably due to the fact that the age range 10-70 years is smoothed and the age groups at the ends (0-4 years, 5-9 years and 70+ years are derived by proportionate adjustment to the census total.

## APPENDIX

**Table A2.1: Reported and Adjusted Female Population by Age: 2000**

Age	Reported	Adjusted*	Adjusted**
0-4	1,389,651	1,484,385	1,438,912
5-9	1,384,554	1,289,820	1,226,801
10-14	1,111,085	1,104,320	1,072,973
15-19	922,591	964,156	939,211
20-24	837,769	845,052	820,734
25-29	791,805	735,301	715,634
30-34	640,370	631,981	621,045
35-39	538,901	533,928	536,965
40-44	443,647	432,415	464,351
45-49	343,042	352,394	397,468
50-54	288,419	274,745	338,230
55-59	172,999	220,487	284,725
60-64	189,004	175,207	233,130
65-69	129,619	139,265	182,492
70-74	118,645	107,949	131,853
75-79	70,562	81,258	84,081
80+	182,034	182,034	66,092
Total	9,554,697	9,554,697	9,554,697

\* Adjusted by algebraic method; \*\* Adjusted by demographic method;

**Table A2.2: Reported and Adjusted Male Population by Age: 2000**

Age	Reported	Adjusted*	Adjusted**
0-4	1,379,770	1,477,961	1,445,741
5-9	1,390,652	1,292,461	1,228,646
10-14	1,151,131	1,112,044	1,072,375
15-19	961,162	957,048	936,691
20-24	763,051	803,557	814,107
25-29	695,494	686,220	703,687
30-34	566,439	580,110	608,240
35-39	490,864	495,304	524,022
40-44	443,284	422,061	449,162
45-49	377,315	351,697	382,723
50-54	279,950	278,746	320,964
55-59	182,843	223,654	264,819
60-64	177,347	172,446	212,417
65-69	129,090	135,082	160,951
70-74	106,513	103,395	113,226
75-79	74,268	77,386	70,182
80+	188,209	188,209	49,429
Total	9,357,382	9,357,382	9,357,382

\* Adjusted by algebraic method, \*\* Adjusted by demographic method

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## **CHAPTER 3: HOUSEHOLD SIZE, COMPOSITION AND DISTRIBUTION**

### **3.1 Introduction**

Living arrangements among societal groups are largely influenced by socio-cultural factors. Marriage, family and household formation are closely related to the type of socio-cultural practices of the society. The family system, whether extended or nuclear, depicts the type of kinship ties that exists in a particular society.

In Ghana, the structure, composition and size of households differ among the various ethnic groups based on the prevailing kinship, and the two broad descent and inheritance systems, i.e., the patrilineal and matrilineal. In the patrilineal system, inheritance and descent are traced from the father's line and household heads are mostly men. In the matrilineal systems which trace descent from the mother's line, a large proportion of household heads are women.

The matrilineal system, which is peculiar to Akan groups, also allows for couples to live apart and grants economic and legal autonomy to females. The Ga-Dangme, a patrilineal group also supports wives living separately from their husbands. By contrast, among the Ewes, a patrilineal group, the woman at marriage goes to live with the husband. Among the Mole Dagbon, another patrilineal ethnic group, the wife lives in her father-in-law's house. These different cultural systems influence the nature and characteristics of the household structure, size and composition in the various parts of the country.

### **3.2 Objectives and Scope of Analysis**

The chapter sets out to changes in the structure, size, composition, headships and other characteristics of households and what trends could be identified from 1960 to 2000, using data from the various censuses. The proportion of the population enumerated in households in the 1960, 1970, 1984 and 2000 censuses is close to 100 per cent.

### **3.3 Definition of Concepts**

The concept of household, as has been widely used in censuses and surveys in many countries, is used to identify and group persons defined as the unit of enumeration. Except in 1960, when the concept of housing unit was used, all other subsequent censuses and surveys in Ghana focus on the household as the unit of enumeration. This is because expenditures (and to some extent incomes) are derived for households rather than for housing units whose occupants are not necessarily related. The adopted working definition of a household therefore is "a person or group of persons living together in the same house or compound, sharing the same housekeeping arrangements and being catered for as one unit". Grouping people into households on the basis of varied living arrangements on cultural and ethnic lines gives rise to several forms of households, namely:

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This chapter was contributed by Mrs. Edith K. Mote.

- a man, his wife and children with other relative(s) or house-help living with them;
- in large family houses with more than two generations of people, a common catering arrangement is employed as the underlying principle in breaking people up into households when all other activities are carried out as a unit;
- a lodger who sleeps and eats at least one meal a day with the household is considered a member of that household;
- two or more unrelated persons living together in one flat or in one room are considered as constituting a household only if they have a common catering arrangement.

### **3.4 Data Sources and Limitations**

Data for this analysis are mostly from the 1960, 1970, 1984 and 2000 censuses. Where there are gaps, data generated from national surveys within the period have been used as supplement. Some volumes of previous censuses relating to households are not published; hence, trend analysis with respect to economic characteristics of household heads is limited. Secondly, since the de facto concept of households was used in the censuses, the size of household refers to the total number of usual members and visitors present in the household on census night, and excludes usual members who were absent from the house on census night. In this case some element of omission could occur, as temporary household heads may not have details of visitors or of absent usual members.

### **3.5 Household Distribution**

The distribution of households from the censuses shows that Greater Accra, Eastern and Ashanti are the regions with the highest proportions of total households in the country between 1970 and 2000. Northern and Upper West, on the other hand, are the regions with the least proportions of total households within the same period (Table 3.1).

Ashanti is the region that has, over time, maintained a relatively constant proportion of about 18 per cent as its share of the total. The share of the total number of households appears to have declined for all other regions from 1960 to 2000, except for Western, Greater Accra and, to some extent, Northern. Indeed, the share for Greater Accra has to increase, from 9.0 per cent in 1960 through 14.5 per cent in 1984 to 16.9 per cent in 2000.

Table 3.1 also shows that all regions have experienced increases in the number of households. The increase between 1960/1970 and 1970/1984 inter-censal periods appears to be more substantial for all regions than between 1970/1984 and 1984/2000 inter-censal periods. Western, Greater Accra, Ashanti and Northern are the fastest growing regions. Household formation is particularly significant for Northern and it may probably be the result of better operationalization and understanding of the household concept by enumerators. Indeed the enumerators training laid emphasis on how to identify households in the three northern regions and other communities where there is the tendency to regard the patriarch in big compounds with separate families as the head of the 'household'.

**Table 3.1: Share and Rate of Increase of Households by Region**

Region	Share of Households				Rate of Increase		
	1960	1970	1984	2000	1960-1970	1970-1984	1984-2000
Western	23.3 <sup>1</sup>	10.5	10.6	11.1	10.5 <sup>1</sup>	39.6	56.2
Central	---	11.4	12.0	9.9	---	45.6	23.1
Greater Accra	9.0	12.0	14.5	16.9	56.8	67.1	73.9
Volta	11.1	10.5	10.1	9.3	11.2	33.0	37.4
Eastern	15.5	14.5	13.8	12.3	10.0	31.6	33.0
Ashanti	18.4	18.5	17.7	18.5	18.2	32.3	55.9
Brong Ahafo	10.1	9.5	9.5	9.3	10.6	38.3	46.1
Northern	12.6 <sup>2</sup>	5.7	5.4	6.6	22.3 <sup>2</sup>	31.0 <sup>2</sup>	82.4
Upper East	---	7.4 <sup>3</sup>	6.4 <sup>3</sup>	3.9	---	---	42.2 <sup>3</sup>
Upper West	---	---	---	2.2	---	---	---
Total	100.0	100.0	100.0	100.0	17.6	38.3	49.2
N	1,525,240	1,793,580	2,480,368	3,701,241			

Source: Compiled from 1960, 1970, 1984 & 2000 Population Censuses of Ghana  
 1960 & 1970 Demographic Characteristics Vol. 3  
 1984: Demographic & Economic Characteristics Report, 1987  
 2000: Compiled from unpublished 2000 Census results

- Notes 1. includes Central  
 2. includes Upper East and Upper West  
 3. includes Upper West  
 ---- Not applicable

The distribution of households by place of residence also reveals several changes that have taken place. Overall, the rural share of total households has declined from 67.3 per cent in 1970 to 52.8 per cent in 2000 (Table 3.2), with faster rate of increase in the formation of urban households than rural households. The trend mirrors changes in urbanization and, is probably why the majority of households in all regions, except Greater Accra and Ashanti, are in rural areas.

**Table 3.2: Households by Region and Locality of Residence**

Region	Urban			Rural		
	1970	1984	2000	1970	1984	2000
Western	28.6	24.4	38.8	71.4	75.6	61.2
Central	30.1	26.7	38.7	69.9	73.3	61.3
Greater Accra	88.5	85.7	88.4	11.5	14.3	11.6
Volta	16.6	21.9	28.5	83.4	78.1	71.5
Eastern	27.4	31.2	37.9	72.6	68.8	62.1
Ashanti	21.6	34.4	53.3	78.4	65.6	46.7
Brong Ahafo	22.8	29.2	40.1	77.2	70.8	59.1
Northern	23.8	28.5	29.6	76.2	71.5	70.4
Upper East	8.2 <sup>1</sup>	15.0	17.3	91.8 <sup>1</sup>	85.0	82.7
Upper West	---	13.5	21.6		86.5	78.4
All Regions	32.7	36.0	47.2	67.3	64.0	52.8

Source: Compiled from 1960, 1970, 1984 & 2000 Population Censuses of Ghana  
 1960 & 1970 Demographic Characteristics Vol. 3; 1984: Demographic & Economic Characteristics Report, 1987;  
 2000: Compiled from unpublished 2000 Census data/

- Note:  
 1. includes Upper West  
 ---- Not applicable

### 3.6 Household Size

The number of people who constitute a household can provide useful information for the use of policy makers in ensuring maximum allocation of resources. Policies on housing facilities could also factor in changes in the mean household size over time to direct programmes.

Over the period, the average household size in both urban and rural areas is much higher in the three northern regions than elsewhere (table 3.3). Nationally, the average household size has increased gradually from 4.2 in 1960 to 5.1 in 2000. This trend is true for both urban (from 3.6 to 4.7) and rural areas (from 4.6 in 1960 to 5.4 in 2000). Western, Greater Accra, Ashanti and Brong Ahafo also reflect this gradual increase in household size in both urban and rural areas over the four decades; in the rest of the regions no clear pattern is evident.

**Table 3.3: Average Household Size by Region, Rural and Urban, Ghana**

Region	Total Country				Urban				Rural			
	1960	1970	1984	2000	1960	1970	1984	2000	1960	1970	1984	2000
Western	3.8 <sup>1</sup>	4.0	4.4	4.7	3.5 <sup>1</sup>	3.7	4.0	4.4	4.0 <sup>1</sup>	4.1	4.5	4.9
Central	---	4.3	3.8	4.4	---	4.0	4.0	4.2	---	4.4	3.7	4.4
Greater Accra	3.4	3.8	3.9	4.6	3.3	3.7	3.8	4.6	4.2	4.7	4.6	4.9
Volta	4.5	5.0	4.8	4.7	4.0	4.6	4.3	4.5	4.7	5.1	4.9	4.8
Eastern	4.6	4.8	4.8	4.6	3.8	4.1	4.2	4.2	4.9	5.0	5.1	4.9
Ashanti	3.9	4.4	4.8	5.3	3.5	4.5	4.7	5.1	4.0	4.0	4.9	5.5
Brong Ahafo	3.8	4.5	5.1	5.3	3.5	4.5	4.5	4.8	3.8	4.5	5.3	5.6
Northern	6.7 <sup>2</sup>	6.5	8.7	7.4	5.1 <sup>2</sup>	5.5	7.6	6.7	6.8 <sup>2</sup>	6.8	9.1	7.7
Upper East	---	6.5 <sup>3</sup>	7.5 <sup>3</sup>	7.2	---	5.4 <sup>3</sup>	6.1 <sup>3</sup>	5.8	---	6.6 <sup>3</sup>	7.7 <sup>3</sup>	6.5
Upper West	---	---	---	6.4	---	---	---	5.8	---	---	---	7.5
All Regions	4.2	4.7	4.9	5.1	3.6	4.1	4.3	4.7	4.6	5.0	5.2	5.4

Source: Compiled from 1960, 1970, 1984 & 2000 Population Censuses of Ghana  
 1960 & 1970 Demographic Characteristics Vol. 3  
 1984: Demographic & Economic Characteristics Report, 1987  
 2000: Compiled from unpublished 2000 Census results

Notes:  
 1. Includes Central  
 2. Includes Upper East and Upper West  
 3. Includes Upper West  
 ---- Not applicable

Table 3.4 shows that single person households have declined from 21 per cent in 1970 to 13 per cent in 2000. This decline is even sharper in urban areas (almost 50%), from 28 per cent in 1970 to 15 per cent in 2000. Changes in 2 or 3-person households are insignificant. The share of households of 4 or more persons, however, increased between 1970 and 2000 more in the urban areas than in rural areas.

**Table 3.4: Households by Size and Locality of Residence**

Household Size	Total Country			Urban			Rural		
	1970	1984	2000	1970	1984	2000	1970	1984	2000
1 Person	21.2	19.8	12.6	27.6	24.1	14.6	18.1	17.5	10.8
2 Persons	12.4	12.0	11.4	14.6	13.7	13.1	11.4	11.0	10.0
3 Persons	12.4	11.8	12.4	12.4	12.7	13.4	12.0	11.4	11.5
4 Persons	11.4	11.4	12.7	10.7	11.7	13.1	11.8	11.3	12.4
5 Persons	10.2	10.3	11.9	9.1	10.0	11.8	10.7	10.5	12.1
6 Persons	8.4	8.6	10.2	7.1	8.0	9.6	9.1	9.1	10.8
7 Persons	6.4	6.7	8.0	5.4	5.9	7.3	7.1	7.3	8.7
8 Persons	4.8	5.1	6.0	3.8	4.2	5.2	5.3	5.6	6.7
9 Persons	3.4	3.6	4.7	2.7	2.8	4.0	3.8	4.1	5.3
10+ Persons	9.4	10.7	9.8	6.6	6.9	7.8	10.7	12.2	11.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Compiled from 1960, 1970, 1984 & 2000 Population Censuses of Ghana  
1960 & 1970 Demographic Characteristics Vol. 3  
1984: Demographic & Economic Characteristics Report, 1987  
2000: Compiled from unpublished 2000 Census results

Information on the size of households among regions also shows changes that have taken place over the 1960-2000 period, but there are some predominant features that have remained unchanged over time. The trend observed at the national level appears to reflect in all regions: significant decline in single-person households, no substantial changes in 2 and 3 person households; and steady increases in households with 4 persons or more. The changes, where they occur, are more pronounced between 1984 and 2000 than between 1970 and 1984 (Table 3.5).

In spite of these trends, about two-thirds of households in Western (65%), Central (70%), Greater Accra (68%), Volta (66%) and Eastern (67%) 5 persons in 2000; while Ashanti (57%) and Brong Ahafo (58%) have a majority of households in this bracket. On the other hand, growth of households continues to be a feature for the three northern regions, where households of 6 persons or more predominate (62%, Northern; 52%, Upper East, and 61%, Upper West) in 2000, particularly households of 10 persons or more (Table 3.5).

**Table 3.5: Households by Size and Region**

Household Size	Western			Central			Greater Accra			Volta			Eastern		
	1970	1984	2000	1970	1984	2000	1970	1984	2000	1970	1984	2000	1970	1984	2000
1 Person	26.2	20.8	14.3	22.2	32.1	17.2	30.2	26.9	13.1	17.5	16.9	14.0	22.2	18.9	15.3
2 Persons	13.9	13.0	12.2	13.5	14.2	13.7	15.3	14.1	13.7	11.4	12.6	12.6	11.3	11.7	12.9
3 Persons	12.8	13.3	13.1	13.2	11.1	13.9	12.3	12.9	14.4	12.0	13.1	13.6	10.9	11.9	13.3
4 Persons	11.6	12.3	13.4	12.2	10.2	13.3	10.4	11.8	14.0	11.7	12.6	13.4	10.6	11.6	13.2
5 Persons	9.8	10.8	12.3	10.6	8.7	11.9	8.4	9.9	12.4	10.8	11.0	12.2	9.9	10.6	12.1
6 Persons	7.7	8.6	10.3	8.3	7.0	9.7	6.6	7.6	9.8	9.3	9.1	10.0	8.7	9.0	10.0
7 Persons	5.6	6.6	8.0	6.2	5.1	7.1	4.9	5.5	7.1	7.5	7.0	7.4	7.0	7.2	7.5
8 Persons	3.9	4.7	5.7	4.3	3.6	4.8	3.5	3.7	5.0	5.6	5.1	5.3	5.4	5.5	5.3
9 Persons	2.7	3.2	4.2	2.9	2.5	3.1	2.4	2.5	3.7	3.9	3.6	3.9	3.8	3.9	3.7
10+ Persons	5.8	6.7	6.5	6.6	5.5	5.3	6.0	5.1	6.8	10.3	9.0	7.6	10.2	9.7	6.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Household Size	Ashanti			Brong Ahafo			Northern			Upper East			Upper West		
	1970	1984	2000	1970	1984	2000	1970	1984	2000	1970*	1984*	2000	1970	1984	2000
1 Person	22.3	18.2	11.5	15.6	16.8	11.4	9.4	7.9	6.2	6.4	5.6	5.2	.	.	4.9
2 Persons	13.1	12.4	10.3	9.1	11.3	10.4	7.5	5.7	5.8	8.7	6.3	7.2	.	.	5.8
3 Persons	12.5	12.6	11.1	9.2	12.2	12.0	9.6	7.1	7.7	11.6	8.5	10.0	.	.	7.9
4 Persons	11.7	12.0	12.0	8.6	11.7	12.4	10.5	8.4	8.8	13.0	10.1	12.6	.	.	9.3
5 Persons	10.3	10.8	11.8	7.5	10.7	12.0	10.2	8.8	9.8	12.1	10.9	13.0	.	.	10.6
6 Persons	8.6	9.2	10.7	6.1	9.3	10.7	9.5	8.7	9.6	10.5	10.4	12.1	.	.	10.6
7 Persons	6.5	7.2	9.0	4.5	7.5	8.6	7.8	7.7	8.8	8.3	9.1	9.7	.	.	10.0
8 Persons	4.7	5.4	7.4	3.7	5.7	6.6	6.8	6.8	7.9	6.4	7.4	7.4	.	.	8.6
9 Persons	3.2	3.8	6.2	2.2	4.0	5.1	5.4	5.6	7.1	5.0	6.2	5.9	.	.	7.6
10+ Persons	7.1	8.4	10.0	5.5	10.8	10.8	23.3	33.3	28.3	18.0	25.5	16.9	.	.	24.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.	.	100.0

Source: Compiled from 1960, 1970, 1984 & 2000 Population Censuses of Ghana  
1960 & 1970 Demographic Characteristics Vol. 3  
1984: Demographic & Economic Characteristics Report, 1987  
2000: Compiled from Unpublished 2000 Census.  
Note: \* includes Upper West  
... Not applicable

Table 3.6 shows that the average number of adult members (aged 20 years and older) per household has increased from 2.1 in 1960 to 2.5 in 2000, an indication that household members do not simply leave to form their own households as they get older.

**Table 3.6: Average Number of Adults (aged 20 years and older) per Household by Region**

Region	Average Number of Adults			
	1960	1970	1984	2000
Western	1.7 <sup>1</sup>	1.9	2.0	2.3
Central	---	2.0	1.7	2.1
Greater Accra	1.9	2.1	1.9	2.6
Volta	2.1	1.8	2.2	2.3
Eastern	2.1	2.1	2.2	2.2
Ashanti	1.8	1.8	2.1	2.6
Brong Ahafo	1.8	3.2	2.2	2.5
Northern	3.4 <sup>2</sup>	3.1 <sup>2</sup>	3.7	3.3
Upper East	---	---	3.5 <sup>3</sup>	3.0
Upper West	---	---	---	3.3
<b>Total</b>	<b>2.1</b>	<b>2.8</b>	<b>2.2</b>	<b>2.5</b>

Source: Compiled from 1960, 1970, 1984 and 2000 Censuses

1. Includes Central
  2. Includes Upper East and Upper West
  3. Includes Upper West
- Not applicable

### 3.7 Household Headship

It is generally assumed that the head of the household sees to the day to day running of the household and ensures that the needs and well being of members are addressed. It is based on this consideration that heads of households are considered key when analyzing issues at the micro level. The age, sex and socio-economic characteristics (education, occupation, employment status) of heads of household are therefore analysed to help our understanding of household dynamics and standard of living of household members.

Table 3.7 shows that single-person households are predominantly male. While the proportion of male single-person households has declined substantially, particularly between 1984 and 2000, the proportion of male single-person households (13.5%) is still higher than that of females (12.2%). The proportion of females heading households of size 2-6 is higher than that of males and this is true for all periods. This pattern also runs through both urban and rural localities. Larger households of sizes from 7 persons have higher proportions of male than female heads.

**Table 3.7: Household Size by Sex of Head, Urban/Rural**

Sex of Head	All Sizes	Number of people in household											
		1	2	3	4	5	6	7	8	9	10-14	15+	
<u>1970</u>													
Total Country													
Male	100.0	23.7	11.0	10.7	10.5	9.7	8.4	6.7	5.1	3.7		7.8	2.7
Female	100.0	15.1	15.9	15.6	13.9	11.4	8.7	6.2	4.2	2.8		5.1	1.1
Urban													
Male	100.0	32.4	13.7	11.1	9.6	8.2	6.7	5.2	3.8	2.7		5.0	1.6
Female	100.0	17.1	16.3	15.1	13.1	10.8	8.2	5.9	4.0	2.8		5.2	1.5
Rural													
Male	100.0	19.6	9.7	10.5	10.9	10.3	9.2	7.4	5.7	4.2		9.2	3.3
Female	100.0	14.0	15.7	15.8	14.4	11.8	8.9	6.4	4.2	2.8		5.0	1.0
<u>1984</u>													
Total Country													
Male	100.0	21.6	10.5	10.5	10.4	9.8	8.6	7.1	5.4	4.0		8.7	3.4
Female	100.0	15.3	15.3	15.3	13.7	11.4	8.8	6.3	4.4	3.0		5.4	1.1
Urban													
Male	100.0	28.6	12.4	11.2	10.5	9.3	7.7	5.9	4.2	2.8		5.3	2.1
Female	100.0	16.2	16.0	15.4	13.8	11.1	8.4	5.9	4.1	2.8		5.1	1.2
Rural													
Male	100.0	18.3	9.5	10.1	10.3	10.1	9.1	7.6	6.0	4.5		10.4	4.1
Female	100.0	15.4	14.4	14.6	13.7	11.6	9.3	6.5	4.7	3.2		5.6	1.0
<u>2000</u>													
Total Country													
Male	100.0	13.5	10.1	11.0	11.9	11.8	10.6	8.5	6.5	5.0		9.2	1.9
Female	100.0	12.2	14.4	15.0	13.9	11.8	9.2	6.9	5.1	4.0		6.5	1.0
Urban													
Male	100.0	16.5	12.3	12.2	12.4	11.7	9.8	7.5	5.5	4.1		6.7	1.3
Female	100.0	12.9	14.8	15.3	13.9	11.6	8.9	6.6	4.8	3.8		6.4	1.0
Rural													
Male	100.0	11.0	8.4	10.0	11.5	11.9	11.1	9.4	7.3	5.8		11.2	2.4
Female	100.0	11.4	13.9	14.8	13.9	12.3	9.6	7.1	5.3	4.1		6.6	1.0

Source: Compiled from 1970, 1984 and 2000 Population Censuses of Ghana.

Census data for the past four decades indicate that households have been headed predominantly by males (Table 3.8). However, the proportion of households headed by males has reduced slightly from 71.4 per cent in 1970 to 68.7 per cent in 2000, the decline being relatively steeper in urban (from 69.1% to 65.4%) than rural areas (from 72.4% to 71.6%). In spite of the gains in headship by females, socio-cultural factors may explain why household heads are predominantly male.

These figures follow similar findings from the 1997 Core Welfare Indicators Questionnaire (CWIQ) survey and 1998 Ghana Living Standards Survey (GLSS). For instance, the 1997 CWIQ survey indicated that about two thirds (64.8%) of households in the country were headed by males, while slightly more than a third (35.2%) are headed by females.

The decline in male-headed households (between 1970 and 2000) is more pronounced in Central and Volta, while there is a slight decline in all other regions except the three northern regions. It is worth noting that Northern, Upper East and Upper West have a significantly higher proportion of male headed households than elsewhere. The data suggest that while it is mostly men who are heads of household, more females assumed the responsibility as heads of households since the 1960s, but in Northern, Upper East and Upper West the proportion of female headed households has remained below 25 per cent.

**Table 3.8: Household Heads (15 years and older) by Sex and Place of Residence**

Place of Residence	1960		1970		1984		2000	
	Male	Female	Male	Female	Male	Female	Male	Female
<u>Locality</u>								
Total	74.3	25.7	71.4	28.6	68.1	31.9	68.7	31.3
Urban	72.3	27.7	69.1	30.9	64.2	35.8	65.4	34.6
Rural	75.0	25.0	72.4	27.6	70.3	29.7	71.6	28.4
<u>Region</u>								
Western	72.0 <sup>1</sup>	28.0 <sup>1</sup>	75.9	24.1	72.6	27.4	72.4	27.6
Central	---	---	60.7	39.3	58.7	41.3	61.2	38.8
Greater Accra	74.7	25.3	74.6	25.4	54.0	46.0	68.1	31.9
Volta	71.6	28.4	67.7	32.3	63.3	36.7	62.9	37.1
Eastern	71.9	28.1	68.2	31.8	66.6	33.4	66.1	33.9
Ashanti	68.1	31.9	65.3	34.7	63.0	37.0	65.4	34.6
Brong Ahafo	72.8	27.2	71.5	28.5	69.7	30.9	70.1	29.9
Northern	94.6 <sup>2</sup>	6.4 <sup>2</sup>	90.6	9.4	88.8	11.2	85.9	14.1
Upper East	---	---	87.7 <sup>3</sup>	12.8 <sup>3</sup>	76.2	12.8	77.8	22.2
Upper West	---	---	---	---	86.2	13.8	81.7	18.3

Source: Compiled from 1960, 1970, 1984 & 2000 census reports, Statistical Service, Accra

1. includes Central

2. includes Upper East and Upper West.

3. includes Upper West

--- Not applicable

An examination of headship rates by sex and age (Table 3.9) shows that at all ages, in both urban and rural areas, the proportion of males who are heads of household is higher than that of females; this pattern runs through all the periods under consideration.

For both sexes, urban and rural headship rates increase with age. There appears, however, that headship rates have declined from 1970 to 2000 for both males and females, an indication of a slow-down in household formation. Prior to 2000, the majority of females 50 years and older and in urban areas were heads of household, but this has dropped to about 45 per cent in 2000. Another important feature is that female headship rates are much higher in urban than rural areas, irrespective of age and period of assessment. Figures A3.1, A3.2 and A3.3 in the Appendix give a graphical presentation of the results.

**Table 3 9: Headship Rates by Age and Sex, 1970, 1984 & 2000**

Age Group	Total		Urban		Rural	
	Male	Female	Male	Female	Male	Female
<b>1970</b>						
15-19	5.0	3.4	6.5	4.1	4.4	3.0
20 – 24	31.1	11.3	38.7	16.0	26.5	9.1
25 – 29	59.3	14.4	70.3	21.6	52.6	11.2
30 – 34	72.9	19.2	82.0	28.6	68.0	15.7
35 – 39	80.5	23.3	86.8	33.6	77.6	19.4
40 – 44	83.9	29.1	88.2	41.8	82.3	24.8
45 – 49	87.1	34.0	89.6	46.7	86.0	30.0
50 – 54	88.2	39.6	89.4	52.2	87.9	35.6
55 – 59	90.0	43.8	91.1	55.5	89.8	40.1
60 – 64	89.5	46.4	89.2	58.6	89.5	42.8
65+	87.4	45.5	87.1	55.6	87.4	42.5
All Ages (15+)	59.5	19.0	62.8	26.7	58.1	18.7
<b>1984</b>						
15-19	3.3	2.3	3.9	2.8	3.0	1.8
20 – 24	20.7	9.2	23.3	12.9	19.3	7.2
25 – 29	47.5	15.2	55.1	22.0	43.5	11.4
30 – 34	65.1	19.6	74.0	28.1	60.4	15.3
35 – 39	74.7	24.2	82.2	33.6	70.6	19.4
40 – 44	80.2	29.4	86.0	40.4	77.2	24.3
45 – 49	85.2	35.2	89.2	46.7	83.2	30.2
50 – 54	86.8	41.0	89.6	53.3	85.6	36.1
55 – 59	89.1	47.0	90.9	58.2	88.3	42.5
60 – 64	88.7	48.9	89.2	60.7	88.5	44.7
65+	88.7	49.2	87.6	57.9	88.9	45.9
All Ages (15+)	52.3	21.4	55.2	26.8	50.9	18.8
<b>2000</b>						
15-19	2.8	1.8	3.2	2.1	2.4	1.5
20 – 24	15.8	7.4	15.8	9.0	15.8	5.7
25 – 29	38.4	12.6	38.4	16.1	38.5	9.3
30 – 34	54.7	16.4	55.7	20.8	53.7	12.4
35 – 39	64.0	20.4	64.5	25.1	63.6	16.1
40 – 44	69.3	26.7	69.2	31.9	69.4	22.4
45 – 49	72.1	31.4	71.2	36.9	72.9	27.1
50 – 54	74.0	34.9	73.7	40.8	74.3	30.8
55 – 59	72.4	39.2	70.5	44.6	73.9	35.1
60 – 64	73.9	43.1	71.5	49.3	75.5	39.2
65+	59.0	43.1	50.2	45.3	65.0	41.7
All Ages (15+)	43.9	19.1	42.0	21.2	45.5	17.3

Source: Compiled from 1970, 1984 and 2000 Population Censuses of Ghana

1970: Demographic Characteristics Vol. 3

1984: Compiled from Unpublished 1984 Vol. 3.

### 3.8 Household Composition

The household typically consists of a head, with or without a spouse, children, in-laws, parents, grandchildren and other relatives (Table 3.10). Table 3.10 shows that the proportion of male heads of households is more than twice the proportion of female heads for all the years. There is a drop in the proportion of female spouses from 21.5 per cent to 17.2 per cent over the period, while the proportion of female heads has remained almost the same over the period.

On the other hand, the proportion of other relatives has increased for both males and females over the period and may indicate changes occurring in marital status of heads/spouses, in that in the event of a break in marriage (divorced and widowed), the partner may retire to live in the family house or with a sibling. The decline in the proportions of children of head in both male and female headed households may also reflect the practice of fostering, by which children may go to live with siblings or other relatives.

**Table 3.10: Household Composition by Sex and Status**

Household Composition	Males			Females		
	1970	1984	2000	1970	1984	2000
Head	30.7	28.0	25.7	11.2	11.9	11.4
Temporary Head	0.2	0.2	0.5	0.8	0.6	1.9
Spouse	0.4	0.6	1.5	21.5	20.5	17.2
Child	44.5	47.0	39.0	40.5	41.1	35.9
Son/Daughter-in-law	-	0.1	0.8	1.1	1.7	1.5
Parent/Parent-in-law	0.2	0.5	0.3	2.0	1.9	1.3
Grand Child	8.2	9.7	7.0	8.6	9.8	7.1
Other Relatives	13.5	12.6	22.4	13.0	11.8	21.1
Non relative	2.3	1.3	2.8	1.3	0.7	2.6
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: 1970, 1984 and 2000 censuses.

Table 3.11 gives the composition of household members by urban/rural residence. Children of the head again constitute the highest proportion of the household in all years, irrespective of the locality of residence or sex of household head.

**Table 3.11: Household Composition by Sex and Locality of Residence**

Household Composition	Males			Females		
	1970	1984	2000	1970	1984	2000
<u>Urban</u>						
Head	34.4	30.9	26.7	14.2	15.5	13.4
Temporary Head	0.7	0.2	0.6	0.7	0.6	2.0
Spouse	0.4	0.6	1.8	18.5	16.9	15.2
Child	40.6	45.4	34.8	39.7	41.7	33.6
Son/Daughter-in-law	-	0.1	0.9	0.5	0.7	1.3
Parent/Parent-in-law	0.1	0.5	0.3	1.2	1.5	1.1
Grand Child	7.4	9.2	6.3	8.2	9.0	6.6
Other Relatives	13.5	11.7	25.3	14.3	12.4	23.4
Non Relative	2.9	1.4	3.3	2.7	1.7	3.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
<u>Rural</u>						
Head	29.1	26.4	24.6	10.1	10.3	9.8
Temporary Head	0.2	0.2	0.5	0.8	0.4	1.8
Spouse	0.3	0.6	1.2	22.7	20.6	18.8
Child	45.9	47.8	42.4	40.2	40.0	37.7
Son/Daughter-in-law	0.1	0.1	0.8	1.4	2.0	1.8
Parent/Parent-in-law	0.2	0.6	0.3	2.4	4.6	1.5
Grand Child	8.5	10.0	7.5	8.7	8.9	7.5
Other Relatives	13.6	13.1	20.2	12.9	12.7	19.2
Non Relative	2.1	1.2	2.5	0.8	0.5	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: 1970, 1984 and 2000 censuses.

In general, the proportions of children and grandchildren of the head, which form the highest proportion of the household composition, have declined between 1970 and 2000 for both urban and rural heads. The proportion of other relatives, on the other hand, increased for all households between 1970 and 2000.

### 3.9 Marital Status of Household Heads

Table 3.12 shows that while the proportion of never married male heads has declined from 14.5 per cent to 11.2 per cent, that of female heads has increased from 3.1 per cent in 1960 to 9.2 per cent in 2000. The observed pattern is true for urban and rural households.

Most of the households are headed by currently married persons; in general, the proportion of currently married male heads has increased while it has declined for female heads. A significantly higher proportion of households are headed by divorced and widowed females than males and the trend seems to be increasing. The higher proportion of females observed to be widowed or divorced may be due to higher mortality for males as well as the wide gap in age at first marriage between males and females. Higher remarriages common among men in the event of a death of a spouse or divorce may also be a plausible reason for the lower proportions of divorced and widowed males.

**Table 3. 12 Marital Status of Household Heads (15 years and older) by Sex and Locality**

	Total				Urban				Rural			
	Male		Female		Male		Female		Male		Female	
Marital Status	1960	2000	1960	2000	1960	2000	1960	2000	1960	2000	1960	2000
Never Married	14.5	11.2	3.1	9.2	21.9	16.2	5.2	12.7	11.6	7.3	2.2	5.4
Currently Married <sup>1</sup>	77.6	81.4	58.9	46.3	71.7	76.9	59.3	46.4	79.8	85.0	58.7	46.4
Divorced <sup>2</sup>	5.6	5.5	16.7	22.4	4.8	5.4	16.0	21.9	5.9	5.5	16.9	23.0
Widowed	2.3	1.9	21.3	22.0	1.6	1.7	19.5	19.0	2.7	2.1	22.2	25.3

Source:

- Notes: 1 Includes consensual union  
2. Includes separated

Figures A3.4 and A3.5 show the trend in marital status between 1960 and 2000. It clearly brings out the higher proportion of males than females in unions as well as the higher proportion of females than males who are either divorced or widowed.

### 3.10 Educational Level of Household Head

Education allows an individual to gain access to better economic opportunities, earn a good salary, and enhances his/her understanding and appreciate value of issues within their proper context. There is the observation that educated persons have a better understanding of issues and their environment. Having increasing proportions of household heads with higher education therefore will ensure that they take more informed decisions concerning their families as well as contribute to issues relating to their communities.

Table 3.13 indicates that a higher proportion of female than male heads in the three censuses had never received any formal education. Education of household heads has improved considerably between 1970 and 2000, especially for the never attended which dropped by more than 20 percentage points for both males and females. In 1970, 82 per cent of female household heads compared with 63 per cent of male heads had never been to school. In 1984, the proportion declined to 65 per cent for females and 47 per cent for males; with further declines in the proportion of female heads who have never been to school from 58 per cent in 2000. The drop is highest (26 points) for urban females and lowest (17 points) for rural female heads.

There has been a sharp increase in the proportion of heads who have had middle/JSS education, particularly between 1984 and 2000. Though not substantial, the proportion with secondary school, commercial, teacher training and university has more than doubled from 1970 to 2000. This could be a reflection of many educated persons moving from family homes to set up one-person households while working to make a living.

**Table 3.13 Education Level of Household Heads by Sex and Locality of Residence**

Education	Male			Female		
	1970	1984	2000	1970	1984	2000
<u>Total country</u>						
Never Attended	63.3	46.7	38.8	82.3	65.3	57.7
Primary	7.3	7.7	4.9	6.9	9.0	6.0
Middle/SSS	23.0	35.2	33.6	9.0	20.8	23.0
Secondary/SSS	2.8	5.6	8.5	0.6	2.1	4.2
Commercial Tech	1.4	2.7	5.6	0.4	1.3	3.6
Post Secondary	1.5	2.0	3.9	0.7	1.2	3.3
Tertiary	0.7	1.2	4.7	0.1	0.3	2.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
<u>Urban</u>						
Never Attended	40.2	28.9	22.3	71.6	53.2	45.7
Primary	6.6	5.3	4.1	8.1	8.4	5.9
Middle/SSS	38.8	43.5	38.7	16.2	28.7	29.0
Secondary/SSS	6.7	11.4	13.2	1.5	4.3	6.5
Commercial Tech	3.8	5.8	9.2	1.0	2.8	5.7
Post Secondary	2.0	2.3	4.7	1.3	2.2	4.6
Tertiary	1.9	2.8	7.8	0.3	0.4	2.6
Total	100.0	100.0	100.0	100.0	100.0	100.0
<u>Rural</u>						
Never Attended	74.0	55.1	52.2	88.0	73.5	70.7
Primary	7.6	8.8	5.5	6.1	9.4	6.0
Middle/SSS	15.6	30.3	29.5	5.1	15.4	16.5
Secondary/SSS	1.0	2.6	4.7	0.2	0.6	1.8
Commercial Tech	0.2	1.1	2.7	0.1	0.3	1.4
Post Secondary	1.4	1.7	3.2	0.4	0.7	2.0
Tertiary	0.2	0.4	2.2	0.1	0.1	1.6
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: 1960, 1970, 1984 and 2000 Population Census reports  
Central Bureau of Statistics, Ghana and Ghana Statistical Service..

It is worth noting that the increase in the proportion of household heads with post basic education is more pronounced among female than male heads of households.

Figures A3.6, A3.7 and A3.8. show graphically the educational status of household heads from 1970 to 2000. The charts clearly show a remarkable improvement in the educational levels attained by the household heads over the period. This improvement in education appears to be greater for female heads than males over time.

### 3.11: Type of Activity of Household Head

Table 3.14 summarizes the proportions of household heads by activity status. The data show that 93.8 per cent of male heads of household were employed in 1970, but this declined to 85.0 per cent in 2000. The pattern and trend also apply to both urban and rural areas. In the case of female household heads, the decline is from 83.6 per cent in 1970 to 74.1 per cent in 2000. Another significant decline among female heads is with homemakers. These declines are compensated for by increases in the proportion unemployed. This observation, again, is true for both males and females as well as urban and rural residents. The given data, however, suggest that most household heads are engaged in some type of activity that enables them to meet their responsibilities towards their households.

**Table 3.14: Activity Status of Household Heads by Sex Locality of Residence**

Type of Activity	Total		Urban		Rural	
	1970	2000	1970	2000	1970	2000
<b>Male</b>						
Employed	93.8	84.9	92.1	82.3	94.7	87.0
Unemployed	2.1	6.2	3.6	6.7	1.4	5.7
Homemaker	0.2	1.2	0.2	1.6	0.1	0.8
Student	0.7	0.8	1.1	1.2	0.6	0.5
Old Age	0.0	2.6	0.0	2.1	0.0	3.0
Retired/Pensioner	0.0	1.8	0.0	2.9	0.0	1.0
Person with disability	2.6 <sup>1</sup>	0.6	1.8 <sup>1</sup>	0.5	3.0 <sup>1</sup>	0.7
Other	0.6	1.9	1.2	2.7	0.2	1.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Female</b>						
Employed	83.6	74.1	79.6	71.7	86.0	76.8
Unemployed	1.3	7.1	2.3	7.8	0.7	6.2
Homemaker	8.6	5.0	12.0	6.1	6.8	3.7
Student	0.4	0.7	0.5	1.0	0.4	0.5
Old Age	0.0	8.1	0.0	7.5	0.0	8.9
Retired/Pensioner	0.0	1.2	0.0	1.6	0.0	0.6
Person with disability	5.7 <sup>1</sup>	1.1	5.2 <sup>1</sup>	0.9	6.0 <sup>1</sup>	1.4
Other	0.4	2.7	0.4	3.4	0.1	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Compiled from 1970 and 2000 Population Censuses of Ghana

Note: <sup>1</sup> includes Old Age and Retired/Pensioner

### 3.12 Occupation of Household Head

The concept of occupation relates to the type of work performed by the individual. Thus censuses, guided by the international standard classification of occupations, categorize various types of work performed by people in the country.

Table 3.15 shows that the highest proportion of household heads, especially in rural areas, is engaged in agriculture, animal husbandry and fishing in both 1970 and 2000, in spite of a substantial decline over the period. In urban areas, the agricultural and related workers proportion in 1970 (33.1%) dropped to less than a fifth (18.4%) in 2000. The occupations that

gained from this decline in rural areas are professional/technical and related workers, clerical workers and production and related workers. Improvement in the level of education of household heads may have enabled them to move into the non-agricultural sector. In the case of urban household heads, the move has been in favour of production and related workers and persons.

**Table 3.15: Occupation of Household Heads by Locality of Residence, 1970, 2000**

Occupation of Head	Total		Urban		Rural	
	1970	2000	1970	2000	1970	2000
Professional, Technical & related Worker	5.4	8.9	13.9	12.9	3.0	5.5
Admin., Executive & Managerial Workers	0.6	0.4	2.1	0.8	0.2	0.1
Clerical workers	4.0	6.1	13.8	10.4	1.2	2.4
Sales workers	8.8	12.7	23.8	22.2	4.5	4.6
Service workers	3.6	5.3	11.4	8.8	1.4	2.3
Agriculture, Animal Husbandry and fishing	76.3	48.2	33.1	19.0	88.6	73.1
Production and related workers	1.3	16.8	1.9	23.7	1.1	10.9
Others ( No longer employed)	0.0	1.6	0.0	1.0	0.0	1.1
<b>Total</b>	100.0	100.0	100.0	100.0	100.0	100.0

Source: Compiled from 1970 and 2000 Population Censuses of Ghana

1970: Unpublished Census Vol. IV Report

2000: Population and Housing Census

### 3.13 Employment Status of Household Head

Majority of household heads (68.7%) are self-employed without employees; and an additional 21.2 per cent are employees. (Table 3.16). Apprentices and unpaid family workers account for 3.6 per cent of household heads. Household heads who are domestic employees may represent household helps who may be living with households but make separate feeding arrangements for themselves or for their families.

**Table 3.16: Employment Status of Household Heads by Sex**

Employment Status	Total	Male	Female
Employee	21.2	25.0	12.0
Self employed, no employee	68.7	64.7	78.4
Self employed, with employee	5.7	5.9	5.1
Unpaid family worker	2.1	2.2	2.1
Apprentice	1.5	1.4	1.5
Domestic employee	0.2	0.2	0.3
Other	0.6	0.6	0.6
Total	100.0	100.0	100.0
N	3,052,266	2,170,609	881,657

Source: 2000 Population Census of Ghana

Table 3.17 on the distribution of female household heads from the 1993 Ghana Demographic and Health Survey reveals a similar pattern, with four-fifths (80.0%) of female household heads being self-employed. The 1997 Core Welfare Indicators Questionnaire (CWIQ) Survey also reports 72.2 per cent of household heads as self-employed.

**Table 3.17: Female Household Heads by Employment Status and Locality**

Employment Status	Locality of Residence		
	Total	Urban	Rural
Employee	18.0	10.7	13.6
Self-employed	80.0	85.7	83.5
Unpaid family worker	2.0	3.6	2.9
Total	100.0	100.0	100.0

Source: 1993 Ghana Demographic and Health Survey

About three-quarters (74.0%) of household heads are employed in the informal sector accounts, while about a tenth (9.6%) is in the public and 15 per cent in the private formal sector. Thus, only a quarter (25.4%) of household heads work in the formal sector, where employment and earnings may be more stable even if inadequate for subsistence living. Findings from the 1997 CWIQ survey also indicate that 83.9 per cent of household heads work in the private informal sector.

**Table 3 18: Employment Sector of Household Heads by Sex**

Employment Sector	Total	Male	Female
Public	9.6	10.8	6.5
Private formal	14.6	15.4	12.7
Private informal	74.0	71.7	79.7
Semi public or parastatal	1.0	1.2	0.5
NGO's or International	0.2	0.3	0.1
Other	0.5	0.5	0.5
Total	100.0	100.0	100.0
N	3,052,266	2,170,609	881,657

Source: 2000 Population Census of Ghana

### 3.14 Summary and Conclusion

#### Summary

The chapter indicates an increase in households throughout the country, with Greater Accra recording consistent increases in its share of the national total. Rural households continue to constitute the larger share of households in the country, even though there is a steady increase in the proportion of urban households from 1960 to 2000. The analysis also reveals a decline over time in the single person households in both rural and urban areas.

With regard to the headship of households, male-headed households continue to be more than female-headed households for the entire period of the analysis. For instance, more than two-thirds of heads reported in the 2000 census are males, while only about a third are females, though there is a decline of male household heads from 74.3 per cent in 1960 to 68.7 per cent in 2000.

The three northern regions have maintained the highest proportions of male household heads over time. Even though there is a decline over the years, more than three quarters of heads of household in the three northern regions are reported to be males (Western follows closely with 72.4%). Female-headed households tend to be smaller in size (up to 5 persons) while male-

headed households are larger in size, particular in households with 10 persons or more. Headship rates also tend to increase with age.

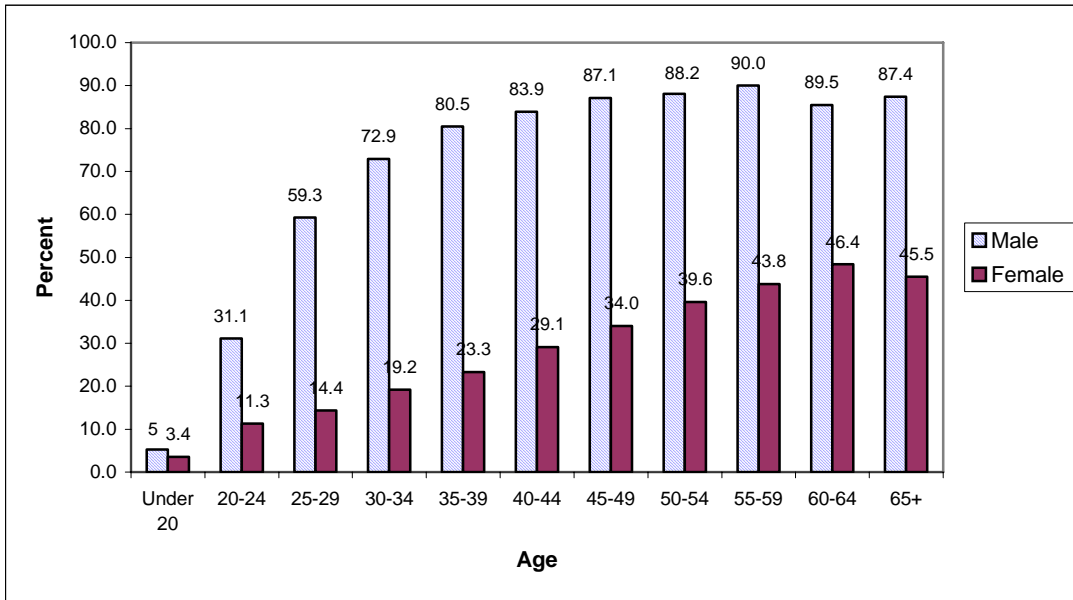
Household composition appears to have undergone changes over the 1970-2000 period. The proportion of spouses of household heads declined between 1970 and 2000 in both urban and rural areas for female headed households. Similarly, there is a decline in the proportion of children of household head recorded over the same period. The proportions of other relatives reported for both urban and rural areas have increased, suggesting that the extended family system has persisted in the face of rapid urbanization. A higher proportion of male than female heads are married while higher proportions of female heads, divorced or widowed.

The educational attainment of household heads (both male and female) appear to have improved tremendously. Higher proportions of male heads than female, however, are educated at the various levels of education. The majority of household heads (male and female) are to agriculture, animal husbandry and fishing as well as mine workers, and are also self employed without employees in the private informal sector.

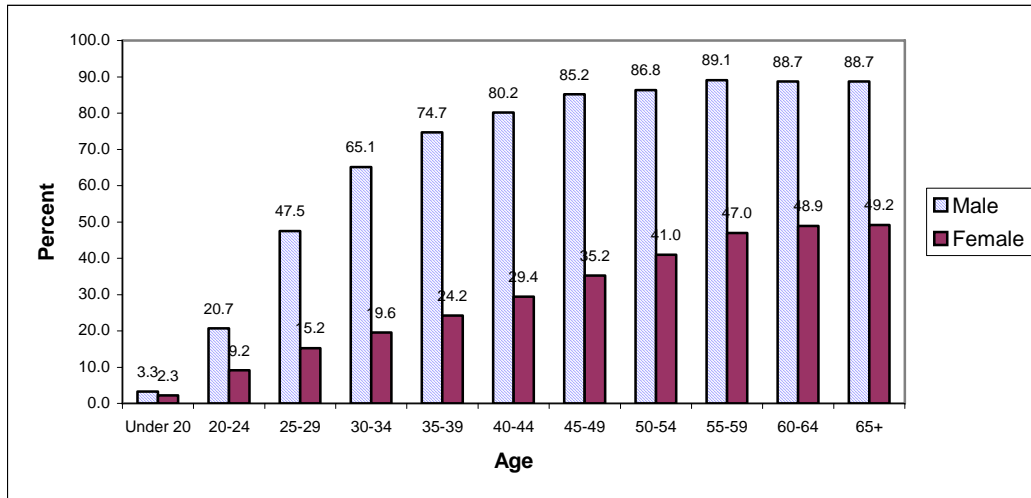
### Conclusion

The trend data on household size, composition of headship and other characteristics of the household indicate that a lot of transformation has taken place at the household level. Changes such as improvements in the educational status of heads over time are noted. Children of heads of household still constitute the highest proportion of household members, despite the fact that there is a decline over the period. There also appears to be a shift in the predominant occupations of heads from agriculture to non-farm occupations. These may lead to an improvement in the standard of living of households over time.

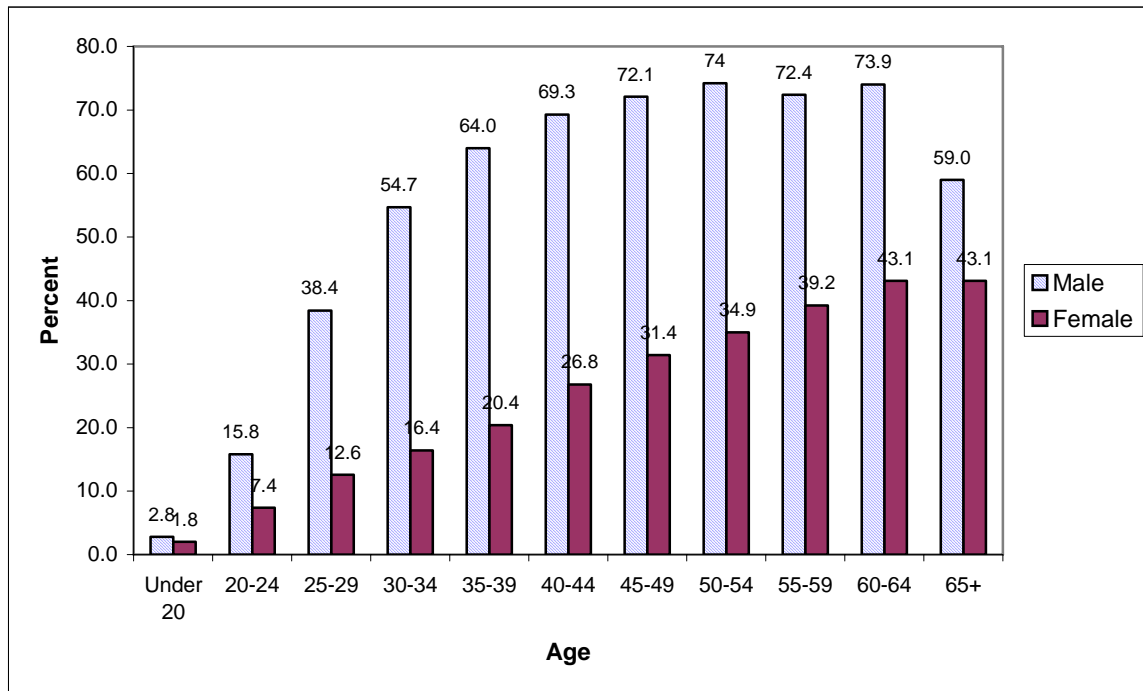
**Figure A3.1: Headship Rates by Age and Sex - 1970**



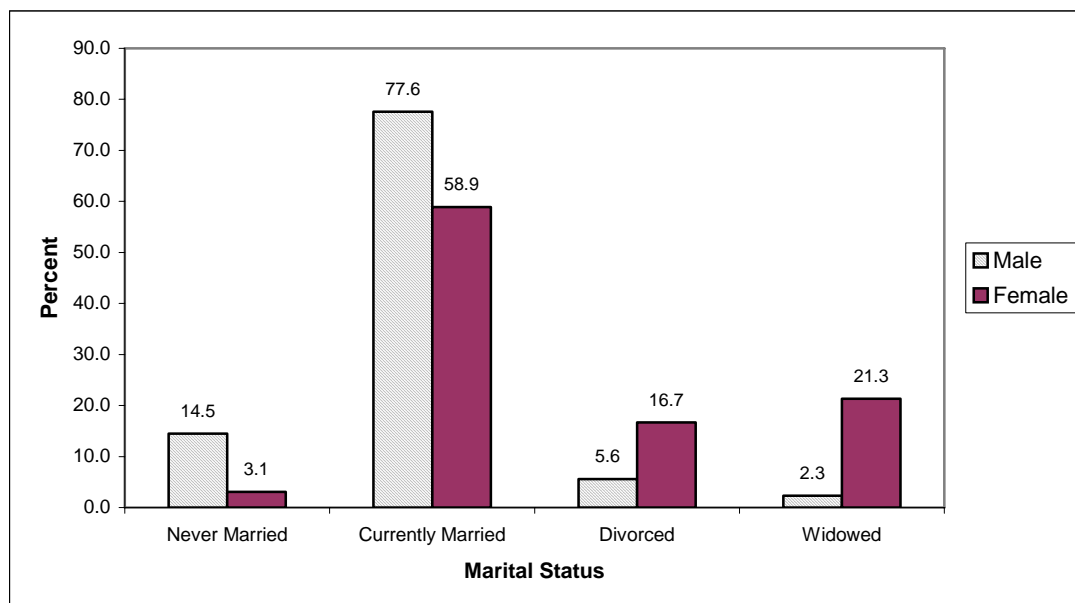
**Figure A3.2 Headship Rates by Age and Sex – 1984**



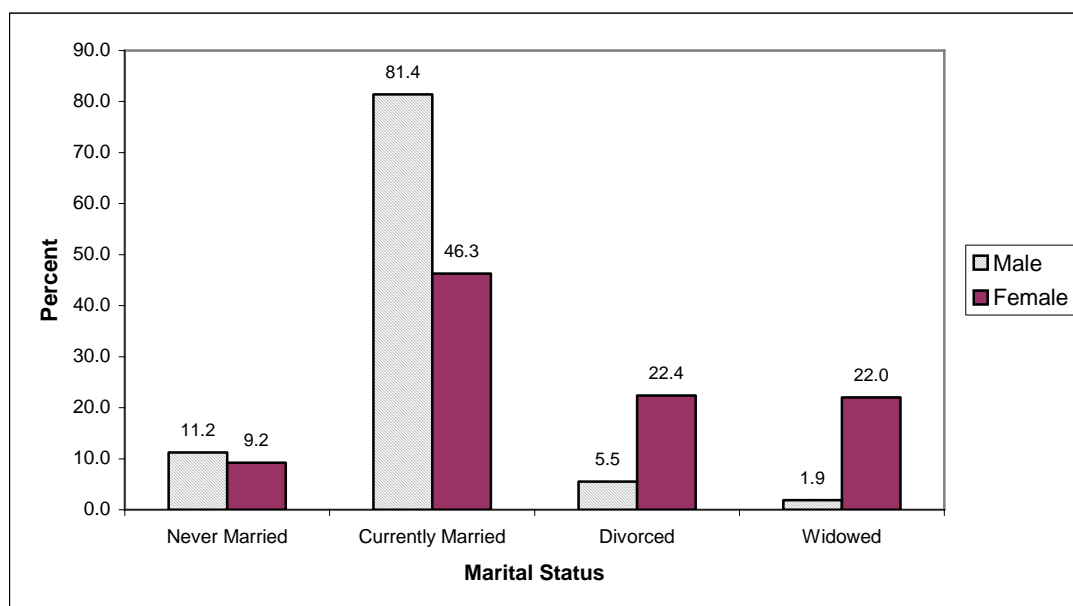
**Figure A3.3: Headship rates by Age and Sex – 2000**



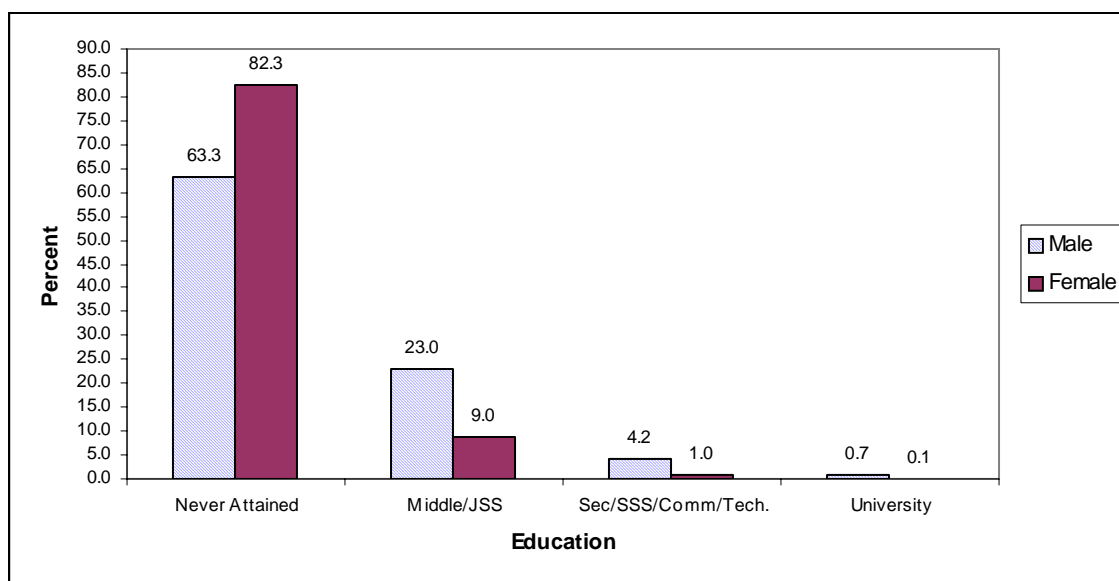
**Figure A3 4: Household heads (15 years and older) by sex & marital status -Total country, 1960**



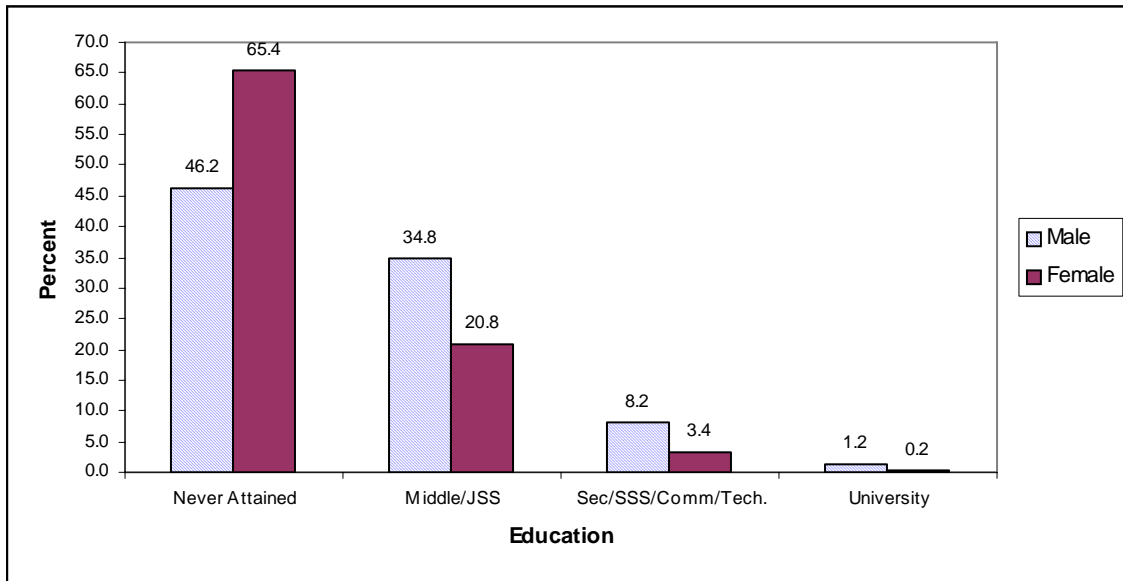
**Figure A.3.5: Household heads (15 years and older) by sex & marital status – Total country, 2000**



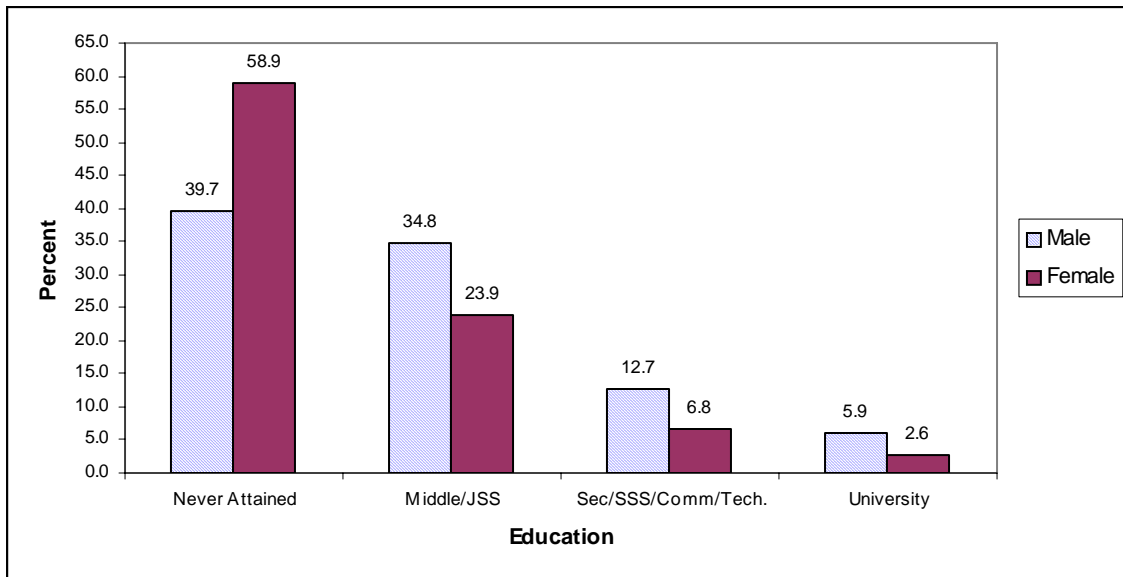
**Figure A3.6: Household heads by sex and education – 1970**



**Figure A3.7 Household heads by sex and education – 1984**



**Figure A3.8: Household heads by sex and education – 2000**



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## **CHAPTER 4: MARITAL CHARACTERISTICS**

### **4.1 Introduction**

Available evidence in Ghana indicates the near universality of marriage among many societies. For instance, the 1960 Post Enumeration Survey (PES) data reveal that by age 25, about 98 per cent of Ghanaian females were married, with an average age at first marriage of 17.7 years. The Ghana Fertility Survey of 1979/80 also shows that by age 40, only about 0.5 per cent of Ghanaian women were not married. Early age at marriage and several forms of marriage have been found in several parts of the country (Gaisie, 1976; Aryee, 1975). The results of the Ghana Demographic and Health Survey (GDHS) 1988, 1993 and 1998 also confirm the near universality of marriage and at young age at first marriage.

Even though it is recognized that there is a close relationship between the proportion married and level of fertility, much less attention is devoted to the analysis of marriage as compared to fertility. In most censuses undertaken in the country, relatively fewer questions have been asked on marriage than on fertility.

The objective of the chapter is to study the trend in marital patterns in the country with particular emphasis on locality and regional differentials, using estimated singulate mean age at marriage and other characteristics. The data used in the analysis are results from previous censuses and relevant national surveys. These include the 1960 Post Enumeration Survey (PES), the 1979/1980 Ghana Fertility Survey, the 1988, 1993 and 1998 Ghana Demographic and Health Surveys (GDHS), the 1991/1992 and 1998/1999 Ghana Living Standard Surveys (GLSS) and the 2000 Census.

### **4.2 Marital Status by Age and Sex**

In populations where the proportion married is very high and marriage is almost universal, there is the tendency to marry early. Early marriage also poses a higher risk of marital dissolution because of the couples' lack of experience and preparation before they enter into such unions. Tables 4.1 presents the distribution of marital status by age based on the 1960 PES, the 1993 and 1998 GDHS and the 2000 Census. It shows that the proportion never married has increased over time from 33.5 per cent in 1960 to 38.9 per cent in 2000 for males and from 8.5 per cent to 25.2 per cent for females for the same period.

Table 4.1 also shows that in 1960, 51.5 per cent of females aged 15-19 years are married, while in 2000 it is only 17.7 per cent who are married or in a consensual union. Indeed, increasing proportions of both males and females are staying out of marriage even in older ages. For instance while in 1960, by age 35 nearly all women (99.3%) are either married or have been married before, (89.8 per cent for males) in 2000, 74.8 per cent females 61.1 per cent males have been married before.

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Mrs. Edith K. Mote has contributed this chapter.

**Table 4 1: Marital Status, by Age and Sex**

	Never Married				Married				Consensual Union				Separated				Divorced				Widowed			
Age Group	1960	1993	1998	2000	1960	1993	1998	2000	1960	1993	1998	2000	1960	1993	1998	2000	1960	1993	1998	2000	1960	1993	1998	2000
<b>Male</b>																								
15-19	96.4	98.3	97.0	89.2	3.2	0.4	0.7	7.6	-	1.3	1.9	1.8	-	-	0.4	0.5	0.3	-	0.0	0.6	0.1	0.0	0.0	0.3
20-24	71.2	72.5	74.4	77.4	27.0	12.6	12.5	16.0	-	11.0	11.3	4.8	-	1.7	1.8	0.7	1.7	2.2	0.0	0.8	0.1	0.0	0.0	0.3
25-29	36.7	37.0	41.9	50.6	59.0	39.5	32.6	37.4	-	15.5	16.0	9.0	-	2.5	8.7	1.1	3.9	5.5	0.8	1.5	0.4	0.0	0.0	0.4
30-34	17.4	9.6	14.1	23.2	76.1	69.5	58.3	61.8	-	13.8	18.8	9.8	-	4.2	6.5	1.6	5.7	2.4	1.7	2.9	0.8	0.5	0.6	0.7
35-39	10.2	6.4	3.5	12.3	81.8	74.3	78.7	72.6	-	9.9	12.0	8.7	-	2.3	3.8	1.8	6.7	7.1	1.1	3.7	1.3	0.0	0.9	0.9
40-44	6.1	4.6	2.4	8.0	84.5	78.7	77.8	76.8	-	6.5	6.5	7.5	-	2.8	4.0	1.9	7.5	4.6	9.3	4.6	1.9	2.8	0.0	1.2
45-49	3.9	1.1	1.5	5.7	85.3	82.3	82.6	78.5	-	4.7	6.1	6.4	-	1.1	1.2	2.0	8.0	10.3	7.5	5.5	2.8	0.0	1.1	1.9
50-54	3.5	1.1	0.0	4.8	84.7	89.4	85.0	78.4	-	-	8.0	5.3	-	4.3	0.0	2.2	8.8	3.1	4.6	6.7	3.0	2.1	2.4	2.6
55-59	3.3	4.3	0.0	4.6	84.9	81.3	81.8	77.3	-	1.4	4.0	4.8	-	5.8	3.2	2.3	8.1	1.4	5.9	7.5	3.7	5.8	5.1	3.5
60-64	2.5	-	-	4.8	81.6	-	-	74.5	-	-	-	3.8	-	-	-	2.4	10.0	-	-	8.3	5.9	-	-	6.2
65+	1.9	-	-	8.2	75.5	-	-	64.9	-	-	-	3.4	-	-	-	2.5	10.9	-	-	9.2	11.7	-	-	11.8
Total	33.5	35.5	40.9	38.9	59.4	49.4	43.0	48.1	-	8.1	9.8	5.9	-	2.4	3.4	1.5	5.2	3.8	2.2	3.5	1.9	0.8	0.7	2.1

Table 4.1 cont'd

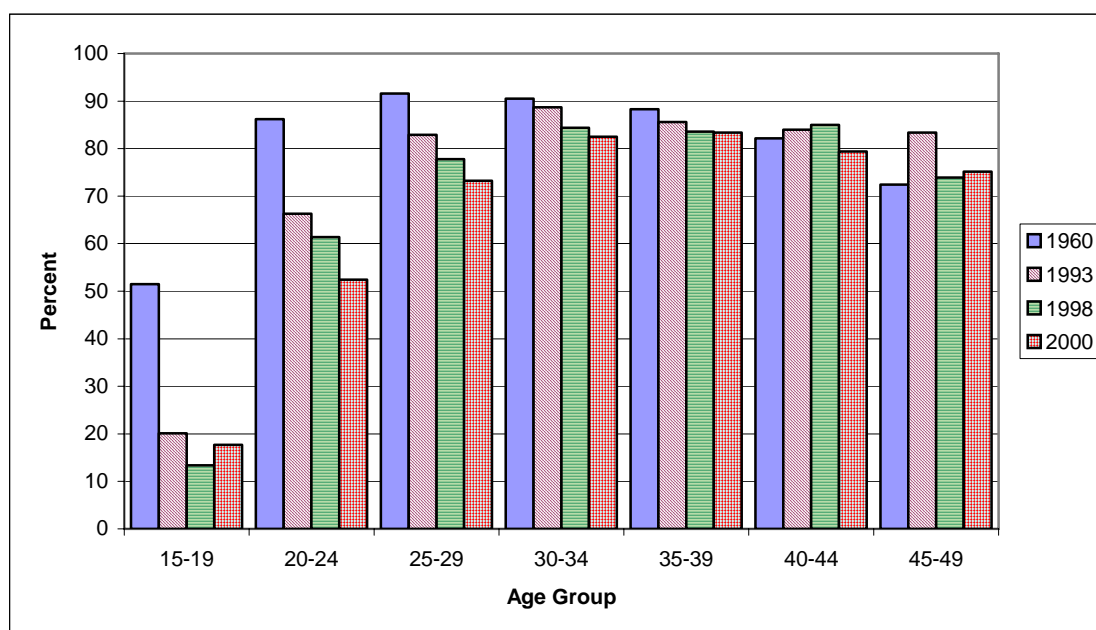
Female																										
15-19	45.9	7.6	83.6	80.5	51.5		6.5	13.3	-	9.5	6.9	4.4	-	1.4	2.9	0.7		2.4	1.0	0.1	0.8		0.2	-	0.0	0.3
20-24	8.6	24.7	29.0	43.5	86.2	46.4	42.3	40.6	-	20.0	19.0	11.8	-	4.0	7.6	1.5		4.6	4.3	1.8	2.1		0.6	0.6	0.3	0.5
25-29	2.3	5.9	11.2	20.6	91.6	69.5	60.2	61.7	-	13.4	17.6	11.5	-	3.3	6.2	1.9		4.9	6.7	4.2	3.4		1.2	1.2	0.6	0.9
30-34	1.3	1.3	2.3	8.2	90.5	78.2	72.8	72.8	-	10.6	11.6	9.7	-	2.8	6.2	2.4		6.0	5.5	5.3	5.2		2.2	1.6	1.8	1.7
35-39	0.7	0.3	0.9	4.9	88.3	76.8	71.5	75.2	-	8.8	12.1	8.2	-	3.3	5.1	2.6		6.7	8.4	8.2	6.4		4.3	2.4	2.2	2.7
40-44	0.4	0.0	0.2	3.9	82.2	77.9	74.9	72.6	-	6.2	10.1	6.8	-	2.1	4.0	3.0		9.5	8.9	7.1	8.5		7.9	4.9	3.7	5.2
45-49	0.5	0.0	1.4	3.0	72.4	78.3	66.6	69.6	-	5.0	7.4	5.6	-	3.6	3.9	3.2		11.9	8.0	11.8	10.1		15.2	5.1	8.9	8.2
50-54	0.5	-	-	2.7	61.6	- -	-	63.7	-	-	-	4.4	-	-	-	3.2		14.9	-	-	12.1		23.0	-	-	13.9
55-59	0.3	-	-	3.1	50.7	-	-	57.8	-	-	-	3.9	-	-	-	3.4		16.3	-	-	13.1		32.7	-	-	18.7
60-64	0.3	-	-	3.1	38.0	-	-	48.0	-	-	-	2.6	-	-	-	3.1		16.1	-	-	14.2		45.6	-	-	29.0
65+	0.4	-	-	5.4	20.8	-	-	32.8	-	-	-	2.3	-	-	-	2.6		14.4	-	-	12.7		64.4	-	-	44.2
Total	8.5	19.5	23.7	25.2	75.1	58.7	51.9	51.2	-	11.6	12.7	7.5	-	2.9	5.3	2.2		7.2	5.6	4.6	6.1		9.2	1.7	1.8	7.8

Source: 1960 PES 1993 &amp; 1998 GDHS and 2000 census

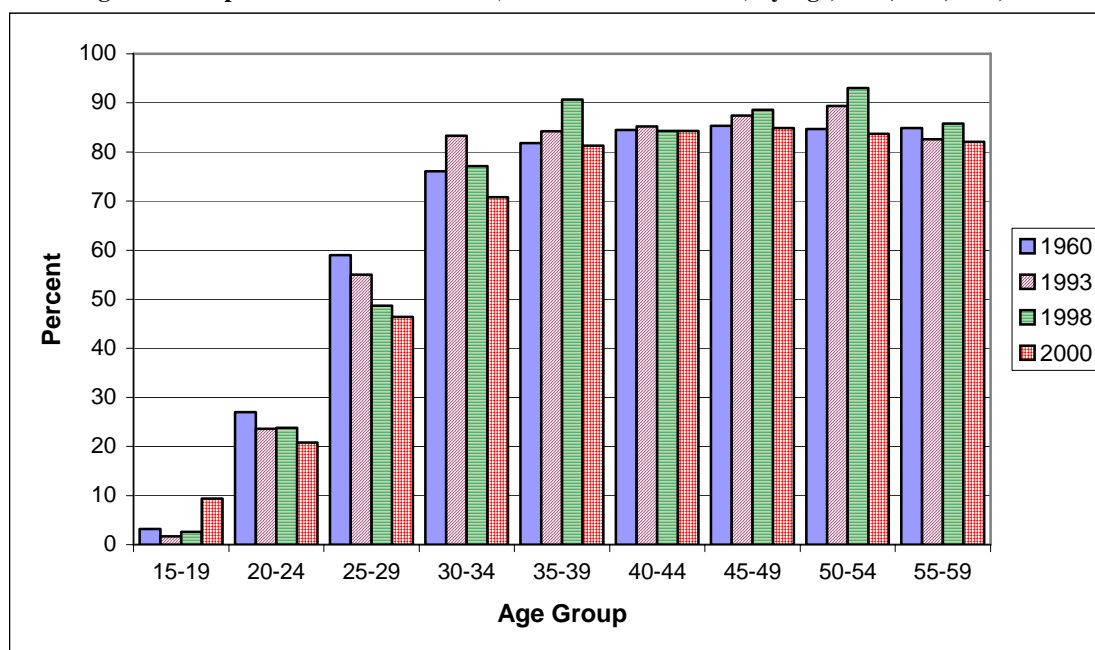
Another observation from the Table is that higher proportions of females than males are in unions at younger ages (15-39) but subsequently higher proportions of females than males are either divorced, separated or widowed. The higher widowhood rate for females results from the fact that men have lower life expectancy than women at birth and tend to therefore die before the wives who are usually 5 years younger. On the other hand, as age increases, higher proportion of males are observed to be married. This pattern is reflective of the social structure and norms of society. The observed difference also reflects the fact that males are more likely to remarry earlier than females when the marriage is dissolved through divorce or death. The fact of polygamy also means that a man with two wives who loses one of the wives through divorce or death is still married, whereas if the man dies, two widowed women are recorded

Figure 4.1 and Figure 4.2 show the proportion of ever-married females and males over the period. The graphs reveal, not only a general decline in marriage among males and females at almost all ages over the period, but also lower proportions among males between ages 15 and 29. The declining proportions of married males and females over time might help to explain the decline in fertility from 6.4 in 1988 to 4.6 in 1998.

**Figure 4.1. Population of Females Married (or in Consensual Union) by Age, 1960, 1993, 1998, 2000**



**Figure 4.2 Proportion of Males Married (or In Consensual Union) by Age, 1960,1993,1998,2000**



Source: 1960 PES, 1993, 1998 GDHS and 2000 Census

### 4.3 Religion and Marital Status

Most religions emphasize procreation within marriage and, therefore, there is the need to examine changes in marital status in relation to peoples' religious affiliations. Table 4.2 shows that substantial changes have taken place among the various religious groups since the 1960s. For instance in 1960, Moslem females reported to be never married is 3.6 per cent while in 2000 it is 23.7 per cent. Infact, the proportion of never married females increased for all religions between 1960 and 2000. On the other hand, proportion of married females has declined for all religions within the period. An observation worth making is that there is a significant difference between the proportion of never married Christian females in 1960 (15.1%) and females of other religion; by 2000, the proportion of never married Christian females (27.1%) and that of never married Moslem females (23.7%) is not significantly different, though they are significantly different from the proportion of never married females for other religious groups. If this is a factor of education, it would imply tremendous improvement in Moslem female education.

The changes are not as substantial for males as they are for females, particularly with the married. A similar trend in proportions of never married Christian and Moslem females is also observed for males, where the wide gap between Christian and Moslems in 1960 is narrowed in 2000, while the gap with other religious groups remains substantial.

**Table 4 2: Marital status of persons (15 years and older) by sex and religious background, Ghana, 1960 and 2000**

Region	Never Married		Married		Consensual Union		Separated		Divorced		Widowed	
	1960	2000	1960	2000	1960	2000	1960	2000	1960	2000	1960	2000
<b>Male</b>												
Christian	42.5	41.0	52.1	45.2	-	4.5	-	1.5	4.2	3.4	1.2	1.9
Islam	33.0	40.6	59.5	51.4	-	2.6	-	-	5.8	2.6	1.7	1.7
Traditional	24.6	27.4	66.8	62.0	-	2.6	-	1.5	5.7	3.3	2.9	3.2
No Religion	36.7	29.0	56.6	55.1	-	3.6	-	2.3	5.3	7.1	1.4	2.9
<b>Total</b>	34.4	38.9	58.6	48.1	-	5.9	-	1.5	5.2	3.5	1.8	2.1
<b>Female</b>												
Christian	15.1	27.1	67.8	48.0	-	8.6	-	2.3	9.7	6.9	7.4	7.1
Islam	3.6	23.7	85.7	61.6	-	3.0	-	14.	3.8	3.0	6.9	7.3
Traditional	4.5	13.1	78.7	66.5	-	2.8	-	1.8	5.2	2.9	11.6	12.9
No Religion	7.5	15.9	75.7	50.6	-	11.7	-	2.9	8.0	8.8	8.8	10.1
<b>Total</b>	9.0	25.1	74.7	51.5	-	7.4	-	2.2	7.1	6.0	9.2	7.8

#### 4.4 Proportion Ever Married by Selected Age Groups

The proportion ever married within the population, to a large extent, reflects the level to which people change their marital status at any given time. Table 4.3 shows that significant changes have occurred with the ever married, with variations in the age and sex specific rates and locality of residence. For instance, the proportion ever married for age group 15-19 is 3.6 per cent for males and 54.1 per cent for females in 1960, while in 2000 it is 10.8 per cent for males and 19.5 per cent for females in the same age group.

**Table 4.3 proportion Ever Married by Age, Sex and Locality of Residence**

Age Group	Total				Urban				Rural			
	Male		Female		Male		Female		Male		Female	
	1960	2000	1960	2000	1960	2000	1960	2000	1960	2000	1960	2000
15-19	3.6	10.8	54.1	19.5	2.6	9.1	45.5	13.8	4.0	12.2	57.4	25.8
20-24	28.8	22.6	91.4	56.5	24.4	16.6	88.2	42.8	30.7	29.5	92.6	71.0
25-29	63.3	49.4	97.7	79.4	60.3	40.2	96.5	70.8	64.6	59.3	98.1	87.8
30-34	82.6	76.8	98.7	91.8	81.1	71.2	98.2	88.1	83.2	81.8	98.8	95.2
35-39	89.8	87.7	99.3	95.1	91.1	85.5	98.9	93.2	89.3	89.7	99.4	96.7
40-44	93.9	92.0	99.6	96.1	93.9	91.2	99.9	94.9	93.9	92.8	99.5	97.2
45-49	96.1	94.3	99.5	97.0	95.6	93.9	99.2	96.1	96.1	94.5	99.6	97.6
50-54	96.5	95.2	99.5	97.3	95.7	95.4	99.1	96.7	96.7	95.1	99.7	97.8
55+	97.6	93.2	99.7	95.6	96.6	91.8	99.5	94.2	97.8	94.2	99.8	96.5

These differences notwithstanding, the near universality of marriage in the country during the periods under consideration is a significant observation, because by the end of the reproductive period, virtually all women and not less than 95 per cent of men have been married at least once.

Full time education and marriage among the younger age group are incompatible and therefore the longer one stays in school, the less likely that one would marry early in life. The level of education therefore affects the age at first marriage. Table 4.4 shows that at the lower age group (15-24 years), where it is expected that people should be in school, the

proportion ever married declines with level of education. For instance, the proportion ever married for females declined from 64.6 per cent for those with primary education to 12.1 per cent for those with secondary and higher education in 1960. Beyond the 15-14 years age group, there is on clear pattern, indicating that other factors may be responsible in influencing marriage, for the vast majority after age 24 years are out of full time schooling.

Indeed, many people who pursue higher education in later life are already married. An interesting observation in 1960 about females beyond age 24 years is that there are lower proportions of ever married among those with secondary and higher education (75.0% for the 25-44 years and 77.2% for the 45 years and older) of ever married than those with middle, commercial and technical education (93.8% for 25-44 years and 99.2% for 45 years and older). One possible explanation could be that the highly educated women at the early years of independence seized the opportunity to build professional careers which delayed their entry into marriage.

The pattern observed in 2000 is different from that of 1960. For instance, among the school-going age group (15-24 years), there is actually a rise in proportion ever married at the middle/commercial/technical level before recording a decline at the higher education level. This is true for both males and females. It is also observed that the proportions ever married at the 15-24 years age group are higher in 2000 than in 1960 for males at all levels while for females it is true only for the post-primary levels. For the older ages, the proportions are higher in 1960 than in 2000, except for females at the higher education level.

**Table 4.4: Proportion Ever Married by Level of Education, Age and Sex**

Level of Education	15-24 years				25-44 years				45 years and older			
	Male		Female		Male		Female		Male		Female	
	1960	2000	1960	2000	1960	2000	1960	2000	1960	2000	1960	2000
Never Attended	22.2	35.4	82.9	50.7	80.2	79.7	99.0	86.4	96.7	92.0	99.6	92.9
Primary	12.1	19.9	64.6	50.1	80.0	75.2	97.3	91.7	97.4	94.3	99.8	96.3
Middle/Com/Tech	11.6	43.2	43.4	57.5	80.3	47.3	93.8	61.8	98.5	84.1	99.2	89.1
Post Sec./Tertiary	9.4	23.5	12.1	42.5	77.1	70.4	75.0	81.6	97.6	95.0	77.2	94.2

Table 4.5 shows that Christians have relatively lower proportions of ever married in age group 15-24 years in 1960 than other religions. This may be due to the early influence of the Christian religion on education that would have let to delay in first marriages among this group. From the Table, nearly two thirds (63.7%) of Christian females aged 15-24 years are ever married, reflecting the very low level of female education at the time. For other religions it ranges from 90.3% for Moslem women to 79.1% for women of other or no religion in this age group, indicating that most of these women may not have gone to school at all or that their religion (Islam, Traditional) may have supported early marriage for girls. The differences between the various religions are not significant for males in this age group in either 1960 or 2000.

The proportion ever married is higher for females than males at all ages and for all religions. While more than four-fifths of females are already married by age 25 years, males reach this level after age 35 years. It is worth noting that the proportion of ever married females in the 15-24 years age group drops significantly from 1960 to 2000, particularly among Christians and Moslems, indicating that girls are probably spending more years in school or engaging themselves in trading and other activities rather than entering into marriage.

**Table 4.5: Proportion of Ever Married by Religion, Age and Sex**

Age Group	Christian		Moslem		Traditional		No Religion & others	
	1960	2000	1960	2000	1960	2000	1960	2000
<b>Male</b>								
15-24	13.0	14.7	18.7	16.2	21.8	23.4	16.7	24.7
25-34	75.2	61.1	63.3	57.7	73.2	71.3	66.5	65.1
35-44	93.9	90.4	87.0	88.0	92.1	91.1	87.7	87.1
45-49	97.2	94.8	91.0	93.7	96.7	94.7	94.6	92.3
50 and older	98.3	93.4	94.1	93.9	97.8	95.6	95.3	92.2
<b>Female</b>								
15-24	63.7	33.9	90.3	41.3	84.4	53.3	79.1	50.2
25-34	96.9	83.2	99.3	87.7	99.0	92.9	98.1	87.2
35-44	99.1	95.1	99.7	96.6	99.5	97.5	99.5	94.7
45-49	99.2	96.7	99.0	97.5	99.7	98.0	99.3	96.4
50 and older	99.5	95.6	99.6	96.3	99.7	97.6	99.9	95.1

## 4.5 Singulate Mean Age at Marriage

The singulate mean age at marriage (SMAM), is the average number of years lived by never married persons who eventually get married. A lower singulate mean age at marriage suggests an early entry into marriage while a higher mean age implies a late entry into marriage

The SMAM for males has remained around 27 years over the period while that for females has increased from 18 years in 1960 to 22 years in 2000 (Table 4.6). The increase in female SMAM could possibly be attributed to the longer years spent in school or a shift by females from early marriage to building career before entering into marriage. While there is an increase in age at first marriage and the sex differential has been narrowed, there is still a difference of about 5 years in age at marriage between males and females.

**Table 4.6: Singulate Mean Age at first Marriage (SMAM) by Sex, Ghana 1960 to 2000**

Source	SMAM			Rate of Increase	
	Male	Female	Age Gap	Male	Female
1960 PES	26.6	17.8	8.8	-	-
1971 Sup Inquiry	-	19.4	-	-	9.0
1979/1980 GFS	-	19.4	-	-	0.0
1988 GDHS	-	20.2	-	-	4.1
1993 GDHS	26.1	20.5	5.6	-	1.4
1998 GDHS	26.7	21.2	5.5	2.3	3.4
2000 Census	27.7	22.3	5.4	3.7	5.2

Note: -- Means **not available**.

Source: **1960 Post Enumeration Survey (PES)**, **1979/1980** Ghana Fertility Survey (GFS), 1988, 1993 and 1998 Ghana Demographic and Health Survey (GDHS) and 2000 Census

## 4.6 Divorce and Widowhood

Divorce and widowhood have implications for the status and welfare of females and the family. Table 4.7 indicates that the proportion of divorced and widowed males is higher for rural areas at all ages except those 55 years and older. This is true for both 1960 and 2000.

The age pattern with divorced and widowed females is not as clear, except that in general, the proportion divorced is higher in urban areas while the proportion widowed is higher in rural areas, in both 1960 and 2000. The rural-urban differences are however not substantial.

The proportion divorced or widowed increases by age for both sexes, locality of residence and in both 1960 and 2000. The increases in almost all cases are more pronounced after age 44 years. Another important observation is that significant proportions of females than males are divorced or widowed at each age for both rural and urban and for both years. The higher proportions of widowed and divorced females in both rural and urban areas may indicate that males marry much younger partners and that they are more likely to remarry soon after divorce or being widowed.

**Table 4.7: Proportion of Population Divorced and Widowed by Age , Sex and Locality of Residence**

Age Group	Divorced						Widowed					
	Total		Urban		Rural		Total		Urban		Rural	
	1960	2000	1960	2000	1960	2000	1960	2000	1960	2000	1960	2000
<b>Males</b>												
15-19	0.3	0.5	0.1	0.5	0.4	0.6	0.1	0.3	0.1	0.2	0.1	0.4
20-24	1.7	0.8	1.1	0.6	2.0	1.0	0.1	0.3	0.1	0.2	0.1	0.4
25-29	3.9	1.5	3.0	1.2	4.3	1.7	0.4	0.4	0.2	0.3	0.5	0.5
30-34	5.7	2.9	4.7	2.7	6.1	3.0	0.8	0.6	0.3	0.6	0.9	0.8
35-39	6.7	3.7	6.1	3.6	6.9	3.8	1.3	0.9	0.8	0.8	1.4	1.0
40-44	7.5	4.5	7.2	4.6	7.5	4.6	1.9	1.2	1.1	1.1	2.2	1.3
45-49	8.0	5.5	7.4	5.5	8.1	5.5	2.8	2.0	2.3	1.9	3.0	2.1
50-54	8.8	6.7	8.1	6.7	8.9	6.6	3.0	2.6	2.8	2.5	3.1	2.7
55+	9.7	8.6	10.1	8.9	9.6	8.4	7.1	8.8	7.8	9.6	7.0	8.3
All Ages	5.2	3.5	4.2	3.2	5.6	3.8	1.9	2.1	1.2	1.9	2.1	2.2
<b>Female</b>												
15-19	2.4	0.8	2.0	0.6	2.6	0.9	0.2	0.3	0.1	0.3	0.2	0.4
20-24	4.6	2.1	4.6	1.7	4.6	2.4	0.6	0.5	0.4	0.4	0.7	0.6
25-29	4.9	3.8	5.9	3.5	4.6	3.2	1.2	0.9	0.7	0.8	1.3	1.0
30-34	6.0	5.2	8.0	5.6	5.5	4.6	2.2	1.7	1.8	1.7	2.3	1.8
35-39	6.7	6.4	9.8	7.5	5.9	5.4	4.3	2.6	3.3	2.7	4.6	2.7
40-44	9.5	8.5	11.6	9.9	8.9	7.4	7.9	5.2	7.6	4.9	8.0	5.3
45-49	11.9	10.3	15.5	11.9	10.8	9.2	15.2	8.1	15.5	7.9	15.1	8.3
50-54	14.9	12.1	17.6	13.9	14.2	10.9	23.0	13.7	24.0	13.5	22.8	14.1
55+	15.4	13.2	16.6	13.9	15.3	12.7	47.5	35.7	50.1	35.6	47.0	35.8
All Ages	7.2	6.0	7.9	6.1	7.0	5.9	9.2	7.7	8.3	6.7	9.7	8.6

## 4.7 Polygamy

The subject of polygamy is important for a discussion of marriage. It is usually defined as the state of being married simultaneously to more than one spouse. The more common form is polygamy, where a man marries more than one wife; polyandry, which is a woman married to more than one man, is not a cultural practice in Ghana. Men who enter into polygamous do so for various reasons. Men who need people to help them on their farms tend to marry many women in order to produce many children to assist the family business. Men who think children are some sort of insurance towards old age also marry more than one so that their many children could take care of them in their old age. Others also decide to marry more wives when they fail to get the preferred sex, particularly sons, among their children, through current wife or wives. Table 4.8 gives the ratio of currently married females to currently married males by region.

**Table 4.8: Ratio of Married Females to Married Males by Selected Characteristics**

<b>Background Characteristics</b>	<b>Ratio of married females to 100 males</b>	
	<b>1960</b>	<b>2000</b>
<b>Locality of Residence</b>		
Urban	120	110
Rural	130	120
<b>Region</b>		
Western	120 <sup>1</sup>	100
Central		120
Greater Accra	110	100
Volta	140	120
Eastern	120	110
Ashanti	120	100
Brong Ahafo	110	110
Northern		120
Upper East	140 <sup>2</sup>	130
Upper West		130
<b>Religion</b>		
Christian	120	120
Moslem	100	110
Traditional	140	120
No Religion & Others	130	70
<b>Education</b>		
No Education	160	150
Primary	60	160
Middle/JSS/Comm./Tech.	30	80
Secondary/SSS/Higher Education	20	60
Total	130	100

<sup>1</sup> 1960 figure covers both Western & Central

<sup>2</sup> 1960 figure covers Northern, Upper East and Upper

For the country as a whole, the ratios for 1960 and 2000 exceed unity, suggesting that there are more married females than married males. The ratios for all regions have declined over time and this may be due to a decline in polygamous marriages. Declines in the incidence of polygamy may be due to behavioural changes as a result of increased education for females.

The ratios of currently married females to males indeed show significant differences by level of education over time. For instance, the ratio for secondary and higher education in 1960 is only 20 married females to 100 married males but has increased to 60 in 2000, compared with ratios of 150-160 for the less educated even in 2000. The low ratios for the post-primary level may be indicative of the improvement in the education of females over time, but it also means that due to the level of education by a higher proportion of women and the fact that sometimes educated men may marry women with lower level of education, many educated women may not be able to marry the men of their class.

Table 4.9 shows currently married women in polygamous unions by selected background characteristics. Overall, the data show a decline in the prevalence of polygamous unions, from 34.4 per cent in 1980 to 23.0 per cent in 1998, a decline of 33 per cent. The practice of polygamy is more common in rural than urban areas, though the level has declined. The

proportion of married women in polygamous unions appears to be declining in all regions except the Northern Region where it has increased from 40.2 per cent in 1980 to 52.4 per cent in 1998. The rate of polygamy is highest in the three northern regions and Volta. There has been a general decline in prevalence of polygamous unions at all levels of education over the period to the point where the difference between middle/JSS and post-basic education is considerably narrowed. There nevertheless remains a negative relationship between level of education and prevalence of polygamous marriages.

**Table 4.9: Currently Married Women in Polygamous Unions by Selected Background Characteristics**

Selected Characteristics	1979-1980	1988	1993	1998
<b>Locality of Residence</b>				
Urban				
Rural	33.0	28.3	21.5	15.7
	35.8	34.5	30.7	25.8
<b>Region</b>				
Western	33.5	24.7	24.8	20.9
Central	30.0	28.6	26.9	17.9
Greater Accra	26.7	27.5	18.8	13.9
Volta	27.4	26.6	31.8	28.5
Eastern	43.2	43.8	17.9	17.1
Ashanti	30.5	28.1	23.0	15.9
Brong Ahafo	28.5	32.2	29.0	24.1
Northern	40.2	48.2	44.1	52.4
Upper West	56.3		35.3	34.5
Upper East			32.2	35.6
<b>Education</b>				
No Education	39.4	39.5	35.7	31.6
Primary	28.5	28.3	23.6	22.9
Middle/JSS	27.8	27.1	22.0	16.4
Higher Education	15.8	19.1	17.5	13.0
Total	34.4	32.6	27.7	23.0

Source: 1979/80 Ghana Fertility Survey, 1988, 1993 and 1998 GDHS

Notes: includes Upper West

Includes Upper East and Upper West

Information from the 1960 Post Enumeration Survey and the 1998 Ghana Demographic and Health Survey also indicates a decline in prevalence of polygamous marriages. The proportion of men who are monogamous has increased from 74.1 per cent in 1960 to 87.1 per cent in 1998. All regions experienced an increase in monogamous unions (Table 4.10). Consequently, the proportion of men with two wives and three wives or more has decreased dramatically for most regions, suggesting that polygamy is no longer as desirable as it used to be. This is not surprising given the improvement in female education, the expansion of non-farm activities as alternative avenues for employment and the rising cost of living.

**Table 4.10: Married Males by Number of Wives**

Region	One Wife		Two Wives		Three Wives or More	
	1960	1998	1960	1998	1960	1998
Western	77.8 <sup>1</sup>	86.5	18.0 <sup>1</sup>	12.5	4.2 <sup>1</sup>	1.0
Central	--	91.6	--	6.6	--	1.8
Greater Accra	79.7	91.3	16.9	6.8	3.4	1.9
Volta	67.2	81.8	23.6	16.8	9.2	1.4
Eastern	77.4	89.7	17.8	10.3	4.8	0.0
Ashanti	75.1	93.8	20.0	6.2	4.9	0.0
Brong Ahafo	74.8	85.7	19.2	12.5	6.0	1.8
Northern	67.0 <sup>2</sup>	68.3	23.2 <sup>2</sup>	27.5	9.8 <sup>2</sup>	4.2
Upper East	--	80.6	--	19.4	--	0.0
Upper West	--	82.5	--	12.4	--	5.1
Total	74.1	87.1	19.8	11.7	6.1	1.3

Source: 1960 PES and 2000 census.

Notes : <sup>1</sup> includes Central

<sup>2</sup> 1960 includes Upper East and Upper West

--- Not applicable

## 4.8 Summary and Conclusion

### Summary

The marital characteristics examined from the various data sets show that lower proportions of males and females are currently reported as married for all age groups than earlier times. Similar declines in marriages are observed among the various religious groups as well.

The proportions ever married have also declined between 1960 and 2000 among various sub-groups in the population, even though the notion of a near universality of marriage is still observed. The analysis shows relatively high proportions of females than males widowed or divorced irrespective of time and space.

The mean age at first marriage has increased over the period but the increase is faster among females while for males the age appears to be relatively stable. The gap at first marriage between males and females has therefore narrowed from nine to five years.

### Conclusion

The analysis on marital status has revealed changes in the marital characteristics and behaviour of persons over time. These could be due to behavioural change in relation to the institution of marriage or the general economic environment. Such changes in marital status of people need to be studied further so that policies and programmes could be drawn to deal with whatever implications the transformation may identify.

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## **CHAPTER 5: EDUCATION**

### **5.1 Introduction**

Human resource development essentially relates to the formal education, training and utilization of human potentials for social and economic progress. The five components of human resource development are education; health and nutrition; the environment; employment; and political and economic freedom. These components are interdependent, but education is the basis for the other four because it is an essential factor in the improvement of health and nutrition, for maintaining a high-quality environment, for expanding and improving labour pools, and for sustaining political and economic responsibility. This explains why all countries in the world place major emphasis on educational policy in designing their plans for accelerating development. The recognition of education as the key to socio-economic development has motivated governments to devote a substantial proportion of their resources to the provision and expansion of education.

This chapter aims at updating knowledge on the current levels and trends of educational attainment in Ghana and complements an earlier study of the 1984 census results (Ghana Statistical Service, 1995). The chapter is divided into six sections: overview of education in Ghana; literacy; formal school attendance; educational attendance of the adult population; school enrolment; and summary and conclusions.

#### **Overview of Education in Ghana**

Education is a fundamental human right and Ghana is signatory to Article 26 of the Universal Declaration of Human Rights of 1948, which stipulates that elementary education shall be free and compulsory, and that the higher levels will be equally available to all on the basis of merit. The intrinsic human value of education is its ability to add meaning and value to all people's lives without discrimination. Available evidence suggests, however, that in Ghana education for all is not fully achieved at the primary level after so many years of this declaration. The 1998 Ghana Demographic and Health Survey (GDHS) indicates that quite a substantial proportion of the Ghanaian population has no education (Ghana Statistical Service and Macro International Inc., 1999). About one in five males and one in three females have no education, and the median number of years of schooling is 4.9 years for males and 2.3 years for females. Males have twice as many years of education as females.

The picture is even more grim when higher levels of education are considered. The 1998 GDHS shows that only 12 per cent of men and 6 per cent of women have attended secondary school (Ghana Statistical Service and Macro International Inc., 1999). Evidence from elsewhere reinforces the fact that levels of educational attainment are still low in the country (World Bank, 2003; 2000; Ghana Statistical Service and Macro International Inc., 1994; Adow, 1993). School dropout rate in 1997 was about 20 per cent for boys and 30 per cent for girls at the primary level, and 15 per cent for boys and 21 per cent for girls at the junior secondary level (Ministry of Education, 1997).

The proportion of the population aged six years and older who have never been to school has dropped from about 78 per cent in 1960 to 34 per cent in 1992 (Ministry of Education, 1995). In general, the proportion of males with no education declined from 26 per cent in 1993 to 21 per cent in 1998, while the proportion of females with no education fell from 38 per cent in 1993 to 34 per cent in 1998 (Ghana Statistical Service and Macro International Inc., 1999; 1994). The 1998 GDHS results also reveal that the age specific proportion with no education range from 66 per cent for males aged 65 years and older to 13 per cent for males aged 10-14 years, while the figures for women are 89 per cent for the 65 years and older and 14 per cent for the 10-14 years age group.

There are marked differentials in educational attainment in Ghana when certain characteristics are examined. For example, while 17 per cent of urban dwellers have no education, in rural areas it is 29 per cent. The nation's capital region, Greater Accra, has by far the highest level of education compared with other regions.

Following political independence in 1957, successive governments in Ghana have pursued various policies with a view to reducing illiteracy to a minimum. The national education policy after independence aimed at providing basic education for all, while raising the quality of education generally. To this end, the Education Act of 1961 provided for free compulsory primary education, and for measures to be taken by the state to improve the quality of education by training large numbers of teachers and providing textbooks and other educational materials. As a result of the implementation of these policies, enrolment in basic education (primary and middle school) increased from 586,000 in the 1965/1966 academic year to 2.6 million in the 1994/1995 academic year, representing an increase of 344 per cent over the period (Ministry of Education, 1990; 1995; 1996a; 1996b). Estimates from other sources support the 1998 GDHS findings that the objectives of the laudable programme of free compulsory universal basic education (FCUBE), are far from being achieved (World Bank, 2000; 2003; Adow, 1993).

In 1989 Ghana adopted the present 6-3-3-4 system of education. According to this system, basic education commences at age 6 and involves six years of primary education and 3 years of junior secondary education, with another 3 years of senior secondary education followed by 4 years of tertiary education. In addition to university education, there are numerous post-secondary institutions in the country that offer technical, vocational, and professional training, which may be classified as tertiary or non-tertiary depending on certificate/diploma awarded.

### **Data Sources and Quality**

The principal data source for this study is the 2000 Population and Housing Census of Ghana. This is supported with data from the 1960, 1970 and 1984 censuses, to establish trends in educational attainment. Available evidence from the Ministry of Education and national surveys are also utilized whenever necessary to strengthen the discussion.

It is undeniable that some people in Ghana and other parts of the world have traditionally acquired their skills, knowledge and attitudes from institutions other than formal schools. Information provided on this important component of education from other sources, however, may not be reliable and representative of the actual levels of non-formal education in the country and therefore have not been used.

## 5.2 Literacy

Literacy is an important indicator of the effectiveness by which a society could transmit its culture from generation to generation in written form. The ability to read and write is an essential component of developing intellectual, moral and practical capacities in which the family, the community and the media are influential agents. Literacy is profoundly influenced by socio-economic and cultural factors, and plays a role in determining the capacity of the individual to profit from the planned activities of formal and non-formal education (University of Linköping, 1990).

### **Trends in Literacy**

A number of international conferences, such as the World Conference on Education for All in Jomtien in 1990 and the World Education Forum in Dakar in 2000, emphasize the importance of literacy for the development of the individual and society. To be able to read and write has been acknowledged as a human right. These basic skills are needed to build and sustain a livelihood, to participate in society, and are a stimulus for further learning.

Table 5.1 presents the distribution of literacy levels for persons aged 15 years and above by region and sex, from the findings of the 2000 Census. For the country as a whole, 42.6 per cent of the population are illiterate; while 16.4 per cent are literate in English only, 2.5 per cent are literate in a local language only and 38.1 per cent are literate in both English and a Ghanaian language. There is a higher proportion of illiterate females (50.2%) than males (33.6%), with the highest proportion of the literate population having knowledge of both English and a Ghanaian language (45.3% for males and 31.2% for females). The high level of illiteracy in the country is a source of concern since it is not compatible with the national goal of sustainable social and economic development.

Differences in access to economic opportunities, reinforced by cultural practices, are largely responsible for the much higher illiteracy of females and rural populations. The regional differences in literacy levels in Ghana are also a reflection of the different levels of socioeconomic development in the country. Accra is the capital and administrative centre of Ghana, while Tema, Accra and Kumasi are the nation's major commercial centres. It is not surprising, therefore, that the benefits of modernization, which include exposure to various means of communication through radio, television, newspapers, etc., and infrastructural facilities are concentrated in Greater Accra and Ashanti more than in any other region and in the cities and major towns.

At the regional level, the Table indicates that for both sexes Greater Accra has the lowest illiteracy rate (18.4%), followed by Ashanti (35%) and Eastern (36.4%). The highest illiteracy levels are found in the three northern regions of Ghana (76.2% for Northern, 76.5% for Upper East and 73.4% for Upper West). The larger proportion of the literate population in all, except the three northern regions, know how to read and write in both English and a Ghanaian language. In contrast, the larger proportion of the literate population in Northern, Upper East, and Upper are literate in English only. In almost all regions the proportion of illiteracy among females is about one and a half times that among males. Consequently, male literacy rate is higher than that of females for almost all literacy categories. Illiteracy is much higher in rural (55.6%) than urban (26.9%) areas; and in both females have higher illiteracy levels (34.2%, urban and 64.5%, rural) than males (19.2% for urban and 46.4% for rural).

**Table 5.1: Literacy Level in Ghana by Region and Sex, 2000**

Region	All Levels	Not Literate	Language of literacy			
			English Only	Ghanaian Only	English Ghanaian	Other
<u>Both Sexes</u>						
All Regions	11,105,236	42.6	16.4	2.5	38.1	0.8
Western	1,108,272	41.8	18.7	1.8	36.9	0.8
Central	904,579	42.9	16.6	2.0	37.9	0.6
Greater Accra	1,945,284	18.4	30.0	2.3	48.2	1.2
Volta	963,811	41.7	8.3	4.5	44.5	1.0
Eastern	1,227,612	36.4	13.4	3.3	46.4	0.5
Ashanti	2,096,121	35.0	12.9	3.2	48.1	0.8
Brong Ahafo	1,033,609	48.5	11.7	2.0	37.3	0.5
Northern	978,774	76.2	13.4	1.5	8.3	0.6
Upper East	520,863	76.5	14.4	1.3	7.0	0.8
Upper West	326,311	73.4	13.4	1.1	10.9	1.2
<u>Male</u>						
All Regions	5,435,829	33.6	17.7	2.4	45.3	0.9
Western	566,878	32.0	20.2	1.8	45.2	0.9
Central	414,157	30.2	18.5	2.0	48.7	0.7
Greater Accra	968,566	12.1	31.6	1.7	53.4	1.2
Volta	452,887	31.3	9.3	4.3	54.0	1.2
Eastern	590,133	26.4	14.4	3.0	55.5	0.6
Ashanti	1,055,021	27.6	12.6	3.1	55.8	0.9
Brong Ahafo	518,542	41.1	11.8	2.0	44.5	0.6
Northern	483,460	69.7	16.4	1.8	11.4	0.8
Upper East	237,408	70.2	18.0	1.4	9.4	0.9
Upper West	148,777	66.9	16.0	1.3	14.3	1.5
<u>Female</u>						
All Regions	5,669,407	50.2	15.2	2.7	31.2	0.7
Western	541,394	52.1	17.2	1.8	28.2	0.7
Central	490,422	53.7	15.0	2.0	28.8	0.5
Greater Accra	976,718	24.6	28.3	2.4	43.1	1.1
Volta	510,924	50.9	7.4	4.7	36.2	0.8
Eastern	637,479	45.6	12.5	3.6	37.9	0.4
Ashanti	1,041,100	42.4	13.2	3.4	40.4	0.7
Brong Ahafo	515,067	56.0	11.5	2.0	30.2	0.4
Northern	495,314	82.6	10.4	1.3	5.2	0.5
Upper East	283,455	81.8	11.3	1.2	4.9	0.7
Upper West	177,534	78.8	11.3	0.9	8.0	1.0

Table 5.2 shows statistics of participants in the Ministry of Education literacy and functional skills programme between 1992 and 1998. The programme seems to have achieved reasonably high enrolments (more than 200,000 learners each year), especially among females who constitute 60.4 per cent of participants. Of the more than one million participants over the period, 80.6 per cent graduated from the Government's non-formal education programme between 1992 and 1998; the lowest graduation rate is 75.4 per cent in 1994/1995. There is very little difference in performance overall between males and females. The best performance year for females (86.0%) is 1995/1996; and men (86.8%), it is 1996/97. Male performance is slightly higher than that of females in 1994/95 and 1997/98, and the same in 1993/94.

Evidence from other sources supports the observation that literacy levels are improving. The 1997 Ghana Core Welfare Indicators Questionnaire Survey records adult literacy level as 48 per cent, with significant sex differential (62% of adult male literacy and 36% of females) and urban-rural differential (60% urban literacy and 40% rural).

**Table 5.2: Participants in the Literacy and Functional Skills Programme: 1992 – 1998.**

Batch	Participants Recruited			Proportion Graduating			Proportion of Drop-Out		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1993/94	201,760	80,224	121,536	83.0	83.0	83.0	17.0	17.0	17.0
1994/95	278,209	108,078	170,131	75.4	76.9	74.4	24.6	23.1	25.6
1995/96	211,226	85,488	125,738	82.4	77.1	86.0	17.6	22.9	14.0
1996/97	209,226	82,615	126,611	83.8	86.8	81.9	16.2	13.2	18.1
1997/98	219,299	87,120	132,179	80.0	80.5	79.6	20.0	19.5	20.4
Total	1,119,720	443,525	676,195	80.6	80.6	80.5	19.4	19.4	19.5

Sources: Statistics of Ministry of Education, Non-Formal education Division, Monitoring Section, Accra.

### 5.3 Educational Attainment

Although literacy may be acquired through reading and private informal channels, the formal educational system remains the best means for improving access to information and broadening the horizon of the people. It prepares people for the life of work and provides the needed tools for all who pass through the system contribute to the socio-economic development of the country. As a result, extending basic level of education to all should be a goal for all nations (World Bank, 2003; UNESCO, 2002; Ministry of Education, 1997; Bennell, 2002; Appleton, 1999; Mingat, 1998).

Table 5.3 presents school attendance of persons aged six years and older since 1960 and it shows tremendous progress in the level of attendance for both sexes. The proportion of the population that never attended school, has declined by almost a half from 73.0 per cent in 1960 to 38.8 per cent in 2000. Similarly, it has reduced from 63.3 per cent in 1960 for males to 33.1 per cent in 2000 and from 83.0 per cent to 44.5 per cent for females over the period. Conversely, the proportion presently in school has almost doubled from 14.2 per cent in 1960 to 26.1 per cent in 2000 while that of past attendance has almost tripled from 12.8 per cent to 35.0 per cent over the period. The improvement appears to have been relatively more remarkable for females, and the gap between male and female has thus narrowed over the period. While the proportion of males presently in school as well as those who attended in the past is higher than that of females for all the years, the rate of increase in the proportion for females (154.2% for present and 320.3% for past) is thrice as high as for males (49.2% for present and 117.2% for past). The bridging of the gap may be attributed in part to the sustained efforts of government and NGOs at educating the girl-child.

**Table 5.3: Trend in School Attendance (six years and older) by Sex**

School Attendance	Both Sexes				Males				Female			
	1960	1970	1984	2000	1960	1970	1984	2000	1960	1970	1984	2000
Never	73.0	56.8	43.5	38.8	63.3	47.3	35.0	33.1	83.0	66.2	51.8	44.5
Present	14.2	24.4	27.6	26.1	18.7	28.5	31.6	27.9	9.6	20.4	23.7	24.4
Past	12.8	18.8	28.9	35.0	18.0	24.2	33.4	39.1	7.4	13.1	24.5	31.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	5,198,747	6,671,500	9,837,586	15,580,541	2,642,962	3,306,029	4,831,936	7,694,902	2,555,785	3,365,471	5,005,650	7,885,639

The increase in the proportion attending school could be a response to an appreciation by both parents and children that formal education has immense benefits in the areas of individual well being and national development. Government's efforts at sensitizing parents of the need to send their children and wards to school appear to be on the right track.

Table 5.4 indicates that 38.8 per cent of persons aged six years and older have never attended school, 57.9 per cent of whom are females. Although proportion of those who never attended has improved over the decades, it is still rather high, considering the efforts, such as the Accelerated Development Plan of 1951 and the Educational Act of 1961, that have been made to increase school enrolment and encourage parents and guardians to send their wards to school. The results are particularly surprising for females (44.5%) and probably mean that the promotion of the education of the girl-child still has a long way to go in achieving its objectives. The narrower gap between the currently attending (27.9% cf 24.4%) as against past attendance (39.1% cf 31.1%) appears though to have hope for the future as far as female education is concerned.

Greater Accra has the lowest proportion (20.7%) who never attended school, followed by Eastern (30.7%) and Ashanti (33.2%), while the highest proportions of never educated are in the three northern regions of Northern (72.3%), Upper East (69.4%) and Upper West (69.8%). The pattern remains the same for both males and females, but the proportions are for all regions, the level of higher for females than for males. Indeed, for all regions except Greater-Accra, the proportion that never attended school is the largest; in contrast, the proportion for males is largest for past attendance (the northern regions excluded); possibly a reflection of the lack of interest in female education in the past.

**Table 5.4: School Attendance of Persons Aged Six years and Older by Region and Sex**

Region / Sex	Total		Never		Now		Past	
	N	Percent	N	Percent	N	Percent	N	Percent
<b>All Regions</b>	15,580,541	100.0	6,052,208	38.8	4,070,938	26.1	5,457,395	35.0
Male	7,694,902	100.0	2,546,422	33.1	2,143,383	27.9	3,005,097	39.1
Female	7,885,639	100.0	3,505,786	44.5	1,927,555	24.4	2,452,293	31.1
<b>Western</b>								
Total	1,575,933	100.0	568,238	36.1	446,998	28.4	560,697	35.6
Male	803,131	100.0	237,444	29.6	234,538	29.2	331,149	41.2
Female	772,802	100.0	330,794	42.8	212,460	27.5	229,548	29.7
<b>Central</b>								
Total								
Male	1,301,026	100.0	440,435	33.9	401,173	30.8	459,418	35.3
Female	614,987	100.0	152,171	24.7	210,920	34.3	251,896	41.6
<b>Greater Accra</b>	686,039	100.0	288,264	42.0	190,253	27.7	207,522	30.2
Total								
Male								
Female	2,523,895	100.0	523,398	20.7	681,268	27.0	1,319,229	52.3
<b>Volta</b>	1,246,369	100.0	199,684	16.0	343,624	27.6	703,061	56.4
Total	1,277,526	100.0	323,714	25.3	337,644	26.4	616,168	48.2
Male								
Female	1,359,409	100.0	505,700	37.2	386,497	28.4	467,212	34.4
<b>Eastern</b>	653,703	100.0	195,538	29.9	205,335	31.4	252,930	38.7
Total	705,706	100.0	310,162	44.0	181,162	25.7	214,382	30.4
Male								
Female	1,739,535	100.0	533,723	30.7	513,068	29.5	692,744	39.8
<b>Ashanti</b>	852,694	100.0	204,270	24.0	271,563	31.8	376,861	44.2
Total	886,841	100.0	329,453	37.1	241,505	27.2	315,883	35.6
Male								
Female								
<b>Brong Ahafo</b>	2,691,021	100.0	982,690	33.2	806,439	27.2	1,171,892	39.6
Total	1,488,016	100.0	434,654	29.2	418,146	28.1	635,216	42.7
Male	1,473,005	100.0	548,036	37.2	388,293	26.4	536,676	36.4
Female								
<b>Northern</b>								
Total	1,473,462	100.0	618,998	42.0	405,771	27.5	448,693	30.5
Male	741,338	100.0	272,829	36.8	216,029	29.1	252,480	34.1
Female	732,124	100.0	346,169	47.3	189,742	25.9	196,213	26.8
<b>Upper East</b>								
Total	1,421,343	100.0	1,027,024	72.3	225,520	15.9	168,799	11.9
Male	711,066	100.0	473,904	66.6	132,275	18.6	104,887	14.8
Female	710,277	100.0	553,120	77.9	93,245	13.1	63,912	9.0
<b>Upper West</b>								
Total								
Male	753,864	100.0	523,441	69.4	128,122	17.0	102,301	13.6
Female	359,733	100.0	230,136	64.0	70,196	19.5	59,401	16.5
	394,131	100.0	293,305	74.4	57,926	14.7	42,900	10.9
	471,053	100.0	328,561	69.8	76,082	16.2	66,410	14.1
	223,865	100.0	145,792	65.1	40,757	18.2	37,316	16.7
	247,188	100.0	182,769	73.9	35,325	14.3	29,094	11.8

Trends in school attendance among the school-going group (6-24 years) follow the pattern for the larger population (6 years and older). Table 5.5 shows that the proportion never attended has declined from 59.7 per cent to 26.6 per cent over the 1960-2000 period, a decline of 55.4 per cent. The decline is particularly significant for the 1960-1970 period and this may be a reflection of government's educational policy at the time, to increase school enrolment. Though the sex differential is apparent for all years, the decline in never attended is much faster for females than males, resulting in a narrowing of the gap.

There are corresponding increases in the proportion currently in school or no longer in school. The proportion of males presently in school has increased by more than a third (from 37.7% in 1960 to 52.5% in 2000) while that for past attendance has increased by more than half (from 15.0% to 23.5%) over the 1960-2000 period. On the other hand, the proportion for females has increased by over one and a half times for both current attendance (from 18.9% to 47.8%) and past attendance (from 8.9% to 23.1%). The proportion of males presently in school has however declined between 1984 and 2000, with the proportion never attended virtually unchanged.

The reasons for the drop in current male school attendance and imperceptible change in proportion that never attended school is not clear, but could well be from increased drop-outs, which may be a reflection of children's disinterested in school or parents/guardians exploiting children to supplement household income. Whatever the reason, it is as worrisome as it is unwelcome and needs to be urgently addressed.

**Table 5.5: Trend in School Attendance (6-24 years) by Sex**

School Attendance	Both Sexes				Male				Female			
	1960	1970	1984	2000	1960	1970	1984	2000	1960	1970	1984	2000
Never	59.7	38.8	29.7	26.6	47.3	30.5	24.5	24.0	72.2	47.0	35.0	29.1
Present	28.3	45.1	50.2	50.1	37.7	52.3	56.2	52.5	18.9	38.0	44.1	47.8
Past	12.0	16.1	20.1	23.3	15.0	17.2	19.3	23.5	8.9	15.0	20.9	23.1
<b>Total</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>N</b>	2,600,426	3,587,338	5,379,012	7,959,878	1,302,288	1,783,632	2,691,453	3,983,286	1,298,138	1,803,706	2,687,559	3,976,592

The youth need to be equipped with the requisite skills and knowledge in a significant way to impact Ghana's development objectives, of which will not be achieved if the proportion of the population in school drops instead of increasing.

A look at the regional differentials of school attendance of the 6-24 year olds shows some striking results. Table 5.6 indicates that except for Northern, Upper East and Upper West where the majority of young persons have no schooling, the majority in all other regions are currently in school. This is true for both males and females. It is also interesting to note that the proportion that has previously been to school is almost the same for both males and females and that this is true for almost all regions. On the other hand, there are substantial differentials in the proportions never attended and presently attending. For all regions, the proportion of females who have never been to school is higher than that of males, while the proportion of males presently in school is higher than that of females.

**Table 5.6 School Attendance of Persons Aged 6-24 Years by Region and Sex**

Region / Sex	Total		Never		Now		Past	
	N	Percent	N	Percent	N	Percent	N	Percent
<b>All Regions</b>	<b>7,959,878</b>	<b>100.0</b>	<b>2,114,469</b>	<b>26.6</b>	<b>3,992,589</b>	<b>50.1</b>	<b>1,852,820</b>	<b>23.3</b>
Male	3,983,286	100.0	955,513	24.0	2,092,333	52.5	935,440	23.5
Female	3976,592	100.0	1,158,956	29.1	1,900,256	47.8	917,380	23.1
<b>Western</b>								
Total								
Male	809,932	100.0	182,197	22.5	441,782	54.5	185,953	23.0
Female	406,559	100.0	78,669	19.8	231,343	56.9	96,547	23.7
<b>Central</b>	403,373	100.0	103,528	25.7	210,439	52.2	89,406	22.1
Total								
Male								
Female	671,298	100.0	118,964	17.7	392,897	58.5	159,437	23.8
<b>Greater Accra</b>	333,698	100.0	49,355	14.8	205,520	61.6	78,823	23.6
Total	337,600	100.0	69,609	20.6	187,377	55.5	80,614	23.9
Male								
Female	1,236,987	100.0	183,547	14.8	661,500	53.5	391,940	31.7
<b>Volta</b>	598,634	100.0	73,506	12.3	330,865	55.3	194,263	32.4
Total	638,353	100.0	110,041	17.2	330,635	51.8	197,677	31.0
Male								
Female								
<b>Eastern</b>	689,724	100.0	164,669	23.9	379,663	55.0	145,392	21.1
Total	348,995	100.0	75,648	21.7	200,762	57.5	72,585	20.8
Male	340,729	100.0	89,021	26.1	178,901	52.5	72,807	21.4
Female								
<b>Ashanti</b>	880,514	100.0	160,543	18.2	505,687	57.4	214,284	24.3
Total	446,365	100.0	72,468	16.2	267,010	59.8	106,887	29.0
Male	434,149	100.0	88,075	20.3	238,677	55.0	107,397	24.7
Female								
<b>Brong Ahafo</b>	1,521,730	100.0	313,019	20.6	794,643	52.2	414,068	27.2
Total	751,479	100.0	135,247	18.0	410,703	54.7	205,529	27.3
Male	770,251	100.0	177,772	23.1	383,940	49.8	208,539	27.1
Female								
<b>Northern</b>								
Total	778,459	100.0	211,465	27.2	399,271	51.3	167,723	21.5
Male	393,914	100.0	96,954	24.6	211,837	53.8	85,123	21.6
Female	384,545	100.0	114,511	29.8	187,434	48.7	82,600	21.5
<b>Upper East</b>								
Total	752,983	100.0	449,087	59.6	218,189	29.0	85,707	11.4
Male	387,524	100.0	212,168	54.8	126,835	32.7	48,521	12.5
Female	365,459	100.0	236,919	64.8	91,354	25.0	37,186	10.2
<b>Upper West</b>								
Total								
Male	378,092	100.0	196,314	51.9	125,105	33.1	56,673	15.0
Female	193,830	100.0	94,984	49.0	68,181	35.2	30,665	15.8
	184,262	100.0	101,330	55.0	56,924	30.9	26,008	14.1
	240,159	100.0	134,664	56.1	73,852	30.7	31,643	13.2
	122,288	100.0	66,514	54.4	39,277	22.1	16,497	13.5
	117,871	100.0	68,150	57.8	34,575	29.8	15,146	12.9

## 5.4 Past School Attendance

Information on past school attendance is an important indicator of the level of socio-economic development because a society where few people have attended formal school in the past is a society that is characterized by very limited skilled manpower. Table 5.7 shows the distribution of past school attendance for persons aged six years and older classified by region and highest level of schooling. It is not surprising that persons with pre-school level of education constitute the least proportion of those who have previously attended school,

because the pre-school as a formal structure is very recent, not widespread, largely urban-based and patronized predominantly by the formal sector workers who are likely to want their children/wards to have more than pre-schooling. The majority of persons who have attended school previously in all regions have attained at least the highest basic education level, that is middle/JSS. Indeed, less than a fifth of these in all regions except Volta and the three northern regions reached just the primary level. In the three northern regions the level attained by the highest proportion (between 30 and 41 per cent) is the primary, and for the Volta region 21 per cent.

**Table 5.7: Past School Attendance (six years and older) by Highest Level Attained by Region and Sex**

Highest Level Attained	All Regions	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
<b>Both Sexes</b>											
Pre School	0.5	0.6	0.5	0.5	0.5	0.4	0.7	0.5	0.7	0.9	1.0
Primary	16.7	16.6	18.6	11.0	21.1	17.7	14.9	17.0	31.5	41.0	30.8
Middle/JSS	52.5	56.5	56.7	47.1	51.8	58.4	57.9	56.2	25.9	25.2	27.0
Secondary/SSS	13.1	11.3	9.7	18.9	10.6	9.5	11.9	11.2	17.1	14.0	15.5
Vocational/Technical/Com.	7.0	6.2	5.3	11.4	5.6	4.9	5.6	4.4	7.3	6.5	8.6
Post Secondary	5.1	4.4	4.9	4.6	6.0	5.2	4.6	6.1	7.7	6.8	8.4
Tertiary	5.1	4.5	4.3	6.6	4.5	3.9	4.4	4.6	9.7	5.7	8.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	5,457,395	560,697	459,418	1,319,229	467,212	692,744	1,171,892	448,693	168,799	102,301	66,410
<b>Male</b>											
Pre School	0.5	0.5	0.4	0.4	0.4	0.4	0.6	0.5	0.7	0.8	0.8
Primary	14.2	14.0	15.6	8.7	18.0	14.6	12.5	14.7	28.0	38.8	29.0
Middle/JSS	51.9	56.9	57.2	45.8	51.3	58.5	57.0	55.2	25.8	25.4	26.8
Secondary/SSS	14.8	12.7	11.0	20.6	12.4	11.0	13.8	13.5	19.6	15.0	17.2
Vocational/Technical/Com	7.5	6.6	5.8	12.2	6.2	5.6	6.1	4.7	7.5	6.7	8.4
Post Secondary	5.1	4.1	5.1	4.0	6.4	5.4	4.6	6.5	8.3	7.1	8.9
Tertiary	6.1	5.1	4.9	8.4	5.2	4.5	5.3	4.9	10.2	6.2	9.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	3,005,097	331,149	251,896	703,061	252,830	376,861	635,216	252,480	104,887	59,401	37,316
<b>Female</b>											
Pre School	0.6	0.7	0.5	0.5	0.5	0.4	0.7	0.6	0.8	1.0	1.2
Primary	19.7	20.5	22.3	13.6	13.6	21.5	17.7	19.9	37.2	44.0	33.2
Middle	53.2	55.9	56.2	48.6	48.6	58.3	59.0	57.5	26.0	24.8	27.2
Secondary/SSS	11.0	9.2	8.2	16.9	16.9	7.6	9.6	8.3	13.1	12.6	13.5
Vocational/Technical/Com.	6.4	5.6	4.7	10.5	4.8	4.2	5.0	4.1	7.0	6.2	9.0
Post Secondary	5.1	4.7	4.6	5.2	5.5	5.0	4.6	5.6	6.8	6.3	7.8
Tertiary	4.0	3.5	3.5	4.5	3.7	3.1	3.3	4.1	9.0	5.1	8.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	2,452,298	229,548	207,522	616,168	214,382	315,883	536,676	196,213	63,912	42,900	29,094

The general pattern is the same for males and females, except that the level of education for females is a little lower than that for males. Thus, the proportion that attained pre-school or primary as the highest level is higher for females than males in all regions. Moreover, for six of the ten regions (Greater-Accra, Volta, Ashanti, Brong Ahafo, Northern and Upper West) also, the proportion with middle/JSS as the highest level attained is higher for females than males. In contrast, the proportions attaining levels beyond the basic are higher for males than females and this is true for all regions.

The withdrawal of teenage girls from school for marriage, teenage pregnancy, reluctance of parents/guardians to invest in girl-child education and the withdrawal of girls to help in domestic chores and family enterprises may account for the lower proportion (26.5%) of females than males (33.5%) who attain educational levels beyond the basic. Post-basic education is important in providing the individual with skills necessary to enter formal employment and to contribute meaningfully in other ways to the development effort of the country. Every effort should therefore be made to provide the opportunities and to encourage a greater proportion of the population to pursue secondary and tertiary education, particularly professional and technical middle level human resource training programmes.

As observed earlier from Table 5.4, there is a pronounced disparity in past school attendance between the three northern regions (less than 15%) and the others regions (more than 30%),

which may be a reflection of the late entry of the former into the schooling system. What is significant from Table 5.7, however, is that those in the three northern regions who had the opportunity of education in the past proceeded to much higher levels than those from the other regions. With the exception of Greater-Accra, the proportion of those who have been to school before who attained secondary or vocational/technical level, post-secondary and tertiary levels is highest in the three northern regions. For the country as a whole, 30.3 per cent of those previously educated attained post-basic level. The proportion is higher in only four regions, Greater-Accra (41.5%), Northern (41.8%), Upper East (33.0%) and Upper West (41.1%). The higher proportions for the northern regions may be partly due to the fact that education was free for students from these areas and therefore finance was not a constraint.

## 5.5 Current School Attendance

From the point of view of policy and decision-making, current school attendance is even more relevant than past attendance as it focuses on the potential in the population for implementing national programmes and for sustaining the development effort. Table 5.8 presents the profile of the over 4 million (26.1% of total) persons aged six years and older currently in school. Of the number of persons currently enrolled in school, 52.7 per cent are male with 47.3 per cent female. Since persons presently in school are largely of the school-going population, it is not surprising that the bulk (more than 80%) is at the basic education level. The educational policy of the country provides that pupils turn six years before enrolling in primary class one. Because of this, children who turned six years after the 1999/2000 school year were likely to be still in pre-school at the time of the 2000 census.

**Table 5.8 Present School Attendance six years and older by Educational Level Attending by Region and Sex**

Level Attending	Total	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
<b>Both Sexes</b>											
Pre School	3.5	4.2	4.1	2.8	3.2	3.6	3.5	3.9	2.9	2.5	2.8
Primary	60.3	64.3	62.2	51.7	59.0	62.4	63.2	62.1	59.6	61.6	57.6
Junior Secondary	22.3	21.3	22.5	23.7	23.2	23.1	22.1	22.4	18.6	19.6	21.0
Senior Secondary	8.3	6.4	5.9	12.8	8.9	6.9	6.8	7.3	10.5	9.6	10.4
Vocational/Technical/Com.	1.9	1.5	1.3	3.0	2.1	1.4	1.3	1.5	2.9	2.4	3.0
Post Secondary	1.7	1.1	1.4	2.1	2.1	1.2	1.3	1.3	3.2	2.5	3.1
Tertiary	2.1	1.3	2.5	4.0	1.5	1.4	1.7	1.4	2.4	1.8	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	4,070,938	446,998	401,173	681,268	386,497	513,068	806,439	405,771	225,520	128,122	76,082
<b>Male</b>											
Pre School	3.3	3.9	3.8	2.8	3.0	3.4	3.5	3.7	2.6	2.3	2.6
Primary	58.6	62.8	60.7	50.2	56.7	60.7	62.0	60.2	56.0	59.1	55.3
Junior Secondary	22.6	21.9	23.1	23.3	23.5	23.8	22.4	22.9	19.3	20.0	21.2
Senior Secondary	8.9	7.0	6.4	13.1	9.8	7.5	7.3	8.2	11.8	10.5	11.3
Vocational/Technical/Com.	2.1	1.6	1.4	3.2	2.4	1.6	1.4	1.7	3.3	2.8	3.1
Post Secondary	1.9	1.2	1.3	2.3	2.6	1.4	1.4	1.7	4.0	3.2	4.0
Tertiary	2.6	1.5	3.2	5.1	1.9	1.7	2.1	1.7	3.0	2.1	2.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	2,143,383	234,538	210,920	343,624	205,335	271,563	418,146	216,029	132,275	70,196	40,757
<b>Female</b>											
Pre School	3.6	4.4	4.4	2.8	3.3	3.7	3.6	4.2	3.4	2.8	3.1
Primary	62.3	66.1	63.9	53.2	61.6	64.4	64.5	64.3	64.6	64.5	60.2
Junior Secondary	21.9	20.5	21.9	24.1	22.9	22.3	21.7	21.8	17.6	19.0	20.7
Senior Secondary	7.6	5.7	5.5	12.5	7.9	6.3	6.3	6.4	8.6	8.6	9.4
Vocational/Technical/Com.	1.7	1.4	1.1	2.7	1.7	1.2	1.3	-	2.2	2.0	2.9
Post Secondary	1.4	1.0	1.5	1.8	1.4	1.0	1.2	1.3	2.0	1.7	2.2
Tertiary	1.5	1.0	1.7	2.9	1.1	1.1	1.3	1.0	1.6	1.4	1.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	1,927,555	212,460	190,253	337,644	181,162	241,505	388,293	189,742	93,245	57,926	35,325

About 60 per cent are enrolled at the primary level, 20 per cent at the JSS and 10 per cent at the immediate post-basic level (senior secondary, vocational/technical/commercial). These levels are a reflection of the factor of population size relative to available capacity, than of dropout levels. The pupils in primary and junior secondary levels constitute about two-thirds of the target age populations (6-11 and 12-14 years), while those in senior secondary make up half of the 15-17 age group. The large difference between primary and junior secondary levels is therefore explainable in terms of population, the primary level covering twice as many age cohorts as the junior secondary level. The proportion of students in senior secondary as against vocational/technical/commercial is a clear indication of preference based on the perception that the academic-grammar type of education is for the brilliant while the technical/vocational is for the less brilliant. These observations are generally true for all regions and for both sexes.

Table 5.9 presents data on persons aged 6-24 years presently in school and male/female differentials among those presently in school by region and locality. As is expected, the majority of the population in this age bracket (50.1%) are in school and this is reflected at the regional and urban/rural locality levels as well as among the sexes. One observes from the Table that for the regions, except Greater-Accra and Ashanti, the majority of school children are in rural areas and it is true for both males and females. This is because the rural proportion (57%) is much higher than the urban (43%). The fact that the proportion of urban children in school is 48.7 per cent, however, means that there is a gain at the expense of rural children.

The Table also indicates that in all regions, except Greater Accra, both urban and rural, there is a higher proportion of males among school children. In Greater Accra, there is an equal share of males and females among school children, while the proportion of females (50.4%) among urban children is higher than for males (49.6%). Finally, for every region, the proportion of males among school children is higher in rural than urban areas, while the reverse is true for females.

Table 5.9: Present School Attendance of Persons Aged 6 – 24 Years by Region, Sex and Locality of Residence

Region / Sex	All Localities		Urban		Rural	
	N	Percent	N	Percent	N	Percent
<b>All Regions</b>	3,992,589	100.0	1,945,495	100.0	2,047,094	100.0
Male	2,092,333	52.4	982,829	50.5	1,109,504	54.2
Female	1,900,256	47.6	962,666	49.5	937,590	45.8
<b>Western</b>						
Total	441,782	100.0	172,790	100.0	268,992	100.0
Male	231,343	52.4	86,473	50.1	144,870	53.9
Female	210,439	47.6	86,317	49.9	124,122	46.1
<b>Central</b>						
Total	392,897	100.0	145,802	100.0	247,095	100.0
Male	205,520	52.3	73,465	50.4	132,055	53.4
Female	187,377	47.7	72,337	49.6	115,040	46.6
<b>Greater Accra</b>						
Total	661,500	100.0	582,225	100.0	79,275	100.0
Male	330,865	50.0	289,039	49.6	41,826	52.8
Female	330,635	50.0	293,186	50.4	37,449	47.2
<b>Volta</b>						
Total	379,663	100.0	114,538	100.0	265,125	100.0
Male	200,762	52.9	58,474	51.1	142,288	53.7
Female	178,901	47.1	56,064	48.9	122,837	46.3
<b>Eastern</b>						
Total	505,687	100.0	189,674	100.0	316,013	100.0
Male	267,010	52.8	95,988	50.6	171,022	54.1
Female	238,677	47.2	93,686	49.4	144,991	45.9
<b>Ashanti</b>						
Total	794,643	100.0	413,750	100.0	380,893	100.0
Male	410,703	51.7	207,327	50.1	203,376	53.4
Female	383,940	48.3	206,423	49.9	177,517	46.6
<b>Brong Ahafo</b>						
Total	399,271	100.0	169,538	100.0	229,733	100.0
Male	211,837	53.1	86,682	51.1	125,155	54.5
Female	187,434	46.9	82,856	48.9	104,578	45.5
<b>Northern</b>						
Total	218,189	100.0	104,121	100.0	114,068	100.0
Male	126,835	58.1	58,153	55.9	68,682	60.2
Female	91,354	41.9	45,968	44.1	45,386	39.8
<b>Upper East</b>						
Total	125,105	100.0	30,574	100.0	94,531	100.0
Male	68,181	54.5	15,776	51.6	52,405	55.4
Female	56,924	45.5	14,798	48.4	42,126	44.6
<b>Upper West</b>						
Total	73,852	100.0	22,483	100.0	51,369	100.0
Male	39,277	53.2	11,452	50.9	27,825	54.2
Female	34,575	46.8	11,031	49.1	23,544	45.8

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Table 5.10 presents current school attendance for persons aged 6-24 years by age groups, corresponding to the target levels, sex and urban/rural residence. As observed earlier, there is a gradual decline in enrolled children at older ages. This general pattern is true for both males and females as well as for urban and rural school group population. In addition, it is observed that for age groups 6-11 years and 12-14 years (corresponding to basic education level), the proportions are higher for female, while it is higher for male at older age groups. Similarly, the proportions are higher for rural areas at the lower age groups and higher for urban at the older age groups.

**Table 5.10: Present School Attendance (Aged 6 – 24 years) by Age Group and Locality of Residence**

Age Group/Locality	Total		Male		Female	
	N	Percent	N	Percent	N	Percent
<b>All Localities</b>						
All Ages	3,992,589	100.0	2,092,333	100.0	1,900,256	100.0
6 – 11	2,107,675	52.8	1,065,861	50.9	1,041,814	54.8
12 – 14	916,067	22.9	476,958	22.8	439,109	23.1
15 – 17	596,348	14.9	324,727	15.5	271,621	14.3
18 – 20	274,091	6.9	162,604	7.8	111,487	5.9
21 – 24	98,408	2.5	62,183	3.0	36,225	1.9
<b>Urban</b>						
All Ages	1,945,495	100.0	982,829	100.0	962,666	100.0
6 – 11	951,442	48.9	469,137	47.7	482,305	50.1
12 – 14	444,535	22.8	218,902	22.3	225,633	23.4
15 – 17	315,470	16.2	160,739	16.4	154,731	16.1
18 – 20	164,913	8.5	92,419	9.4	72,494	7.5
21 – 24	69,135	3.6	41,632	4.2	27,503	2.9
<b>Rural</b>						
All Ages	2,047,094	100.0	1,109,504	100.0	937,590	100.0
6 – 11	1,156,233	56.5	596,724	53.8	559,509	59.7
12 – 14	471,532	23.0	258,056	23.3	213,476	22.8
15 – 17	280,878	13.7	163,988	14.8	116,890	12.5
18 – 20	109,178	5.3	70,185	6.3	38,993	4.1
21 – 24	29,273	1.4	20,551	1.8	8,722	0.9

## 5.6 Educational Attainment by Selected Economic Characteristics

Educational attainment by background characteristics shows, among other things, the extent to which persons with the selected characteristics have been trained and could provide useful information for policy interventions. Table 5.11 shows that 31.3 per cent of those with some form of education, including pre-school, are engaged in agriculture and related occupations, followed by production and machine operators (20.5%), sales workers (18.5%) and professional/technical workers (12.4%), a reflection of the low level of education and technical skills of the population as well as the state of labour market. For males, the major occupations are agriculture and related workers (34.0%), production and machine operators (23.3%), professional/technical workers (13.6%) and sales (10.9%), and clerical workers (10.0%); while for females they are sales (28.8%), agriculture and related workers (27.8%), production and related workers (16.6%) and professional/technical workers (10.7%) and service workers (10.0%).

There are variations, though, in the major occupations in terms of the educational attainment of the individual. Agriculture and related workers feature in the first four for all except those with vocational/technical/commercial and tertiary education; production and related workers feature in all except persons with tertiary education, while professional/technical workers feature only for persons with vocational/technical/commercial, post-secondary and tertiary education. It is only sales workers who feature in the four major occupations for all levels of educational attainment. Service workers appear to be more relevant for females while it is the case with clerical workers for males. Similarly, professional/technical and administrative/managerial workers feature more prominently among persons with tertiary and post-secondary education.

Table 5.11 Educational Attainment by Occupation of Economically Active (15 years and older) by Sex

Occupation	All Levels		Pre School		Primary		Middle/JSS		Secondary/SSS		Vocational/Technical		Post Secondary		Tertiary	
	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
<b>Both Sexes</b>																
All Occupation	4,255,228	100.0	12,951	100.0	464,268	100.0	2,398,093	100.0	577,046	100.0	334,690	100.0	259,510	100.0	208,670	100.0
Professionals, Technical & related workers	526,198	12.4	48	0.4	2,098	0.5	41,184	1.7	63,890	11.1	50,254	15.0	181,128	69.8	187,596	89.9
Administrative & Managerial workers	22,698	0.5	7	0.1	183	0.0	4,328	0.2	4,497	0.8	1,745	0.5	1,087	0.4	10,851	5.2
Clerical and related workers	321,169	7.5	127	1.0	16,319	3.5	178,303	7.4	64,264	11.1	52,593	15.7	8,029	3.1	1,534	0.7
Sales workers	788,828	18.5	2,113	16.3	88,560	19.1	481,890	20.1	129,524	22.4	66,930	20.0	16,106	6.2	3,705	1.8
Service workers	316,110	7.4	936	7.2	31,829	6.9	184,990	7.7	55,779	9.7	32,779	9.8	7,723	3.0	2,074	1.0
Agricultural, Animal Husbandry & Forestry related workers	1,333,819	31.3	6,673	51.5	241,450	52.0	881,014	36.7	129,689	22.5	46,267	13.8	28,026	10.8	700	0.3
Production, Transport & equipment operators	870,366	20.5	2,876	22.2	75,088	16.2	576,663	24.0	116,201	20.1	81,787	24.4	16,768	6.5	983	0.5
Others Labourers	54,191	1.3	118	0.9	7,359	1.6	38,141	1.6	7,759	1.3	694	0.2	120	0.0	0	0.0
New workers	21,849	0.5	53	0.4	1,382	0.3	11,580	0.5	5,443	0.9	1,641	0.5	523	0.2	1,227	0.6
<b>Male</b>																
All Occupation	2,434,282	100.0	6,837	100.0	213,887	100.0	1,355,687	100.0	370,678	100.0	201,667	100.0	143,175	100.0	142,351	100.0
Professionals, Technical & related workers	332,200	13.6	35	0.5	1,318	0.6	28,140	2.1	43,150	11.6	35,454	17.6	96,484	67.4	127,619	89.7
Administrative & Managerial workers	16,281	0.7	4	0.1	91	0.0	2,774	0.2	3,429	0.9	1,219	0.6	724	0.5	8,040	5.6
Clerical and related workers	244,361	10.0	65	1.0	13,720	6.4	148,249	10.9	45,793	12.4	30,343	15.0	5,045	3.5	1,146	0.8
Sales workers	265,303	10.9	945	13.8	18,532	8.7	142,110	10.5	66,427	17.7	28,101	13.9	7,550	5.3	2,638	1.9
Service workers	122,996	5.1	307	4.5	9,226	4.3	65,244	4.8	28,891	7.8	14,856	7.4	3,616	2.5	856	0.6
Agricultural, Animal Husbandry & Forestry related workers	828,476	34.0	3,864	56.5	124,433	58.2	553,003	40.8	94,846	25.6	32,795	16.3	19,027	13.3	508	0.4
Production, Transport & equipment operators	568,072	23.3	1,501	22.0	40,458	18.9	378,602	27.9	79,164	21.4	57,345	28.4	10,324	7.2	678	0.5
Others Labourers	43,874	1.8	85	1.2	5,490	2.6	31,162	2.8	6,494	1.8	557	0.3	86	0.1	0	0.0
New workers	12,719	0.5	31	0.5	619	0.3	6,403	0.5	3,484	0.9	997	0.5	319	0.2	866	0.6
<b>Female</b>																
All Occupation	1,820,946	100.0	6,114	100.0	250,381	100.0	1,042,406	100.0	206,368	100.0	133,023	100.0	116,335	100.0	66,319	100.0
Professionals, Technical & related workers	193,998	10.7	13	0.2	780	0.3	13,044	1.3	20,740	10.1	14,800	11.1	84,644	72.8	59,977	90.4
Administrative & Managerial workers	6,417	0.4	3	0.0	92	0.0	1,554	0.1	1,068	0.5	526	0.4	363	0.3	2,811	4.2
Clerical and related workers	76,808	4.2	62	1.0	2,599	1.0	30,054	2.9	18,471	9.0	22,250	16.7	2,984	2.6	388	0.6
Sales workers	523,525	28.8	1,168	19.1	70,028	28.0	339,780	32.6	64,097	31.1	38,829	29.2	8,556	7.4	1,067	1.6
Service workers	193,114	10.6	629	10.3	22,603	9.0	119,746	11.5	26,888	13.0	17,923	13.5	4,107	3.5	1,218	1.8
Agricultural, Animal Husbandry & Forestry related workers	505,343	27.8	2,809	45.9	117,017	46.7	328,011	31.5	34,843	16.9	13,472	10.1	8,999	7.7	192	0.3
Production, Transport & equipment operators	302,294	16.6	1,375	22.5	34,630	13.8	198,061	19.0	37,037	17.9	24,442	18.4	6,444	5.5	305	0.5
Others Labourers	10,317	0.6	33	0.5	1,869	0.7	6,979	0.7	1,265	0.6	137	0.1	34	0.0	0	0.0
New workers	9,130	0.5	22	0.4	763	0.3	5,177	0.5	1,959	0.9	644	0.5	204	0.2	361	0.5

Table 5.12 presents information on the employment status of the educated by level of attainment. About 3 in every 5 educated persons in the labour force are self-employed individuals with no employees and an additional 1 in 20 with employees. Educated persons working for others constitute a quarter of the total. A greater proportion of female educated persons work for themselves (66.5%) than do males (55.0%) while a greater proportion of male educated persons work for others (29.5%) than do females (17.2%). This is because males attain higher levels than females and therefore are more competitive in the formal sector while females, because of their relatively low levels find it easier to work in the informal sector. The proportion of employees increases with level of education, while self-employed without employees decreases with level of education, for both males and females.

Home-based activities (unpaid family work, apprenticeship, domestic help and others) provide employment for about a tenth of the educated manpower of the country, with a slightly higher proportion for females than males. The proportion does not change much before secondary school level, after which it drops slightly for persons with vocational/technical and post-secondary levels, which equip graduates with the skills to be able to work for one's self or to find a job. The fact that the proportion increased at the tertiary level may be an indication that it is not the solution to solving problems of unemployment. This calls for a re-orientation of the education system to give vocational and technical education the needed recognition and boost. The results also show the value of the home as an important institution in providing support to its members in difficult times. Apart from the labour helping the family business to grow, it also provides an opportunity for members to demonstrate their worth and maintain their self esteem.

Table 5.12 Educational Attainment by Employment Status of Economically Active (15 years and older) by Sex

Employment Sector	All Levels		Pre School		Primary		Middle/JSS		Secondary/SSS		Vocational/Technical		Post Secondary		Tertiary		
	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	per cent	Percent
<u>Both Sexes</u>																	
All Sectors	4,255,228	100.0	12,951	100.0	464,268	100.0	2,398,093	100.0	577,046	100.0	334,690	100.0	259,510	100.0	208,670	100.0	100.0
Employee	1,031,054	24.2	1,562	12.1	49,647	10.7	368,748	15.4	184,645	32.0	129,168	38.6	159,056	61.3	138,228	66.2	49.2
Self Employed without Employee	2,549,612	59.9	28,797	67.9	341,357	73.5	1,641,249	68.4	293,106	50.8	153,010	45.7	72,904	28.1	39,189	18.8	26.4
Self Employed with Employee	254,946	6.0	671	5.2	22,867	4.9	138,997	5.8	41,138	7.1	26,634	8.0	10,550	4.1	14,089	6.8	19.6
Unpaid family worker	141,607	3.3	833	6.4	24,778	5.3	73,637	3.1	19,714	3.4	8,541	2.6	6,311	2.4	7,793	3.7	1.9
Apprentice	207,047	4.9	786	6.1	18,025	3.9	141,342	5.9	24,717	4.3	10,878	3.3	7,298	2.8	4,001	1.9	1.5
Domestic Employee	25,702	0.6	146	1.1	3,476	0.7	12,818	0.5	4,163	0.7	2,278	0.7	1,360	0.5	1,461	0.7	1.4
Other	45,260	1.1	156	1.2	4,118	0.9	21,302	0.9	9,563	1.7	4,181	1.2	2,031	0.8	3,909	1.9	
<u>Male</u>																	
All Sectors	2,434,282	100.0	6,837	100.0	213,887	100.0	1,355,687	100.0	370,678	100.0	201,667	100.0	143,175	100.0	142,351	100.0	100.0
Employee	717,316	29.5	946	13.8	33,138	15.5	282,287	20.8	131,996	35.6	86,490	42.9	85,950	60.0	96,509	67.8	47.1
Self Employed without Employee	1,339,548	55.0	4,577	66.9	146,171	68.3	860,621	63.5	177,451	47.9	83,872	41.6	41,470	29.0	25,386	17.8	27.6
Self Employed with Employee	147,399	6.1	331	4.8	11,005	5.1	77,353	5.7	25,940	7.0	16,527	8.2	5,954	4.2	10,289	7.2	20.0
Unpaid family worker	72,613	3.0	422	6.2	10,715	5.0	36,716	2.7	12,416	3.3	4,730	2.3	3,616	2.5	3,998	2.8	2.3
Apprentice	118,006	4.8	401	5.9	9,37	4.4	80,661	5.9	14,480	3.9	6,264	3.1	4,205	2.9	2,620	1.8	1.6
Domestic Employee	12,415	0.5	64	0.9	1,419	0.7	5,836	0.4	2,263	0.6	1,200	0.6	748	0.5	885	0.6	1.5
Other	26,985	1.1	96	1.4	2,064	1.0	12,213	0.9	6,132	1.7	2,584	1.3	1,232	0.9	2,664	1.9	
<u>Female</u>																	
All Sectors	1,820,946	100.0	6,114	100.0	250,381	10.0	1,042,406	100.0	206,368	100.0	133,023	100.0	116,335	100.0	66,319	100.0	
Employee	313,738	17.2	616	10.1	16,509	6.6	86,461	8.3	52,649	25.5	42,678	32.1	73,106	62.8	41,719	62.9	
Self Employed without Employee	1,210,064	66.5	4,220	69.0	195,186	78.0	780,628	74.9	115,655	56.0	69,138	52.0	31,434	27.0	13,803	20.8	
Self Employed with Employee	107,547	5.9	340	5.6	11,862	4.7	61,644	5.9	15,198	7.4	10,107	7.6	4,596	4.0	3,800	5.7	
Unpaid family worker	68,994	3.8	411	6.7	14,063	5.6	36,921	3.5	7,298	3.5	3,811	2.9	2,695	2.3	3,795	5.7	
Apprentice	89,041	4.9	385	6.3	8,650	3.5	60,681	5.8	10,237	5.0	4,614	3.5	3,093	2.7	1,381	2.1	
Domestic Employee	13,287	0.7	82	1.3	2,057	0.8	6,982	0.7	1,900	0.9	1,078	0.8	612	0.5	576	0.9	
Other	18275	1.0	60	1.0	2,054	0.8	9,089	0.9	3,431	1.7	1,597	1.2	799	0.7	1,245	1.9	

Table 5.13 also presents information about the sectors of the economy where the educated are likely to work. The overwhelming majority (68.4%) are in the informal sector which is the main sector for the self-employed. An additional 29.4 per cent, representing mainly employees, are in the formal (public and private) sector. Given that higher level of education is required for entry into the formal sector, it is not surprising that the proportion for workers in the formal sector increases from 22.0 per cent for workers pre-schooling (probably as cleaners or watchmen) to 75.6 per cent for tertiary education, while the proportion of workers in the informal sector decreases from 76.4 per cent to 19.6 per cent, for both males and females.

The proportion of workers in the formal sector is higher for males (32.1%) than for females (25.9%), while the reverse is true with the informal sector (65.3% male and 72.5% female). This observation is true for all levels of education up to vocational/technical; for post secondary and tertiary levels, females have higher proportions in the formal and lower in the informal sector. The reason may be that females with higher education may find security in the formal sector and choose it when their options are broader; while many males may prefer the informal sector which offers greater flexibility and possibly stability to set up businesses in the years of their retirement

## **5.7 Summary, Conclusion and Recommendations**

### **Summary and Conclusion**

This chapter has been concerned with expanding knowledge on the current levels and trends of educational attainment in Ghana, based on the 2000 Census and other nationally representative data sources. Following political independence in 1957, successive governments in Ghana have pursued various policies aimed at reducing illiteracy. These efforts have achieved a measure of success, with literacy reaching 58 per cent of the adult population by 2000. Greater Accra (81.6%) and Ashanti (65.0%) have the highest literacy levels in the country, while Northern (23.8%), Upper East (23.5%), and Upper West (26.6%) have the least. In all, literacy rates are higher for males (66.4%) than for females (49.8%). Literacy trends reveal that Ghana's literacy levels, though still low, have improved over the years.

About one in five males and one in three females have no education, with a median number of years of schooling of 4.9 years for males and 2.3 years for females. The picture is even more grim when higher levels of education are considered. In general, 38.8 per cent of persons six years and older and 26.6 per cent of school-going age (6-24 years) have never attended school, and the majority of these are females. School dropout rates from the 1997 CWIQ are about 20 per cent for boys and 30 per cent for girls at the primary level, and 15 per cent for boys and 21 per cent for girls at the junior secondary level. It is encouraging, however, that the proportion of people with no education has declined over the years.

There are marked differentials in educational attainment in Ghana. Overwhelming majority of educated persons attained basic education (Middle/JSS) level. Urban areas have higher levels of education than persons residing in rural areas. The nation's most developed regions, Greater Accra and Ashanti, have the highest level of education compared with other regions.

Table 5.13 Educational Attainment by Employment Sector of Economically Active (15 years and older) by Sex

Sex/Employment Sector	All Levels		Pre School		Primary		Middle/JSS		Secondary/SSS		Vocational/Technical		Post Secondary		Tertiary	
	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
<b>Both Sexes</b>																
All Sectors	4,255,228	100.0	12,951	100.0	464,268	100.0	2,398,093	100.0	577,046	100.0	334,690	100.0	259,510	100.0	208,670	100.0
Public	486,659	11.4	402	3.1	12,667	2.7	109,059	4.5	75,708	13.1	59,119	17.7	127,053	49.0	102,651	49.2
Private Formal	764,877	18.0	2,452	18.9	62,455	13.5	376,663	15.7	140,573	24.4	82,607	24.7	45,109	17.4	55,018	26.4
Private Informal	2,909,602	68.4	9,892	76.4	382,890	82.5	1,870,946	78.0	341,576	59.2	181,172	54.1	82,268	31.7	40,858	19.6
Semi-public/Parastatal	34,768	0.8	61	0.5	2,287	0.5	15,362	0.6	5,993	1.0	4,659	1.4	2,381	0.9	4,025	1.9
NGO/Int. Organisation	13,902	0.3	27	0.2	872	0.2	3,999	0.2	2,553	0.4	2,174	0.6	1,135	0.4	3,142	1.5
Other	45,420	1.1	117	0.9	3,097	0.7	22,064	0.9	10,643	1.8	4,959	1.5	1,564	0.6	2,976	1.4
<b>Male</b>																
All Sectors	2,434,282	100.0	6,837	100.0	213,887	100.0	1,355,687	100.0	370,678	100.0	201,667	100.0	143,175	100.0	142,351	100.0
Public	311,284	12.8	229	3.3	8,150	3.8	79,379	5.9	52,585	14.2	37,494	18.6	66,450	46.4	66,997	47.1
Private Formal	468,938	19.3	1,347	19.7	30,749	14.4	226,698	16.7	92,293	24.9	52,837	26.2	25,731	18.0	39,283	27.6
Private Informal	1,590,273	65.3	5,147	75.3	171,400	80.1	1,021,495	75.3	212,393	57.3	103,434	51.3	47,871	33.4	28,533	20.0
Semi-public/Parastatal	27,525	1.1	38	0.6	1,603	0.7	12,809	0.9	4,834	1.3	3,545	1.8	1,493	1.0	3,203	2.3
NGO/Int. Organisation	9,444	0.4	13	0.2	545	0.3	2,866	0.2	1,774	0.5	1,352	0.7	664	0.5	2,230	1.6
Other	26,818	1.1	63	0.9	1,440	0.7	12,440	0.9	6,799	1.8	3,005	1.5	966	0.7	2,105	1.5
<b>Female</b>																
All Sectors	1,820,946	100.0	6,114	100.0	250,381	100.0	1,042,406	100.0	206,368	100.0	133,023	100.0	116,335	100.0	66,319	100.0
Public	175,375	9.6	173	2.8	4,517	1.8	29,680	2.8	23,123	11.2	21,625	16.3	60,603	52.1	35,654	53.8
Private Formal	295,939	16.3	1,105	18.1	31,706	12.7	149,965	14.4	48,280	23.4	29,770	22.4	19,378	16.7	15,735	23.7
Private Informal	1,319,329	72.5	4,745	77.6	211,490	84.5	849,451	81.5	129,183	62.6	77,738	58.4	34,397	29.6	12,325	18.6
Semi-public/Parastatal	7,243	0.4	23	0.4	684	0.3	2,553	0.2	1,159	0.6	1,114	0.8	888	0.8	822	1.2
NGO/Int. Organisation	4,458	0.2	14	0.2	327	0.1	1,133	0.1	779	0.4	822	0.6	471	0.4	912	1.4
Other	18,602	1.0	54	0.9	1,657	0.7	9,624	0.9	3,844	1.9	1,954	1.5	598	0.5	871	1.3

The findings suggest that about equal proportions of males and females aged 6-24 years have previously attended school. There are, however, higher proportions of females than males who have never attended any formal school, and higher proportion of males than females who are currently in school. At the regional level, the proportion of persons aged 6-24 years with past school attendance is almost the same for both sexes, but there are higher proportions of females at no education and lower proportion of females with any level of schooling.

The results further show that 31.3 per cent of educated persons are engaged in agriculture and related occupations, which is one and a half times the proportion of educated people (that is, persons with some schooling including pre-primary) who are production and related workers, the next major occupation among the educated. In fact, these two occupations plus those engaged in sales work account for 70 per cent of all educated working people. A closer look at the Table, however, shows that an overwhelming majority of educated workers have middle/junior secondary education. About 60 per cent of the educated people are self-employed with no employees, while 24 are employees; more than two-thirds (68.4%) are engaged in the informal sector and 29 per cent are in the formal sector working for others.

Trends in educational attainment for the 1960-2000 period show that the proportion of people who have never attended school has consistently declined, while the proportion of persons who attended school in the past or are currently attending school is generally on the increase. The same pattern is maintained for males and females. Although females are educationally disadvantaged, the disparity between the sexes has consistently narrowed.

In general, therefore, illiteracy and lack of formal education, though declining, are still too high in Ghana. Consequently, majority of the labour force have little education, and overwhelming majority of them are engaged in own-account businesses of petty trading or agricultural work. Furthermore, the substantial differentials in past and current school attendance among the regions are an indication of the disparity in levels of socio-economic development among the regions.

## **Recommendations**

The policy of free and compulsory education should be fully and speedily enforced. Adequate sensitization and enlightenment through the electronic and print media, as well as through sustained public educational campaigns at community and district levels enlighten people about the immense benefits of education. These efforts should go a long way toward encouraging parents and guardians to send their children and wards to school.

Increased and improved education and literacy levels are necessary in opening up access to greater opportunities for improvement in the individual's living conditions. Because much information is transmitted in written form, the ability to read and write is critical. In this respect, every effort should be made to reduce the high illiteracy level in the country.

Educational structures must be in place to accommodate the expected increase in the number of children with the enforcement of the policy on free and compulsory education. In this respect, there is the need to review upward the educational budget to supplement the efforts of the local communities in the provision and maintenance of school buildings and equipment.

Additionally, district assemblies should ensure the availability of schools and other infrastructure at the stipulated 8 kilometre distance radius (to avoid trekking long distances before getting to school, particularly in the rural areas) as well as of teachers and teaching aids, including books and other educational materials.

The Ghana Education Fund should make special provision for needy girls to pursue their education up to the tertiary levels. In addition to this, each District Assembly should institute a form of community educational fund to assist needy students, especially girls, from the district. Voluntary organizations, religious bodies, and various youth groups should intensify their assistance to girls who can pursue further studies.

The Family Life Education programme currently being run in schools should be intensified to alert boys and girls about the adverse consequences of premarital sex and teenage pregnancy, including high dropout rate among girls and the risks of contracting the HIV/AIDS disease and other sexually transmitted infections.

It has been observed that an addition of one year to a mother's schooling reduces child mortality by 9 deaths per 1,000 live births (World Bank, 1988). It is therefore necessary for the Ghana Education Service and District Assemblies to do everything possible to keep girls longer in school. As a way of helping to keep girls longer in school, the Ministry of Health's policy of permitting girls who get pregnant to return to school after childbirth should be encouraged. Parents and teachers should be more sympathetic to the plight of such unfortunate girls and encourage them to return to school since some of them may have been victims of rape and sexual exploitation.

Efforts to educate the girl-child should not be pursued to the detriment of the boy-child, which may seem to be the case as present school attendance declined between 1984 and 2000 for males. In this respect, parents should be encouraged to ensure that their male wards remain in school and should not be withdrawn from school prior to completion for whatever reasons.

## **Conclusion**

The report of the Anamuah-Mensah Presidential Committee on Education Reforms in Ghana has some startling statistics on the state of the country's education. For instance, only 5 per cent of workers have had training at the secondary or tertiary level; of a batch of JSS leavers, only about 5 per cent would have access to tertiary institutions; and about 60 per cent exit the educational mainstream after JSS 3. These figures paint a very grim picture of Ghana's educational situation and, by extension, the quest for sustainable development and eradication of poverty. Consequently, Ghana can only confidently advance into the technological age and meet the challenges of the 21<sup>st</sup> century if she makes education the centrepiece of her development agenda.

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## **CHAPTER 6: ECONOMIC ACTIVITY**

### **6.1 Introduction**

Ghana's rapid population growth, precipitated by high but declining fertility and low mortality regimes, translates into a youthful age structure characterized by a large proportion of children under 15 years of age (41%) and a small proportion of elderly persons aged 65 years and older (5%), with persons aged 15-64 years constituting about 54 per cent of the total population (Ghana Statistical Service, 2002). This demographic profile suggests that Ghana's population has a built-in potential for growth, leading to increases in the supply of labour force which, in turn, may have implications for the future employment situation in the country.

On the other hand, the economic and social development of any country is contingent upon the quality and quantity of its productive resources, of which labour is vitally important. In fact, the other productive resources, namely physical capital and land, are dependent upon labour. Consequently, labour constitutes a critical agent of production. As a result of the very important position of labour in the productive process, it is imperative to know the current size and characteristics of the labour force and changes over time for possible policy interventions for maximum development and utilization of these human resources. The chapter examines patterns of economic activity by various characteristics (such as age, sex, region, rural/urban place of residence, occupation, industry, employment status and sector) and discusses trends in labour force participation in the country.

### **Scope of Analysis, Data Sources and Quality**

The 2000 Census has data on the economic activity of persons aged 7 years and older for the whole country as well as such characteristics as region of residence, urban/rural place of residence, age and sex. The minimum age of 7 years is included in the analysis of labour force participation because the struggle for survival in the face of economic situation has resulted in the phenomenon of child labour and street children.

The data used in this chapter are from the 1960-2000 censuses of Ghana, and these are complemented by data from other sources, notably United Nations publications and the 1998 Ghana Demographic and Health Survey results. The quality of the census data preceding the 2000 Population and Housing Census has been presented elsewhere (see Ghana Statistical Service, 1995a; 1995b; Government of Ghana, 1984, 1970, and 1960). It should, however, be stated that census data in Africa are plagued by a great deal of reporting, omission, and recording errors (Mba, 2003; Ewbank, 1981; Gibril, 1979). Also, the reference period for the labour force was the four weeks preceding the census night, during the 1960 and 1970 censuses, while it was only 7 days for the 1984 and 2000 censuses. This lack of uniformity in the reference period of economic activity makes interpretation of trend results difficult. In general, variations in the definition of concepts in censuses make it difficult to compare labour force statistics for successive years for the same country and for different countries. Additionally, it is not possible to investigate the incidence of child labour over the years since it was only the 2000 census that collected information on the economic activity of children aged 7-14 years.

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This chapter has been contributed by Dr. Chuks Mba.

## 6.2 Economically Active Population

The economically active population consists of persons who are either employed (that is, those who worked during the reference period, or had job but did not work) or unemployed. Table 6.1 presents this information for persons aged 15 years and older in relation to the total population and the inactive population during the period 1960-2000. The Table shows that there is a gradual, though not substantial, decline in the proportion of children (under 15 years) over the years, due to fertility decline and improvement in life expectancy, resulting in more people surviving to old age. That children under the age of 15 years still constitute the bulk of Ghana's population (over 40% of the total population for both sexes) implies that there is an abundance of human resources for future labour force participation.

Indeed, the active working age group (15-64) has increased about 3 times in size and in proportionate share from 52.3% in 1960 to 53.4% in 2000 and the expectation is that it is likely to grow with the years. While this will result in a declining age dependency ratio, it may not necessarily translate into reduced economic dependency if opportunities for absorbing the increases into the labour force are not increased as well. About 14.9 per cent of the working age group (15 years and older) are not economically active and it could be a matter of serious concern.

**Table 6.1: Broad Age-Sex Structure of Ghana's Population and Dependency Ratios, 1960-2000**

Item Sex	1960		1970		1984		2000	
	N	% of total population	N	% of total population	N	% of total population	N	% of total population
Total population	Total	6,726,815	8,559,313	12,296,081	18,912,079			
	Male	3,400,270	4,247,809	6,063,848	9,357,382			
	Female	3,326,545	4,311,504	6,232,233	9,554,697			
Population < 15	Total	2,996,506	4,015,965	5,535,114	7,806,843			
	Male	1,515,718	2,020,809	2,802,779	3,921,553			
	Female	1,408,788	1,995,156	2,732,335	3,885,290			
Population 15-64	Total	3,516,832	4,231,853	6,267,608	10,106,296			
	Male	1,771,467	2,069,493	3,019,546	4,937,749			
	Female	1,745,365	2,162,360	3,248,062	5,168,547			
Population 65+	Total	213,477	311,495	493,359	998,940			
	Male	113,085	157,507	241,523	498,080			
	Female	100,392	153,988	251,836	500,860			
Age Dependency Ratio	Total	91.3	102.3	96.2	87.1			
Economically active population (15+)	Total	2,723,026	3,331,618	5,580,104	8,292,114			
	Male	1,677,058	1,859,395	2,724,481	4,170,609			
	Female	1,045,968	1,472,223	2,855,623	4,121,505			
Economically inactive population (15+)	Total	1,007,283	1,211,730	1,180,863	2,813,122			
	Male	207,494	367,605	536,588	1,265,220			
	Female	799,789	844,125	644,275	1,547,902			

Sources: The 1960, 1970, 1984, and 2000 Population Censuses of Ghana.

This appears to be supported by the fact that the economically active population does not show a consistent pattern over the years. The proportion decreased from 40.5 per cent in 1960 to 38.9 per cent in 1970, then increased to 45.4 per cent in 1984 and decreased again to 43.8 per cent in 2000. The same inconsistent pattern is observed for the economically inactive population, whether male or female. The fact that less than 45 per cent of the population is economically active has serious implications for economic dependency. Generally, though, females lag behind males in labour force participation. In their roles as mothers and housewives, females tend to be more involved than males with the maintenance of the home and caring for the family. As a

result, there are more of them not economically active than males, although Table 6.1 suggests that the gap, which was more pronounced in the 1960s and 1970s, has narrowed considerably since.

It has been argued that the decline in the crude activity rate between 1960 and 1970 was due to the high fertility in Ghana, which led to an increase in the proportion of children under 15 years of age between the two periods (de Graft-Johnson et al., 1975). As a result, the rate of increase of the labour force lagged behind that of the total population. The slack in male activity rate over the years has also been attributed in part to the emigration of skilled and semi-skilled Ghanaian males to other countries for better economic prospects (Ghana Statistical Service, 1995c).

On the other hand, the increase in female activity rate over the years, particularly in the 1970-1984 period, may be due to two main factors. In the first instance, formal educational attainment among females has substantially increased, leading to greater uptake in labour force participation. Secondly, there is better reporting of economic activity among females. Evidence from earlier censuses indicate that women tended to report themselves as homemakers or housewives even though they might have engaged in some income-generating activity, especially if such activity was not in the formal sector of the economy (Ghana Statistical Service, 1995a). The recent censuses have addressed this lapse as enumerators are trained and instructed to probe whether the respondents who identify themselves as housewives engaged in any form of income-generating activity.

### **Regional Distribution of Economically Active Population and Growth Rates**

Table 6.2 shows the regional distribution of the economically active population (labour force) during the 1960-2000 period. As the distribution of the labour force closely follows the pattern of population concentration, it is not surprising that Ashanti has consistently remained the region with the largest number of economically active population, followed by Greater Accra and Eastern. A more interesting performance indicator for comparison is the crude activity rate, that is the proportion of the population that is economically active. Table 6.2 shows that the participation rate has hovered around 40 per cent since 1960. For most regions, 1970 was a bad period as participation rate decreased, while 1984 appears to have been a good period for all regions. Probably because of the bad economic times of the early 1980s many more people were out there doing something to make ends meet. While other regions have not shown any consistent pattern in participation rates, Greater Accra, Brong Ahafo and Northern have experienced increases in participation rate from 1960 to 2000.

**Table 6.2: The Economically Active as Proportion of Total Population by Region**

Region	1960		1970		1984		2000	
	N	Proportion	N	Proportion	N	Proportion	N	Percent
Western	285,908	45.7	331,070	43.0	544,706	47.0	856,830	44.5
Central	324,318	43.2	370,644	41.6	520,091	45.5	671,003	42.1
Greater Accra	225,285	41.6	366,495	43.0	647,673	45.3	1,377,903	47.4
Volta	322,442	41.5	376,914	39.8	558,652	46.1	697,752	42.7
Eastern	469,483	45.0	502,187	39.8	781,906	46.5	927,699	44.0
Ashanti	475,964	42.9	584,374	39.4	952,709	46.6	1,612,467	44.6
Brong Ahafo	232,123	39.5	314,145	41.0	545,691	45.2	819,190	45.1
Northern	156,440	29.4	226,132	31.1	470,712	40.4	727,553	40.0
Upper East	231,063	30.5	259,657	30.1	357,782	46.3	360,508	39.2
Upper West					200,092	45.7	241,209	41.8

<b>All Regions</b>	<b>2,723,026</b>	<b>40.5</b>	<b>3,331,618</b>	<b>38.9</b>	<b>5,580,104</b>	<b>45.4</b>	<b>8,292,114</b>	<b>43.8</b>
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Source: The 1960-2000 Censuses of Ghana.

\*Includes Upper West

The intercensal growth rate of the economically active population by region in Ghana is depicted in Table 6.3. The growth rate has been highest for Greater Accra for all periods, while substantial growth rates are recorded for Western, Ashanti, Brong Ahafo, and Northern at different periods. Overall, the annual growth rate doubled from 2 per cent during 1960-1970 to 3.8 per cent in 1970-1984 but fell to 2.5 per cent during 1984-2000. This fluctuation is a reflection of the rate of labour turnover in response to perceived job opportunities available in the job market.

**Table 6.3: Intercensal Growth Rate of the Economically Active Population by Region**

Region	Annual Growth Rate			
	1960-1970	1970-1984	1984-2000	1960-2000
Western	1.5	3.6	2.8	2.7
Central	1.3	2.4	1.6	1.8
Greater Accra	5.0	4.2	4.7	4.5
Volta	1.6	1.9	1.4	1.9
Eastern	0.7	3.2	1.1	1.7
Ashanti	2.1	3.6	3.3	3.1
Brong Ahafo	3.1	4.0	2.5	3.2
Northern	3.8	5.4	2.7	3.8
Upper East	1.2*	5.6*	0.0	2.4*
Upper West			1.2	
<b>All Regions</b>	<b>2.0</b>	<b>3.8</b>	<b>2.5</b>	<b>2.8</b>

Source: Computed from Table 6.2.

Note: \*Includes Upper West Region.

### **Age-Sex Distribution of Economically Active Population and Activity Rates**

Table 6.4 presents information on the labour force by age and sex for the 1960-2000 period. The results show that the proportion of the economically active population increases with age between 15-19 years and 25-29 years and subsequently declines with advancing age. For males, the peak of economically active population has remained at the 25-29 years age group over the years, while for females, the peak is at 20-24 years except in 2000 when the peak shifted to the 25-29 years age group. In general, the structure of the labour force population has not changed much over the years.

**Table 6.4: Economically Active Population by Age and Sex in Ghana, 1960 -2000.**

Age Group	1960	1970	1984	2000
<b>Both Sexes</b>				
15-19	11.4	9.5	10.7	9.1
20-24	15.2	14.5	16.0	13.5
25-29	15.7	15.0	15.7	15.0
30-34	13.9	14.1	12.6	13.0
35-39	11.0	11.3	10.0	11.3
40-44	9.4	9.2	8.1	9.8
45-49	6.7	7.2	7.3	8.0
50-54	5.5	6.1	6.0	6.1
55-59	3.3	3.7	3.7	3.7
60-64	3.4	3.6	3.6	3.4
65+	4.5	5.8	6.2	7.2
Total	100.0	100.0	100.0	100.0
N	2,723,026	3,331,618	5,580,104	8,292,114
<b>Male</b>				
15-19	10.0	9.1	10.0	9.2
20-24	14.5	13.6	14.8	12.7
25-29	16.0	14.9	15.3	14.2
30-34	14.1	13.8	12.6	12.6
35-39	11.6	11.7	10.2	11.1
40-44	9.7	9.2	8.2	10.0
45-49	7.1	7.6	7.8	8.5
50-54	5.5	6.2	6.2	6.3
55-59	3.3	3.9	3.8	4.0
60-64	3.4	3.7	3.7	3.4
65+	4.8	6.3	7.4	8.0
Total	100.0	100.0	100.0	100.0
N	1,677,058	1,859,395	2,724,481	4,170,609
<b>Females</b>				
15-19	13.5	10.1	11.3	9.0
20-24	16.2	15.7	17.1	14.3
25-29	15.1	15.1	16.1	15.7
30-34	13.5	14.4	12.5	13.5
35-39	10.2	10.9	9.7	11.5
40-44	9.1	9.3	8.0	9.5
45-49	6.1	6.8	6.9	7.4
50-54	5.5	6.0	5.8	6.0
55-59	3.3	3.4	3.4	3.4
60-64	3.4	3.4	3.6	3.3
65+	4.1	5.0	5.7	6.3
Total	100.0	100.0	100.0	100.0
N	1,045,968	1,472,223	2,855,633	4,121,505

Source: Computed from the 1960-2000 Censuses of Ghana.

A measure of the involvement of the general population in the production of goods and services is the activity rate. The refined activity rate (measured in relation to population 15 years and older) is usually preferred to the crude activity rate (measured in relation to total population) because it eliminates the population not exposed to labour force participation. The total population aged 15 years and older (Table 6.5) represents refined activity rates for the sexes. Generally, activity rates increased steadily from 73 per cent in 1960 to 82.5 per cent in 1984 before falling to 74.7 per cent in 2000. The decline in activity rate between 1984 and 2000 may be partly due to longer stay in school by young people, particularly those in the 15-19 years age

group, whose activity rate declined from 57.2% in 1960 to 40.1 per cent in 2000. Female participation rates are lower than those of males in all the four censuses.

The age-specific economic activity rates (defined as proportion of population of that age group that is economically active) show that for both sexes a fairly consistent pattern has been maintained over the years, with a steep rise from the 15-19 years age group to 20-24 years age group, then a steady rise up to between 35-39 years and 45-49 years age group before a gradual decline with advancing age; there are a few minor deviations from this general pattern. It is in this broad age group that men and women establish themselves and take responsibility for their young children and probably help to take care of parents and other relations. The need to find something to do is greatest at this period in one's lifetime. It is not surprising, therefore, that the activity rates pattern is similar for both males and females. The difference is in terms of magnitude; activity rates are consistently higher for males than for females at almost all ages during the 1960-2000 period, though the gap has narrowed considerably over the years from 32.3 percentage points in 1960 through 19.9 in 1970 to 4.0 points in 2000).

**Table 6.5: Age-Specific Activity Rates by Sex**

Age Group	Both Sexes				Males				Females			
	1960	1970	1984	2000	1960	1970	1984	2000	1960	1970	1984	2000
15-19	57.2	40.8	47.7	40.1	61.0	42.3	42.8	39.7	53.3	39.2	52.9	40.3
20-24	70.0	70.9	84.3	69.9	90.9	82.6	83.0	69.5	52.7	61.4	85.4	70.5
25-29	75.0	79.0	92.9	83.6	96.5	95.5	96.3	85.3	51.6	65.0	90.1	81.8
30-34	77.3	83.7	94.3	89.3	97.5	97.5	97.7	92.6	57.4	71.5	91.3	86.7
35-39	79.6	86.1	95.1	91.0	97.6	97.9	98.3	94.2	59.7	93.9	92.1	88.3
40-44	82.6	87.8	95.4	91.6	97.4	97.8	98.4	94.4	65.6	97.9	92.7	88.6
45-49	83.6	88.3	95.7	92.1	96.8	97.5	98.4	94.4	66.7	97.9	93.0	88.4
50-54	87.1	88.1	94.6	89.0	95.8	96.6	97.6	93.4	70.1	94.0	91.8	85.4
55-59	83.5	86.1	93.3	86.6	94.2	95.2	96.3	91.0	70.5	75.5	90.2	82.0
60-64	77.8	81.6	89.9	75.9	89.4	91.8	94.2	80.3	64.3	71.1	85.9	71.7
65+	57.8	61.6	73.7	59.4	67.0	75.4	83.6	66.7	42.6	47.5	64.3	52.1
<b>Age 15+</b>	<b>73.0</b>	<b>73.3</b>	<b>82.5</b>	<b>74.7</b>	<b>89.0</b>	<b>83.5</b>	<b>83.5</b>	<b>76.7</b>	<b>56.7</b>	<b>63.6</b>	<b>81.6</b>	<b>72.7</b>

Source: Computed from the 1960 – 2000 Censuses of Ghana.

## 6.3 Labour Force Participation

### Economic Activity by Employment Status

The employment status of the economically active population is presented in Table 6.6. In general, about 60 per cent of economically active persons are self-employed, followed by the employees, with about 15 per cent. There has been a slight increase in the proportion of the self-employed during the period under review, from 59.8 per cent in 1960 to 65.8 per cent in 2000, with a corresponding decrease in wage workers and unpaid family workers. The increase in proportion of the self-employed is more pronounced among males than females, yet the proportion remains higher for females in all years. The higher proportion of women in self-employment implies a lower participation rate in wage employment, even though the proportion of female employees has doubled from the 4.2 per cent in 1960 to 8.7 per cent in 2000.

There is a slightly higher proportion of female family workers than male, but both males and females have experienced very substantial reductions over the period. There is indication that the losses may have been transferred into the ranks of general labourers or casual workers and the unemployed which are a reflection of family businesses not being as vibrant as before.

The proportion of the unemployed remained fairly stable between 1960 and 1970, decreased by about a half in 1984 before increasing by more than one-and-a half times in 2000. The current level of unemployment, which is the highest in post-World War II times, and the substantial increase from 1984 are reflective of the present global economic downturn.

**Table 6.6: Economically Active Population by Employment Status and Sex, Ghana, 1960-2000.**

Employment Status	1960	1970	1984	2000
<b>Both Sexes</b>				
Self- Employed	59.8	59.0	67.7	65.8
Employees	19.8	20.8	15.7	14.2
Unpaid Family Workers	12.6	12.3	12.2	6.1
Others	1.8	1.9	1.6	3.5
All Employed	94.0	94.0	97.2	89.6
Unemployed	6.0	6.0	2.8	10.4
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>N</b>	<b>2,723,026</b>	<b>3,331,618</b>	<b>5,580,104</b>	<b>8,292,114</b>
<b>Males</b>				
Self- Employed	52.0	49.4	60.6	61.2
Employees	29.6	32.3	24.6	19.6
Unpaid Family Workers	9.1	7.3	9.1	5.1
Others	2.8	3.3	2.5	4.0
All Employed	93.5	92.4	96.8	89.9
Unemployed	6.5	7.6	3.2	10.4
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>N</b>	<b>1,677,058</b>	<b>1,859,395</b>	<b>2,724,481</b>	<b>4,170,609</b>
<b>Female</b>				
Self- Employed	72.2	71.1	74.5	70.5
Employees	4.2	6.3	7.2	8.7
Unpaid Family Workers	18.1	18.6	15.1	7.0
Others	0.3	0.1	0.7	3.1
All Employed	94.8	96.1	97.5	89.3
Unemployed	5.2	3.9	2.5	10.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>N</b>	<b>1,045,968</b>	<b>1,472,223</b>	<b>2,855,633</b>	<b>4,121,505</b>

Source: The 1960-2000 Population Censuses of Ghana

### **Employment by Region of Residence**

The relative proportion of employed persons (aged 15 years and older) by region and sex is presented in Table 6.7. Generally, more than 90 per cent of the economically active population has been in employment before 2000, when it dropped below 90 per cent; this pattern has been true for both males and females and for all regions except Greater Accra in 1960. All regions as well as both males and females experienced significant decreases in participation rates in 2000 to swell the ranks of the unemployed. There is common knowledge that much of the participation may be under conditions that can be described as underemployment or underutilization.

All regions, except Ashanti; experienced increases in the proportion in employment between 1960 and 1984. The pattern of change over this period is the same for females while for males there are a few slight fluctuations. Table 6.7 further indicates that except Greater Accra, Northern and Upper in 1960, the proportion of the employed before 2000 is higher for females than males. For 2000, the reverse is the case for all regions except Western and Upper East.

**Table 6.7: Employed as Proportion of Economically Active Population by Region and Sex**

Region	1960	1970	1984	2000
<b><u>Both Sexes</u></b>				
Western	93.1	94.1	97.3	91.2
Central	94.4	95.0	97.1	91.9
Grater Accra	88.4	90.4	92.3	86.6
Volta	96.1	96.5	98.2	92.5
Eastern	94.3	94.3	97.4	91.6
Ashanti	93.6	93.0	96.9	88.7
Brong Ahafo	92.8	96.2	98.5	92.7
Northern	96.1	98.0	98.9	90.5
Upper East	97.0*	90.0*	99.0	79.9
Upper West			99.3	85.0
<b>All Regions</b>	94.0	94.0	97.2	89.6
<b><u>Males</u></b>				
Western	92.3	92.6	96.7	91.2
Central	93.6	92.9	96.4	92.2
Grater Accra	89.0	89.8	91.8	87.0
Volta	95.3	95.2	97.8	92.8
Eastern	93.1	93.0	97.1	91.9
Ashanti	92.3	91.0	96.6	89.1
Brong Ahafo	92.1	94.9	98.5	93.3
Northern	96.6	97.7	98.7	91.1
Upper East	97.2*	86.3*	98.7	79.6
Upper West			99.1	85.2
<b>All Regions</b>	93.5	92.4	96.8	89.9
<b><u>Females</u></b>				
Western	94.5	96.2	97.9	91.3
Central	95.3	96.7	97.8	91.7
Grater Accra	87.5	91.3	92.9	86.2
Volta	96.9	97.7	98.5	92.3
Eastern	94.9	95.7	97.7	91.3
Ashanti	95.6	95.4	97.1	88.3
Brong Ahafo	94.3	97.9	98.6	92.0
Northern	93.7	98.6	99.2	89.9
Upper East	96.2*	97.8*	99.3	80.3
Upper West			99.6	84.8
<b>All Regions</b>	94.8	96.1	97.5	89.3

Source: The 1960, 1970, 1984 and 2000 Population Censuses of Ghana

Note:

\*: includes Upper West

### **Occupation of Employed Persons**

The type of work performed by employed persons and in what numbers determine the manpower capabilities of an economy and can therefore provide an indication of the preparedness to move

the development agenda of the country. It is expected that with modernization and a drive towards industrialization, there should be a decline in agriculture and related occupations in favour of the professional, technical, management administrative and clerical occupations (Frog and Ofosu 1992; Duran 1975). Table 6.8 shows that although a large proportion of the employed labour force has remained in agriculture-related occupations over the years, this proportion has fallen from 61 per cent in 1960 to 50 per cent in 2000, a decline of about 10 percentage points during the period. On the other hand, although a very small proportion of the employed persons is in the professional, technical, administrative, managerial, clerical and related occupations, this proportion has more than doubled over the years from 4.5 per cent in 1960 to 11.4 per cent in 2000. Similar patterns are easily discernible for both males and females. Consequently, if the economic development theory is accepted, it may be argued on the basis of the foregoing findings that Ghana is on the path of economic development, albeit at a very slow pace within 40 years.

The proportion of sales workers increased from 12 per cent in 1960 to 15 per cent in 2000 and that of the service workers rose from 2 per cent in 1960 to 6 per cent in 2000. As observed earlier, sales and services occupations, mainly in the informal sector, provide an opportunity for formal sector employees to continue in employment after retirement. The increased proportion in the two occupations is true for males, while for females the increase has only been in services with that in sales actually decreasing consistently since 1960, from 28 per cent to 22 per cent in 2000.

**Table 6.8: Occupation of employed Persons (15 years and older) by Sex**

Type of Occupation	1960	1970	1984	2000
<b>Both Sexes</b>				
Professional/Technical	2.3	3.8	4.1	6.6
Administrative/Management	0.5	0.4	0.3	0.3
Clerical and related workers	1.7	2.7	2.4	4.5
Sales Workers	11.5	13.2	13.8	15.2
Service Workers	2.2	2.9	2.4	5.8
Agric/Anim. Husb/Forestry/Hunters	61.1	57.4	60.6	50.3
Production/Transport Equip.Operators	18.7	19.6	16.4	16.0
Other workers	-	-	-	1.3
	100.0	100.0	100.0	100.0
<b>All Regions</b>	2,559,383	3,133,047	5,422,480	7,428,374
<b>Males</b>				
Professional/Technical	3.1	5.3	5.4	8.3
Administrative/Management	0.8	0.6	0.6	0.4
Clerical and related workers	2.6	4.3	3.4	7.0
Sales Workers	4.3	2.9	3.1	8.6
Service Workers	2.5	4.0	3.2	4.3
Agric/Anim. Husb/Forestry/Hunters	62.9	59.8	65.7	50.8
Production/Transport Equip.Operators	23.8	23.1	18.6	18.6
Other workers	-	-	-	2.0
	100.0	100.0	100.00	100.0
<b>All Regions</b>	1,567,965	1,717,928	2,637,029	3,748,887
<b>Females</b>				
Professional/Technical	1.2	2.0	2.8	4.8
Administrative/Management	0.1	0.0	0.1	0.2
Clerical and related workers	0.3	0.9	1.4	1.9
Sales Workers	28.0	25.7	24.0	22.0
Service Workers	1.6	1.5	1.6	7.4
Agric/Anim. Husb/Forestry/Hunters	58.2	54.5	55.9	49.7
Production/Transport Equip.Operators	10.6	15.4	14.3	13.4
Other workers	-	-	-	0.6
	100.0	100.0	100.00	100.0
<b>All Regions</b>	991,418	1,415,119	2,785,451	3,679,487

Source: The 1960, 1970, 1984 and 2000 Population Censuses of Ghana

## **Industry of the Employed**

The industrial activities of employed persons are presented in Table 6.9. The Table indicates that agriculture, hunting, forestry fishing and related work has remained the dominant industry in Ghana over the years, with more than 50 per cent of employed persons engaged in it. There is evidence, however, that there is a shift into wholesale/retail trade and restaurant business and real estate. This change is more pronounced for males, while for females the shift is more into community and personal services. Agriculture and its related activities, trade/restaurant activities and manufacturing activities have remained as the three major industries in the order for all years; these industries have consistently accounted for more than 80 per cent of employment.

**Table 6.9 Industry of Employed Persons (15 years and older) by Sex**

Industry	Boxes Sexes			Male			Female			
	1970	1984	2000	1970	1984	2000	1970	1984	2000	2000
Agriculture, Hunting, Forestry Fishing	57.0	61.1	53.1	59.1	66.4	54.3	54.5	56.0	54.6	52.0 2.6
Mining and Quarrying	1.0	0.5	1.4	1.7	0.9	1.9	0.2	0.1	0.9	0.9
Manufacturing	12.1	10.8	10.7	9.7	7.5	10.1	15.1	14.0	11.2	11.2
Electricity, Water and Gas	0.4	0.3	0.4	0.7	0.5	0.5	0.0	0.1	0.2	0.2
Construction	2.3	1.2	3.0	4.1	2.3	5.0	0.2	0.1	1.0	1.0
Wholesale and Retail Trade, Restaurants	13.9	14.6	17.4	3.9	4.2	11.0	26.1	24.2	23.8	23.8
Transport, Storage & Communication	2.7	2.3	3.1	4.8	4.5	5.2	0.2	0.2	8.0	8.0
Finance, Insurance and Real Estate	0.3	0.5	1.5	0.4	0.8	2.1	0.1	0.3	1.0	1.0
Community, Social and Personal Services	10.2	8.7	9.5	15.6	12.9	9.9	3.6	4.8	9.1	9.1
<b>Total %</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Number</b>	<b>3,133,047</b>	<b>5,422,480</b>	<b>7,428,374</b>	<b>1,717,928</b>	<b>2,367,029</b>	<b>3,748,887</b>	<b>1,415,119</b>	<b>2,785,451</b>	<b>3,679,487</b>	<b>3,679,487</b>

Source: The 1960-2000 Population Censuses of Ghana

For females, these industries also represent the major ones and in the same order, but their share of employment has declined from 95 per cent in 1970 to 87 per cent in 2000. On the other hand, the three major industries for 1960 and 1970 have been agriculture and related activities, community/social/personal services activities and manufacturing activities in that order, with over 85 per cent persons employed. In 2000, trade/restaurant activities replaced services activities as the second major industry. This shift of males to wholesale and retail trade and restaurants industry in recent times may partly be due to inadequate employment opportunities in the formal sector of the economy and partly a reflection in underemployment of young men hawking all manner of goods in traffic in cities and large towns. As observed earlier also, it may represent the deliberate move by retiring men to set up business to provide continued active life and a source of income to carry out their obligations.

## **Unemployment by Region, Sex and Age**

Table 6.10 examines the geographical spread of unemployed persons and the sex composition over the years. In 1960 the region with the highest proportion of the total economically active population that is unemployed is Greater Accra, followed by Brong Ahafo and by Ashanti in 1970 and 1984 as the region with the second highest unemployment level. There has been a dramatic turn around in 2000, with Upper East (20.1%) and Upper West (15.0%) recording rates ahead of Greater Accra (13.4%) and Ashanti (11.3%). All regions recorded their highest unemployment rates in recent times and this may have been the result of the less than satisfactory performance of the economy at the time.

The high unemployment situation in the two largest regional economies, Greater Accra and Ashanti, may not be surprising. Because of the concentration of economic, education, health, social and other infrastructure in these two regions, they constitute major destination points of inter-regional migrants. Not all of the in-migrants may find jobs and may therefore join the ranks of the unemployed. What is not readily discernible is the sudden upsurge of unemployment in Upper East and Upper West.

**Table 6.10: The Unemployed as Proportion of Economically Active Population by Region and Sex**

Region	Both Sexes				Male				Female			
	1960	1970	1984	2000	1960	1970	1984	2000	1960	1970	1984	2000
Western	6.9	5.9	2.7	8.8	7.7	7.4	3.3	8.8	5.5	3.8	2.1	8.7
Central	5.6	5.0	2.9	8.1	6.4	7.1	3.6	7.8	4.7	3.3	2.2	8.3
Greater Accra	11.6	9.6	7.7	13.4	11.0	10.2	8.2	13.0	12.5	8.7	7.1	13.8
Volta	3.9	3.5	1.8	7.5	4.7	4.8	2.2	7.2	3.1	2.3	1.5	7.7
Eastern	5.7	5.7	2.6	8.4	6.9	7.0	2.9	8.1	5.1	4.3	2.3	8.7
Ashanti	6.4	7.0	3.1	11.3	7.7	9.0	3.4	10.9	4.4	4.6	2.9	11.7
Brong Ahafo	7.2	3.8	1.5	7.3	7.9	5.1	1.5	6.7	5.7	2.1	1.4	8.0
Northern	3.9	2.0	1.1	9.5	3.4	2.3	1.3	8.9	6.3	1.4	0.8	10.1
Upper East	3.0*	10.0*	1.0	20.1	2.8*	13.7*	1.3	20.4	3.8*	2.2*	0.7	19.7
Upper West			0.7	15.0			0.9	14.8			0.4	15.2
<b>N</b>	<b>6.0</b>	<b>6.0</b>	<b>2.8</b>	<b>10.4</b>	<b>6.5</b>	<b>7.6</b>	<b>3.2</b>	<b>10.1</b>	<b>5.2</b>	<b>3.9</b>	<b>2.5</b>	<b>10.7</b>

Source: The 1960-2000 Population Censuses of Ghana.

\* includes Upper West

The age-sex structure of the unemployed shows that until 2000, unemployment was largely a youth phenomenon, with no less than 60 per cent of unemployed persons concentrated in the 15-24 years age group, incidentally the school going population. This is true for both males and females. On the other hand, in 2000, the 15-24 years age group accounts for only 36.1 per cent of the unemployed. The more active age group (30-59) that even in 1960 constituted less than a fourth (23.4%) of the unemployed now in 2000 accounts for more than a third (36.8%) and the older age group (60 years and older) make up 12.8 per cent.

The suggestion that school children may have been not properly captured as economically inactive but instead as not working could partly explain the rather large concentration of the unemployed in the 15-24 years age group, but it is difficult to imagine that this error could have lasted over three censuses. What appears more plausible is that the economic situation may have forced many retrenched workers from the public sector to seek alternative means of making a living. The pervasive nature of the exercise is that most workers affected would be aged 40 years and older.

**Table 6.11: Unemployed Population by Age and Sex in Ghana, 1960-2000**

Age Group	1960	1970	1984	2000
<b><u>Both Sexes</u></b>				
15-19	40.1	39.8	37.7	17.0
20-24	23.7	31.9	36.8	19.1
25-29	12.8	13.1	13.7	14.2
30-34	7.4	6.4	4.6	9.9
35-39	4.7	3.4	2.2	7.8
40-44	3.4	2.0	1.3	6.5
45-49	2.3	1.4	1.0	5.4
50-54	1.8	0.9	0.7	4.3
55-59	1.1	0.5	0.5	2.9
60-64	1.1	0.4	0.4	3.0
65+	1.6	0.6	1.1	9.8
Total	100.0	100.0	100.0	100.0
N	163,643	198,571	157,702	863,740
<b><u>Males</u></b>				
15-19	33.8	35.8	33.6	17.0
20-24	26.1	37.7	36.8	18.7
25-29	14.9	14.6	16.1	13.8
30-34	8.5	7.1	5.6	9.3
35-39	5.3	4.1	2.7	7.5
40-44	3.7	2.4	1.5	6.5
45-49	2.5	1.6	1.2	5.7
50-54	1.8	1.1	0.7	4.2
55-59	1.1	0.6	0.5	3.0
60-64	0.9	0.4	0.4	3.1
65+	1.4	0.5	0.8	11.2
Total	100.0	100.0	100.0	100.0
N	109,093	141,467	87,505	421,722
<b><u>Females</u></b>				
15-19	52.7	49.7	39.5	17.0
20-24	19.0	32.2	38.6	19.5
25-29	8.5	9.4	12.9	14.7
30-34	5.0	3.4	3.1	10.4
35-39	3.4	1.7	1.5	8.1
40-44	2.7	1.1	1.0	6.5
45-49	1.9	0.7	0.7	5.1
50-54	1.9	0.5	0.6	4.4
55-59	1.3	0.3	0.5	2.8
60-64	1.5	0.3	0.4	3.0
65+	2.2	0.6	1.2	8.6
Total	100.0	100.0	100.0	100.0
N	54,550	57,104	70,197	442,018

Source: The 1960-2000 Population Censuses of Ghana

Note: includes Upper West

The proportion of the unemployed in the 15-29 years age group is higher for females than it is for males and this is the case in all four censuses, except 2000 while the reverse is the case for ages above 29 years. Until recently, girls were not as encouraged to enrol and remain in school as boys were and this means that females entered the labour market earlier than males. This could therefore explain the reason for higher proportion of female unemployed in the younger ages (15-24 years). While the proportion of female unemployed aged 15-19 years reduced substantially from 52.7 per cent in 1960 through 49.7 per cent in 1970 to 39.5 per cent in 1984, the proportion of the 20-29 years increased from 27.5 per cent in 1960 through 41.6 per cent in 1970 to 51.5 per cent in 1984. On the hand, the proportion of male unemployed remained unchanged for the 15-19 years age group while that for the 20-29 years age group increased only slightly from 41 per cent in 1960 to 52.9 per cent in 1984, thereby bridging the gap between male and female youth unemployment. The age-sex pattern for 2000 is more spread out between the sexes and at all ages.

#### **6.4 Participation of Children (7-14 years) in Gainful Work**

By ILO standards, the minimum age for entry into the labour force is 15 years. Ghana's Children's Act of 1998 affirms this by prohibiting the engagement of children under 15 years. The 2001 Child Labour Survey, however recorded 22.2 per cent of children who had worked for pay, profit or family gain. It is indeed common knowledge that in Ghana and other parts of Africa children under 15 years of age are increasingly involved in labour force participation. While reliable statistics are lacking to establish trends over the years, empirical evidence from the 2000 Census is both informative and instructive.

Table 6.12 indicates that about 600 thousand children are engaged in child work: the overwhelming majority (78.8%) of these are in rural areas and majority (51.9%) are boys. These working children constitute 15.4 per cent of the 7-14 year old population; the proportion is slightly higher for boys (15.8%) than girls (14.9%). In addition, there are 3.8 per cent of children who have never been to school or dropped out of schooling and actively seeking employment. The situation is worse in rural areas, where 20.6 per cent are working and 4.1 per cent are seeking employment, as against urban areas where 7.9 per cent are working and 3.4 per cent seek work. The proportion of working girls in urban (8.3%) is higher than that of working boys (7.6%), while it is the reverse in rural areas (21.1% boys and 20.0% girls). There is not much difference between boys and girls in the proportion seeking work, whether in urban or rural areas.

Table 6.12, however, shows that the proportion of working children (different from child labour) in Greater Accra (8.8%) is only higher than that of Central (7.3%) and about half the incidence in Brong Ahafo (15.1%). On the contrary, the phenomenon of working children is more a feature in the three northern regions than that of the southern regions. Children aged 7-14 years in the three northern regions constitute 17.8 per cent of such children in the country and yet working children in these regions make up 40.9 per cent of all working children in this age group. The highest proportion of working children is in Northern (39.8%), followed by Upper West (37.7%) and Upper East (25.8%). As in other regions, the proportions are higher in rural areas, among boys in rural areas and among girls in urban areas.

Table 6.12 Activity Status of Children (7-14 years) by Region, Sex and Locality of Residence

Table 6.12 Activity Status of Children (7-14 years) by Region, Sex and Locality of Residence												
Region/Sex	Total				Urban				Rural			
	Total	Economically	Active	Economically Inactive	Total	Economically	Active	Economically Inactive	Total	Economically	Active	Economically Inactive
		Employed	Seeking Work			Employed	Seeking Work			Employed	Seeking Work	
Total Country												
Total	3,890,964	597,905	149,299	3,143,760	1,601,915	126,811	54,508	1,420,596	2,289,049	471,094	94,791	1,723,164
Male	1,967,519	310,427	75,261	1,581,831	773,381	58,394	25,626	689,361	1,194,138	252,033	49,635	892,470
Female	1,923,445	287,478	74,038	1,561,929	828,534	68,417	28,882	731,235	1,094,911	219,061	45,156	830,694
Western												
Total	407,299	11.7	2.3	86.0	144,721	8.1	2.1	89.8	262,578	13.7	2.4	83.9
Male	206,178	11.7	2.2	86.1	70,337	7.8	2.0	90.2	135,841	13.7	2.3	84.0
Female	201,121	11.8	2.3	85.9	74,384	8.4	2.1	89.5	126,737	13.8	2.4	83.8
Central												
Total	345,753	7.3	2.4	90.3	123,896	5.4	2.6	92.0	221,857	8.4	2.4	89.3
Male	175,605	7.3	2.4	90.3	60,848	5.2	2.6	92.1	114,757	8.3	2.3	89.4
Female	170,148	7.3	2.5	90.2	63,048	5.5	2.6	91.9	10,710	8.4	2.5	89.1
Greater Accra												
Total	514,130	8.8	3.2	88.0	441,384	8.1	3.3	88.6	72,746	13.2	2.4	84.4
Male	246,146	8.5	3.0	88.5	209,346	7.5	3.1	89.3	36,800	13.7	2.4	83.9
Female	267,984	9.1	3.3	87.6	232,038	8.5	3.4	88.0	35,946	12.7	2.4	84.9
Volta												
Total	344,546	4.7	1.8	83.5	89,876	7.6	1.5	90.9	254,670	17.2	1.9	80.9
Male	175,467	15.2	1.8	83.0	43,500	7.4	1.4	91.2	131,967	17.8	1.9	80.3
Female	169,079	14.2	1.8	84.0	46,376	7.7	1.6	90.7	122,703	16.6	1.9	81.5
Eastern												
Total	448,413	9.0	2.4	88.6	149,226	4.9	1.9	93.2	299,187	11.1	2.6	86.3
Male	230,620	9.5	2.3	88.2	72,545	4.6	1.9	93.5	158,075	11.7	2.6	85.7
Female	217,793	8.5	2.4	89.1	76,681	5.1	2.0	92.9	141,112	10.3	2.6	87.1
Ashanti												
Total	756,899	11.4	4.3	84.3	369,263	9.1	5.0	86.0	387,636	13.5	3.7	82.8
Male	378,627	11.2	4.3	84.5	177,890	8.7	4.9	86.4	200,737	13.4	3.7	82.9
Female	378,272	11.5	4.4	84.1	191,373	9.4	5.0	85.6	186,899	13.7	3.7	82.6

Table 6.12 cont'd

<b>Brong Ahafo</b>												
Total	382,483	15.1	7.5	81.4	138,560	5.9	3.4	90.7	243,923	20.4	3.5	76.1
Male	194,341	15.3	3.4	81.3	67,464	5.4	3.2	91.3	126,877	20.5	7.5	76.0
Female	188,142	15.0	3.6	81.4	71,096	6.3	3.6	90.2	117,046	20.3	3.6	76.1
<b>Northern</b>												
Total	369,420	39.8	6.2	54.0	94,506	12.3	.9	83.8	274,734	49.2	7.0	43.7
Male	191,276	41.0	6.2	52.8	47,070	11.7	3.8	84.4	144,206	50.6	7.0	42.5
Female	177,964	38.5	6.3	55.2	47,436	12.9	4.0	83.1	130,528	47.8	7.1	45.1
<b>Upper East</b>												
Total	198,594	25.8	9.0	65.2	30,247	11.3	5.0	83.7	168,347	28.4	9.7	61.9
Male	104,845	26.6	9.3	64.1	14,785	11.0	5.2	83.8	90,060	29.2	10.0	60.8
Female	93,749	24.9	8.6	66.5	15,462	11.6	4.8	83.6	78,287	27.5	9.4	63.1
<b>Upper West</b>												
Total	123,607	37.7	9.4	52.9	20,236	10.3	6.2	83.5	103,371	43.1	10.0	46.9
Male	64,414	39.9	9.6	50.5	9,596	10.2	6.0	83.8	54,818	45.1	10.2	44.7
Female	59,193	35.3	9.2	55.5	10,640	10.4	6.4	83.2	48,553	40.8	9.8	49.4

Regarding the type of work these children are engaged in, Table 6.13 shows that the great majority (73.4%) of them are involved in agriculture, hunting, forestry and fishing industry followed by those in wholesale and retail trade, and restaurants business (10 %). To supplement family income, and also reduce labour cost in production, children and wards join in agriculture trade and related family enterprises. This practice is likely to adversely affect the educational attainment of these children since the time that should be used for learning and schoolwork is used for farm work or petty trading.

Across the regions, with the exception of Greater Accra, most children are involved mainly in agriculture followed by trade. In Greater Accra most working children are in wholesale/retail trade and restaurants business (38%), followed by agriculture (26%), community/personal services (13%) and manufacturing (10%). Mining and quarrying (galamsay) is an important activity for children in Ashanti (10.2%) and Greater Accra (9%).

**Table 6.13 Working Children (7-14 Years) by Industry, 2000**

Industry	All Regions	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West	Upper West
Agriculture, Hunting, Forestry & Fishing	73.4	67.9	73.8	25.9	80.3	76.6	50.7	85.4	88.9	77.7	88.1	88.1
Mining and Quarrying	3.8	6.5	3.5	9.0	2.6	3.1	10.2	1.8	0.7	1.0	0.8	0.8
Manufacturing	5.5	6.7	5.7	10.0	5.9	4.7	9.5	3.0	2.7	7.6	2.8	2.8
Electricity, Water & Gas	0.3	0.2	0.1	0.3	0.1	0.3	0.4	0.4	0.4	0.0	0.3	0.3
Construction	0.5	0.6	0.6	1.7	0.4	0.3	0.9	0.2	0.2	0.3	0.6	0.6
Wholesale & Retail Trade, Restaurants	10.4	11.6	13.1	38.0	7.0	10.3	17.9	5.2	3.9	5.7	2.6	2.6
Transport, Storage and Communication	0.4	0.2	0.3	1.7	0.2	0.3	1.3	0.2	0.0	0.2	0.1	0.1
Finance, Insurance and Real Estate	0.2	0.2	0.1	0.8	0.0	0.2	1.0	0.0	0.0	0.1	0.0	0.0
Community, Social & Personal Services	5.5	6.1	2.8	12.6	3.5	4.2	8.1	3.8	3.2	7.4	4.7	4.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Number</b>	<b>597,905</b>	<b>47,763</b>	<b>25,214</b>	<b>45,176</b>	<b>50,711</b>	<b>40,429</b>	<b>85,968</b>	<b>57,853</b>	<b>146,942</b>	<b>51,231</b>	<b>46,618</b>	<b>46,618</b>

Source: The 1960 – 2000 Population Censuses of Ghana

## 6.5 Summary and Conclusion

### Summary Findings

The chapter has attempted to look at the relationship between population growth and economic activity in Ghana for the period 1960-2000. The findings reveal that children under the age of 15 years still constitute the bulk of Ghana's population, over 40 per cent of the total population for both sexes, implying an abundance of human resources for future labour force participation. Additionally, about three in every five Ghanaians are persons in the working age group, 15-64 years and females generally lag behind males in labour force participation.

The results further show that Ashanti has consistently remained the region with the highest proportion of economically active population in the country (from 18% in 1960 to 19% in 2000). Three regions (Ashanti, Eastern and Greater Accra) account for almost 50 per cent of the

economically active population in the country. In particular, the economically active population in Greater Accra has steadily increased over the years.

The intercensal growth rate of the economically active population indicates that the rate has been highest in Greater Accra for all periods, while substantial growth rates are observed for Western, Ashanti, Brong Ahafo, and Northern.

The results also show that the economically active population increases with age between ages 15-19 years and 30-34 years before declining with advancing age. For males, the peak of economic activity has remained at the 25-29 years age group over the years while for females, the peak has shifted from age 20-24 years in 1984 to age 25-29 years in 2000. In general, the structure of the labour force has not changed much over the years.

Age-specific economic activity rates show that for both males and females, a fairly consistent pattern has been maintained over the years: a steep rise from 15-19 years age group to 20-24 years age group, and then a steady rise up to 45-49 years age group followed by a gradual decline. Female participation rates have been lower than those of males in all four censuses.

Furthermore, agriculture/hunting/forestry/fishing has remained the predominant industry over the years, as more than 50 per cent of employed persons are in this industry. There is a gradual shift of employed persons into wholesale/retail trade and restaurant business (from 14 per cent in 1970 to 18 per cent in 2000), especially for females. Agriculture/hunting/forestry/fishing, manufacturing, and wholesale/retail trade and restaurant business account for 81 per cent of employed persons in the country.

Although a large proportion of employed persons has been in agriculture-related occupations over the years, the proportion has fallen from 61 per cent in 1960 to 49 per cent in 2000. On the other hand, although a very small proportion of employed persons is in the professional/technical/administrative/managerial, clerical and related jobs, the proportion has experienced a steady increase over the years.

In general, more than 50 per cent of all employed persons are self-employed, followed by the employees (about 15%). There has been a consistent increase in the proportion of the self-employed during the period under review, from 60 per cent in 1960 to 74 per cent in 2000 and the proportion is higher for females. Overall, the proportion of unemployed persons remained fairly stable at about 6 per cent between 1960 and 1970, dropped to 3 per cent in 1984, and then increased to 10 per cent in 2000.

The results generally support previous findings that about 90 per cent of the economically active population in all regions have been in employment. These high employment figures are commendable but mask the high underemployment situation in the country. The employment situation was good in 1970 and 1984 when over 90 per cent of the economically active population in all regions were employed. Brong Ahafo and Volta now have the highest proportion of employed persons (93%), while Upper East (80%) and Upper West (85%) have the lowest. Upper East has the highest proportion of unemployment (20% for both males and females), followed by Upper West (15% for both males and females) while Brong Ahafo has the lowest proportion (7% for both males, and females). The rate of unemployment has been

relatively higher for females than males at the 15-24 age group over the years, while it has been higher for males at ages 25 and older. About 15 per cent of Ghanaian children are engaged in gainful work, largely in agriculture/ hunting/forestry/fishing (73%), and in wholesale/retail trade and restaurants business (10%).

## **Conclusion**

The findings in this chapter are consistent with the results of other studies on economic activity in the country (Ghana Statistical Service, 1995a). Considering the fact that Ghana's population is young and that population size continues to be the main determinant of labour force growth, the relatively young age structure of the country's population has important social and economic consequences for manpower supply and level of participation in economic activity. Job creation has not kept pace with population growth, resulting in, among other things, unemployment, underemployment, child labour, street children, social ills, and poverty. The current policies and programmes being pursued to arrest the rapid population growth and create more jobs should be intensified as they are likely to improve the living conditions of the people.

Although the participation rates of females in economic activity increased during the period under review, most of these women are engaged in agriculture and related occupations, in wholesale/retail trade and restaurant businesses. With more investments in girl-child education and training of women, female participation in economic activity is likely to improve in the coming years.

The minimum age for admission to employment in Ghana is 15 years and even though there has been significant progress in the campaign against the phenomenon of child employment, it continues to thrive. Child employment is likely to negatively affect education, health and development of children. Child labour (when child work impacts negatively on child development) is a tragedy when children are made to work under difficult and dangerous conditions. Consequently, the abolition of child labour and more generally the protection of children and young persons against work of a character or under conditions unsuitable to their age should be the constant concern of the government and concerned people of Ghana.

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## **CHAPTER 7: POPULATION DISTRIBUTION, INTERNAL MIGRATION AND URBANIZATION**

### **7.1 Introduction**

Population distribution and redistribution are dynamic processes that take place through natural growth, migration and urbanization. The movement of people into and out of specific geographic locations within a country are shaped by a variety of factors: population size, system of governance, social structure, available land, climate, vegetation, size and character of the economy, and level of technology.

This chapter traces the growth and distribution of the population of Ghana between 1960 and 2000. It describes the characteristics, trends and regional differentials, determinants of internal migration and urbanization, using data from the 2000 Census and other sources. The report examines distribution of total population by nationality and sex, population trends by region as well as changes in density between 1960 and 2000. It also examines the processes of population redistribution, in particular inter-regional migration and rural urban migration, the process of urbanization, its magnitude, determinants and effects on development. The report finally examines the policy implication of current trends in population distribution and redistribution on national development.

### **7.2 Data Sources and Quality**

The ideal data source for the study of population distribution and redistribution is the population register, which is a comprehensive collection of information about the characteristics of each person and his/her movement across well defined geographic locations, from birth to death. Countries, such as Ghana, that lack such registers rely on decennial censuses and multi-round population surveys as sources of information on population distribution and redistribution. By their very nature, however, censuses provide very limited information on migration. They can only include a few questions on migration, and this makes it difficult to undertake a detailed investigation of specific spatial distribution policy issues.

For example, the 2000 Census only asked questions on place of birth, place of usual residence and place of residence five years ago. Reasons for change in place and locality of residence were not solicited, but such information is essential for in-depth analysis of migration decisions and for possible migration-related policy interventions. Such data are much more likely to come from surveys. In 1992/1993, Ghana Statistical Service carried out a more detailed research study of migration in Ghana (GSS, 1995a). Unfortunately, there has not been a follow-up study since then to provide more current migration data. The major sources of data for this chapter are the 1960, 1970, 1984, and the 2000 censuses of Ghana. Other materials used in the discussion include the 1998 Ghana Demographic and Health Survey .

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Dr Chuks Mba contributed this chapter.

### 7.3 Population Trends, Density and Growth

The 2000 Census puts the total population of Ghana at 18.9 million. Table 7.1 shows the regional distribution of the total population as well as the Ghanaian population. The most populous regions are Ashanti (19.1%), Greater Accra (15.5%), Eastern (11.1%) and Western (10.2%), together these four regions account for about 56 per cent of the total population. They also represent the more developed parts of the country and contain the bulk of industrial activity. The least populous regions are the Upper East (4.9%) and Upper West (3.0%). About 92 per cent of the total population are Ghanaians by birth, with an additional 4 per cent naturalized Ghanaian and another 4 per cent as non-Ghanaians. The regional distribution of naturalized Ghanaians follows the pattern for the general population, with Ashanti, Greater-Accra, Eastern and Western containing about 60 per cent of naturalized Ghanaians. It is worth noting that while females make up about 51 per cent of Ghanaians by birth, only 40 per cent of naturalized Ghanaians are female. This probably reflects male selectivity among immigrants who choose to naturalize.

**Table 7.1 Ghanaian Population, Ghanaians by Birth and Ghanaians by Naturalization, by Region and Sex.**

Region	Ghanaians and Non Ghanaians			Ghanaian by birth			Ghanaian by naturalization		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
	100.0	49.5	50.5	100.0	48.7	51.3	100.0	60.5	39.5
Western	10.2	10.5	9.9	10.2	10.4	9.9	10.8	11.7	9.5
Central	8.4	8.1	8.7	8.5	8.2	8.7	9.5	8.9	10.5
Greater Accra	15.5	15.3	15.4	15.4	15.4	15.3	14.7	13.9	15.9
Volta	8.6	8.5	8.8	8.8	8.6	8.9	5.6	5.3	6.0
Eastern	11.1	11.1	11.2	11.4	11.3	11.4	10.5	10.3	10.7
Ashanti	19.1	19.4	18.8	18.0	18.2	18.0	25.2	24.6	26.1
Brong Ahafo	9.6	9.7	9.5	9.8	10.0	9.6	8.4	8.4	8.4
Northern	9.6	9.7	9.6	9.9	10.1	9.9	6.4	7.2	5.1
Upper East	4.9	4.7	5.0	4.9	4.7	5.1	6.6	7.3	5.6
Upper West	3.0	3.0	3.1	3.1	3.1	3.2	2.3	2.4	2.2
All Regions	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	18,912,079	9,357,382	9,554,697	17,436,592	8,499,602	8,936,990	735,296	445,114	290,182

#### **Current Distribution of the Non-Ghanaian Population**

According to the 2000 Census, there are 740,191 non-Ghanaians in the country, representing fewer than 4 per cent of the total population. Table 7.2 shows that 59 per cent come from other ECOWAS countries, 23 per cent are from non-ECOWAS African countries and 18 per cent from outside Africa. The majority (56%) of the non-Ghanaian population are males. Roughly the same sex-difference is observed among other-ECOWAS and non-ECOWAS nationals, a reflection of male migrant selectivity.

The bulk of the non-Ghanaian population is concentrated in two regions, Ashanti (36.8%) and Greater Accra (15.9%), probably reflecting the fact that these two regions are the most industrialized. ECOWAS nationals are concentrated in Ashanti (30.5%), Greater Accra (15.7%) and the Volta (12.4%). The large proportion of ECOWAS nationals in the Volta could probably

be attributed to Aflao being the entry point for immigrants from Togo, Benin and Nigeria. That Ashanti attracts nearly a third of immigrants from the ECOWAS subregion is not surprising, because of its proximity to Cote d'Ivoire, Bukina Faso and Togo who would most likely travel by road. What is rather difficult to explain is the fact that Ashanti also provides a home to 44.4 per cent of African nationals outside the ECOWAS and to 47.9 per cent of non-Africans who would most likely travel by air. Perhaps, these non-Ghanaians are employees of NGOs, missionaries and investors in the mining towns in the regions.

**Table 7. 2: Non-Ghanaian Population by Region and Sex, and Origin, 2000**

Characteristics	Non-Ghanaians			ECOWAS			African, non ECOWAS			Non African		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
<b>Total</b>	<b>100.0</b>	<b>55.8</b>	<b>44.2</b>	<b>100.0</b>	<b>54.6</b>	<b>45.4</b>	<b>100.0</b>	<b>57.3</b>	<b>42.7</b>	<b>100.0</b>	<b>57.5</b>	<b>42.5</b>
<b>Western</b>	9.6	9.9	9.1	7.8	8.0	7.5	13.4	13.7	13.0	10.5	10.9	10.0
<b>Central</b>	6.6	6.0	7.3	8.4	7.8	9.1	4.1	3.8	4.6	4.1	3.8	4.6
<b>Greater Accra</b>	15.9	15.7	16.2	15.7	15.6	15.8	14.9	14.6	15.4	18.0	17.6	18.6
<b>Volta</b>	9.3	8.7	9.9	12.4	11.8	13.0	5.6	5.2	6.2	3.7	3.5	4.0
<b>Eastern</b>	6.6	6.6	6.7	7.9	8.0	7.8	5.1	4.9	5.4	4.4	4.2	4.6
<b>Ashanti</b>	36.8	38.9	34.4	30.5	32.1	28.5	44.4	46.5	41.4	47.9	49.2	45.9
<b>Brong Ahafo</b>	6.5	6.5	6.6	8.1	8.2	8.0	4.9	4.8	5.0	3.5	3.4	3.6
<b>Northern</b>	4.5	4.2	4.9	5.6	5.3	6.0	2.9	2.7	3.1	2.8	2.7	3.0
<b>Upper East</b>	2.7	2.2	3.2	2.1	1.8	2.6	3.8	3.0	4.8	3.0	2.7	3.4
<b>Upper West</b>	1.5	1.3	1.7	1.5	1.4	1.7	0.9	0.8	1.1	2.1	2.0	2.3
All Regions	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>N</b>	<b>740,191</b>	<b>412,666</b>	<b>327,525</b>	<b>436,278</b>	<b>238,267</b>	<b>198,011</b>	<b>169,982</b>	<b>97,431</b>	<b>72,551</b>	<b>133,931</b>	<b>76,968</b>	<b>56,963</b>

### **Population Distribution by Age and Sex**

Table 7.3 shows the age distribution of the population by region and sex. Ghana has a relatively young age structure, with about 41 per cent of the population below the age of 15 years, and a dependency ratio of about 87 per cent. In general, the pattern of the age distribution is similar in all regions although some regions exhibit a much older age structure than others. In particular, Greater Accra has the smallest proportion (33.1%) of the population below age 15, the highest proportion of working age group (63%) and the lowest dependency ratio (58.7%). In contrast, Northern has the highest proportion of people below age 15 (46.2%), the lowest proportion of adult working population, (49.2%) and the highest dependency ratio (103.2%).

Over the last thirty years, two major factors have substantially modified the regional population. The relatively young age structure of the Ghanaian population with its high dependency ratio is a source of worry. In particular, the population momentum inherent in such a structure may have serious implications for future population growth and size as well as the effect on economic development. Without substantial increase in economic growth, the country may not be able to meet the cost of investment in housing, schools, hospitals as well as food production required to meet the needs of a rapidly expanding population. The consequences of such a development in

terms of crime and social disorder may have a negative impact on the country's attractiveness to investors.

**Table 7.3 Population by Region, Age and Sex**

Table 7.5 Population by Region, Age and Sex						
	Age Group					Dependency Ratio
Region	0-4	5-14	<15	15-64	65+	
<b>Both Sex</b>						
<b>All Regions</b>	<b>14.6</b>	<b>26.6</b>	<b>41.3</b>	<b>53.4</b>	<b>5.3</b>	<b>87.1</b>
Western	15.1	27.3	42.4	53.1	4.5	88.3
Central	15.3	28.0	43.2	51.0	5.7	95.9
Greater Accra	11.0	22.1	33.1	63.0	3.9	58.7
Volta	13.9	27.2	41.1	52.3	6.6	91.0
Eastern	14.5	27.2	41.7	52.5	5.8	90.5
Ashanti	15.3	26.7	42.0	51.9	6.1	92.6
Brong Ahafo	15.7	27.4	43.1	52.5	4.5	90.5
Northern	18.0	28.3	46.2	49.2	4.5	103.2
Upper East	14.7	28.7	43.4	50.2	6.4	99.2
Upper West	14.8	28.6	43.4	50.5	6.1	98.2
<b>Male</b>						
<b>All Regions</b>	<b>14.7</b>	<b>27.2</b>	<b>41.9</b>	<b>52.8</b>	<b>5.3</b>	<b>89.5</b>
Western	14.9	27.1	42.0	53.2	4.7	87.8
Central	15.9	29.7	45.5	49.6	4.9	101.7
Greater Accra	11.0	21.5	32.6	63.6	3.9	57.3
Volta	14.2	28.5	42.7	51.4	5.8	94.5
Eastern	14.7	28.4	43.1	51.8	5.2	93.2
Ashanti	15.3	26.6	42.0	51.1	7.0	95.8
Brong Ahafo	15.5	27.6	43.1	52.4	4.5	90.8
Northern	17.7	29.0	46.7	48.5	4.8	106.3
Upper East	15.1	31.2	46.3	46.8	6.9	113.7
Upper West	15.3	30.8	46.2	47.4	6.4	110.8
<b>Female</b>						
<b>All Regions</b>	<b>14.5</b>	<b>26.1</b>	<b>40.7</b>	<b>54.1</b>	<b>5.2</b>	<b>84.9</b>
Western	15.3	27.4	42.8	53.0	4.2	88.8
Central	14.7	26.4	41.2	52.4	6.5	90.9
Greater Accra	10.9	22.6	33.5	62.5	4.0	60.1
Volta	13.6	25.9	39.5	53.2	7.3	87.9
Eastern	14.3	26.2	40.4	53.2	6.3	87.9
Ashanti	15.2	26.8	42.0	52.8	5.2	89.4
Brong Ahafo	15.9	27.2	43.0	52.5	4.4	90.3
Northern	18.3	27.5	45.8	50.0	4.2	100.1
Upper East	14.2	26.4	40.6	53.3	6.0	87.5
Upper West	14.4	26.5	40.8	53.2	5.9	87.8

Although older people (persons aged 65+) constitute 5.3 per cent of the total population at the national level, substantial differences exist at the regional level, ranging from 3.9 per cent in Greater Accra to 6.6 per cent in Volta. The possible reason for the lower figure in Greater Accra is that after retirement and with advancing age, many of the elderly persons go back to their places of origin to escape the high cost of living in Greater Accra and to prepare for life in retirement. The indication is that both the proportion and number of older people are increasing

in Ghana, as is the case in a number of African countries, due to increases in life expectancy. The proportion of elderly persons in Ghana has consistently increased from 2.8 per cent in 1960, 3.1 per cent in 1970 and 3.2 per cent in 1984 to the 5.3 per cent in 2000. Consequently, the phenomenon of population ageing should be given attention in development programmes and should not be viewed as only pertaining to the developed world.

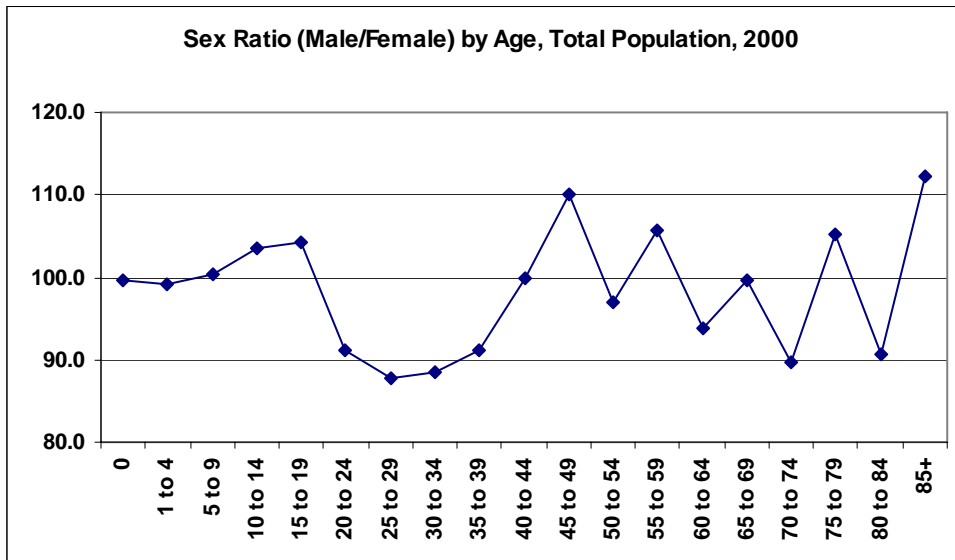
Generally in most countries, the expected sex ratio (number of males per 100 females) lies in the region of 103-106 at birth, meaning that there are more male than female births. Given that more males than females die at every age, the sex ratio declines gradually with age. Deviations in this pattern may be introduced by migration or unfortunate disasters that may affect one sex against the other. Table 7.4 shows the age-specific sex-ratio of the population of Ghana by region. There are obvious distortions due to age misreporting as well as deficits in specific age groups that may be attributed to selective migration by age and sex. It is difficult to distinguish which of these is the dominant influence in the observed patterns. Gross age over- and under-statement by the different sexes leads to a wide variety of regional pattern.

**Table 7.4 Sex Ratio (Male/Female) by Age, and Region, 2000**

Age	Total	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
<b>0</b>	99.6	101.2	98.8	100.6	98.0	100.3	102.2	98.9	94.5	100.3	95.3
<b>1-4</b>	99.2	100.2	98.0	98.3	98.1	99.5	102.6	98.3	96.6	98.4	98.8
<b>5-9</b>	100.4	100.6	99.8	96.3	99.6	102.2	101.7	100.4	99.2	104.5	104.1
<b>10-14</b>	103.6	104.2	105.4	89.7	107.3	108.3	99.3	104.9	113.7	116.6	112.2
<b>15-19</b>	104.2	107.2	105.7	90.0	110.7	109.6	98.1	109.2	120.6	109.9	109.5
<b>20-24</b>	91.1	90.4	80.3	100.3	90.5	87.8	89.9	94.3	91.2	82.0	83.3
<b>25-29</b>	87.8	92.2	80.2	98.4	83.2	85.3	89.5	89.7	81.1	73.4	72.3
<b>30-34</b>	88.5	98.1	79.0	99.1	82.2	87.2	92.6	92.7	77.4	68.0	69.1
<b>35-39</b>	91.1	105.1	79.6	97.8	83.2	88.7	94.3	96.1	88.6	71.9	73.6
<b>40-44</b>	99.9	118.2	89.5	103.9	89.1	96.7	105.5	108.9	99.7	76.7	79.6
<b>45-49</b>	110.0	130.7	94.7	112.1	93.1	104.0	121.5	120.6	121.8	85.3	86.5
<b>50-54</b>	97.1	111.6	80.5	107.1	86.6	93.9	106.6	105.8	100.6	73.2	73.9
<b>55-59</b>	105.7	126.6	85.9	111.4	88.6	98.3	127.6	110.5	110.2	86.0	80.8
<b>60-64</b>	93.8	111.1	75.3	108.1	78.3	90.6	107.9	100.1	99.0	72.5	74.6
<b>65-69</b>	99.6	116.0	76.5	101.6	77.9	89.4	127.2	111.5	108.0	91.8	81.0
<b>70-74</b>	89.8	102.0	65.7	88.9	71.8	79.3	101.7	98.2	108.9	101.1	100.8
<b>75-79</b>	105.3	123.4	70.6	91.4	78.5	83.2	141.8	115.3	132.7	131.8	107.5
<b>80-84</b>	90.6	101.2	61.0	85.8	69.3	69.4	122.9	90.1	104.6	99.5	104.2
<b>85+</b>	112.2	130.2	69.4	98.8	77.9	70.6	179.4	97.3	119.1	120.7	120.3

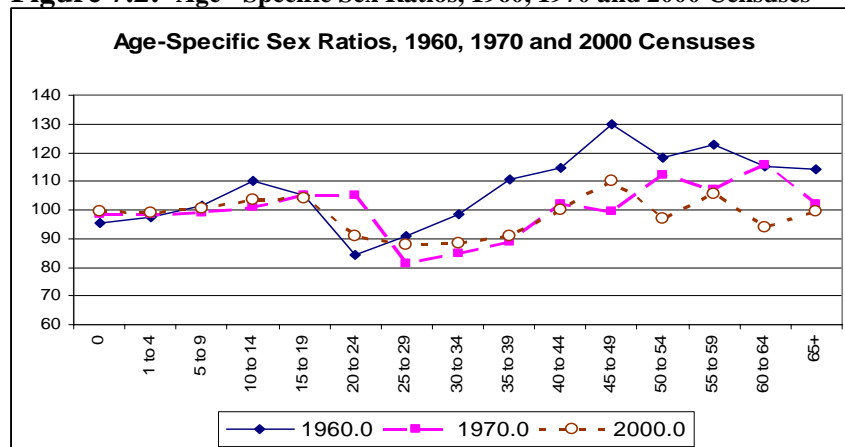
The national data show a general deficit of males between age 20 and 44 and fluctuation in the pattern thereafter (Fig 7.1). The deep trough in the 20-44 age group could be the result of younger men over-stating their ages, older women under-stating their ages, or more males than females emigrating.

**Figure 7.1**



A comparison of the 2000 data with data from the 1960 and 1970 censuses shows some similarities in age-specific sex-ratio pattern for 1970 and 2000 (Fig 7.2). In each case, there is an age apparent male deficit in the 20-44 age group, an indication that age selective emigration may no more likely be the reason for the drop. Indeed, the relative reduction of male excess from, 1960 to 1970 may be attributed to the exodus of aliens, most of whom were males, as a consequence of the 1969 Aliens Compliance Order.

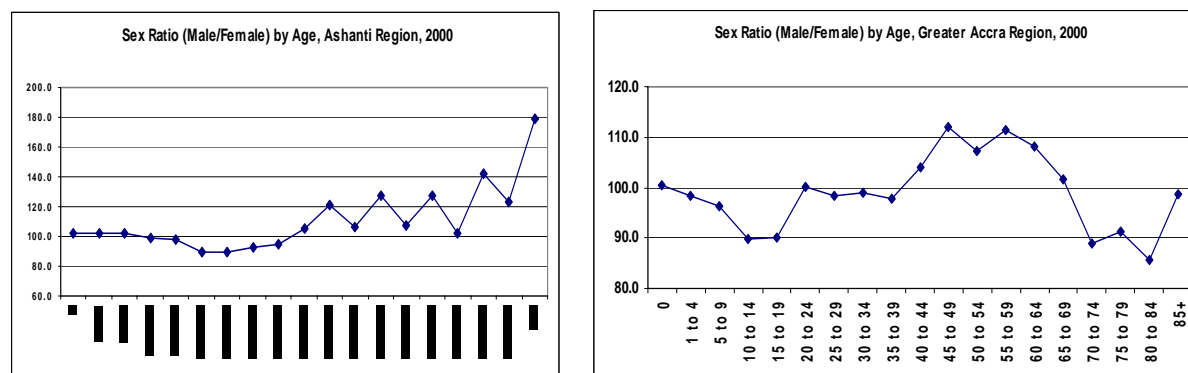
**Figure 7.2: Age - Specific Sex Ratios, 1960, 1970 and 2000 Censuses**



The pattern of age-specific sex-ratios varies from region to region. Western, Greater Accra, Ashanti, Brong Ahafo and the Northern demonstrate a relative male-excess beyond age 40 years,

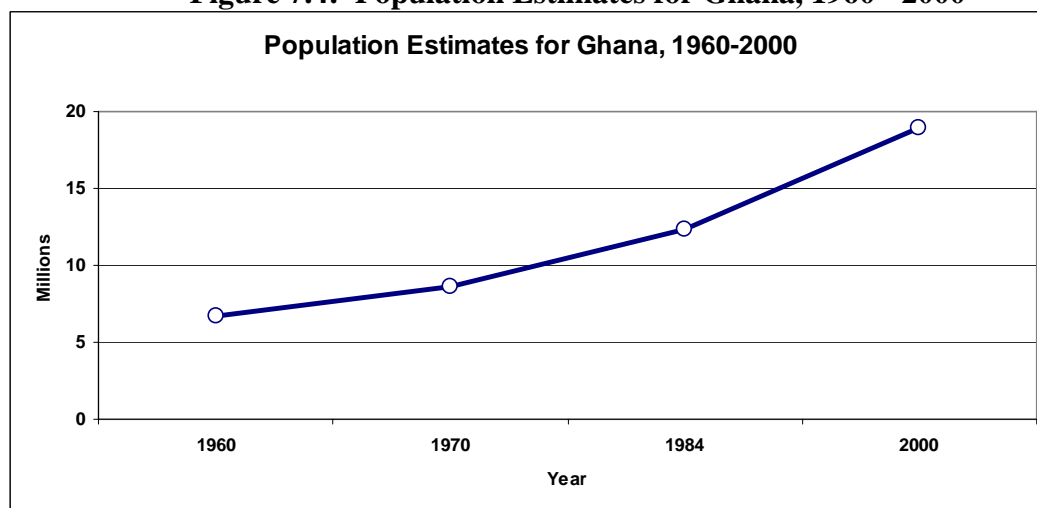
while Upper East and Upper West show a huge male deficit between ages 20 and 60. This may reflect the migration of males to the central and southern parts of the country in search of opportunities. While age-misreporting may explain part of this variation, it is highly unlikely to account for all the male excess. Greater Accra, in addition, shows a marked variation from the national pattern of sex ratios with a more than expected male deficit at ages 10-19 and at 70 years and older (Fig 7.3). These deviations may more likely be the result of relatively higher male than female mortality.

**Figure 7.3: Sex Ratio (Male/Female) by Age, 2000**



As in other parts of Africa, the population of Ghana has been increasing rapidly over the past several decades. From the available censuses, Ghana's population has increased from 6.7 million in 1960, 8.6 million in 1970 and 12.3 million in 1984 to 18.9 million in 2000 (Fig 7.4).

**Figure 7.4: Population Estimates for Ghana, 1960 - 2000**



This corresponds to an annual rate of increase of 4.7 (1960-1970), 3.3 (1970-1984) and 4.6 (1984-2000). The factors that influence the distribution of the population, natural growth, internal migration and urbanization, have been major sources of concern for decades (Cleveland, 1991; Ghana Statistical Service 1995a, 1995b, 2002). The overall rapid rate of population

growth in Ghana, however, conceals substantial regional disparities in spatial spread. There are parts of Ghana that are densely populated and others that are virtually uninhabited. The use of crude measures of density, such as arithmetic population density (population per unit area), fails to distinguish between arable and non-arable land and, therefore, may give the erroneous impression of large expanse of land waiting to be filled. True measures of distribution must incorporate a factor of productivity and environmental sustainability.

The population growth has not taken place uniformly throughout the country. The three most populous regions are Ashanti, (19.1%), Greater Accra (15.5%) and Eastern (11.1%). Together, they constitute about 46 per cent of the total population in 2000 (Table 7.5). The least populous regions are Upper West (3.0%) and Upper East (4.9%), accounting for just about 8 per cent of the total population in 2000. While Upper East and Upper West have remained the least populous and Ashanti and Eastern have remained among the three most populous since 1960, Greater Accra has increased in size over the period such that it has moved from the seventh in 1960 to fourth in 1970, third in 1984 and second in 2000.

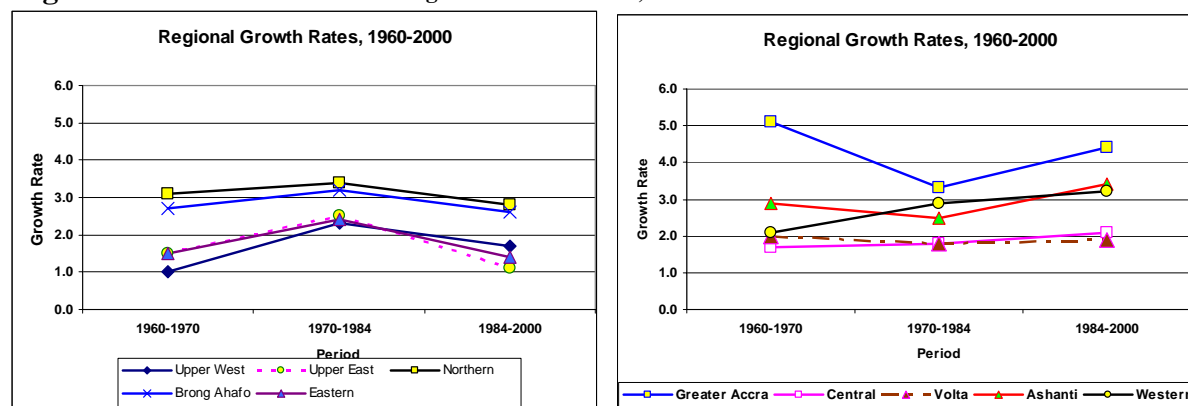
**Table 7.5 Regional Population Trends and Growth Rates, 1960- 2000**

Region	Population Size				Growth Rate		
	1960	1970	1984	2000	1960-1970	1970-1984	1984-2000
<b>All Regions</b>	6,726,815	8,559,313	12,296,081	18,912,079	2.4	2.6	2.7
<b>Western</b>	626,155	770,087	1,157,807	1,924,577	2.1	2.9	3.2
<b>Central</b>	751,392	890,135	1,142,335	1,593,823	1.7	1.8	2.1
<b>Greater Accra</b>	541,933	903,447	1,431,099	2,905,726	5.1	3.3	4.4
<b>Volta</b>	777,285	947,268	1,211,907	1,635,421	2.0	1.8	1.9
<b>Eastern</b>	1,044,080	1,209,828	1,680,890	2,106,696	1.5	2.4	1.4
<b>Ashanti</b>	1,109,133	1,481,698	2,090,100	3,612,950	2.9	2.5	3.4
<b>Brong Ahafo</b>	587,920	766,509	1,206,608	1,815,408	2.7	3.2	2.6
<b>Northern</b>	531,573	727,618	1,164,583	1,820,806	3.1	3.4	2.8
<b>Upper East</b>	468,638	542,858	772,744	920,089	1.5	2.5	1.1
<b>Upper West</b>	288,706	319,865	438,008	576,583	1.0	2.3	1.7

There is considerable variation in the growth trajectories between the regions and Figure 7.5 presents the growth trajectories for each region. Three broad trends can be distinguished. The first trend is characterized by mild to moderate growth between 1960-1970 and 1970-1984 and a decline in the rate of growth between 1970-1984 and 1984-2000. The regions exhibiting this pattern are Eastern, Brong Ahafo, Northern, Upper East and Upper West.

The second trend is characterized by relatively little change in rate between 1960-1970 and 1970-1984; and between 1970-1984 and 1984-2000. The regions exhibiting this pattern are Central and Volta. A variant of this is Western that exhibits a trend similar to the first group between 1960-1970 and 1970-1984 but that of the second group between 1970-1984 and 1984-2000. The third distinct pattern of growth is characterized by substantial decline in growth between 1960-1970 and 1970-1984 and substantial increase between 1970-1984 and 1984-2000. The regions showing this pattern are Ashanti (from 2.5 to 3.4 per cent) and Greater Accra (from 3.0 to 4.4 per cent). These regional differences are due to differences in natural growth (births minus deaths) as well as migration patterns.

**Figure 7.5: Regional Growth Rates, 1960 - 2000**



Over the last 30 years, two major factors have substantially modified the regional population distribution. The first is the general movement of people from the rural to the urban areas, which is partly responsible for the accelerated growth of Accra and Kumasi metropolis, as well as many other smaller urban areas. The second is the major population movement from the north to the south of the country, which has resulted in a relative decline in the population of the northern regions to the advantage of the mid-forest and southern region.

### **Regional Population Density**

The estimates of population density for Ghana has increased from 28 inhabitants per square kilometre (km<sup>2</sup>) in 1960, to 36 (1970), 52 (1984) and 79 in 2000, reflecting the substantial increases in the population over the period (Table 7.6).

**Table 7.6: Population Density by Region, 1960-2000**

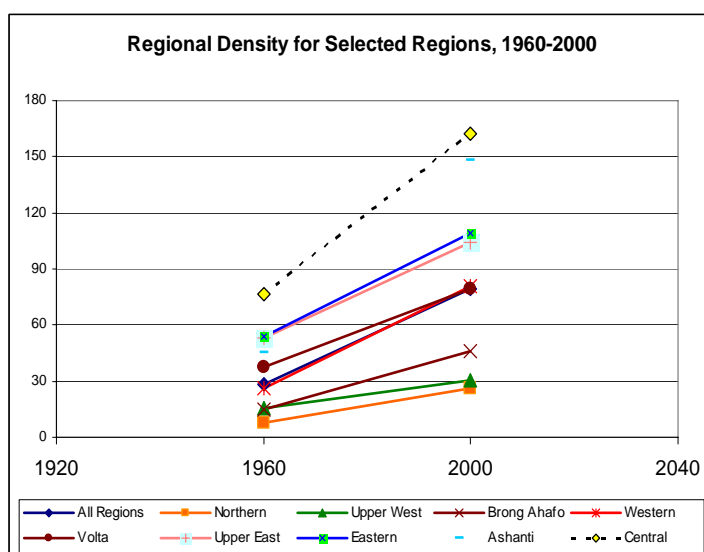
Region	Area (sq. km)	D e n s i t y				Rate of Change (1960 - 2000)	Absolute Change
		1960	1970	1984	2000		
All Region	238,533	28.2	35.9	51.6	79.3	181.1	51.1
Western	23,921	26.2	32.2	48.4	80.5	207.3	54.3
Central	9,826	76.5	90.6	116.3	162.2	112.1	85.7
Greater Accra	3,245	167.0	278.4	441.0	895.4	436.2	728.4
Volta	20,570	37.8	46.0	58.9	79.5	110.4	41.7
Eastern	19,323	54.0	62.6	87.0	109.0	101.8	55.0
Ashanti	24,570	45.5	60.8	85.7	148.1	225.7	102.6
Brong Ahafo	39,557	14.9	19.4	30.5	45.9	208.8	31.0
Northern	70,348	7.6	10.3	16.6	25.9	242.6	18.3
Upper East	8,842	53.0	61.4	87.4	104.1	96.3	51.1
Upper West	18,876	15.3	17.0	23.2	30.6	99.8	15.3

The historical rates of regional population growth and redistribution have created varied regional population densities. As seen from Table 7.6, the regional population densities in 2000 ranged from 26 to 895 persons per square kilometre. The most sparsely populated region (Northern), increased in density from 7.6 to 25.9 persons per square kilometre, while the most densely populated region (Greater Accra) increased in density from 167.0 to 895.4 persons between 1960

and 2000. The highest percentage increase in density between 1960 and 2000 occurred in Greater Accra (436.2%), followed by Northern (242.6%), Ashanti (225.7%), Brong Ahafo (208.8%) and Western (207.3%) while Upper East (96.3%) and Upper West (99.8%) recorded the lowest increases in density over the period.

Figure 7.6 illustrates the trend in regional population density over the four decades between 1960 and 2000. Greater Accra (728.4), Ashanti (102.6) and Central (85.7) recorded phenomenal increases in absolute density, while Northern, (18.3) Upper West (15.3) and Brong Ahafo (31.0) gained only modest increases. The low density of Northern and Upper West may be due to the harsh and unfavourable environment, lack of infrastructural facilities and the problem associated with the tsetse fly and onchocerciasis menace.

**Figure 7.6**



## 7.4 Population Redistribution

### Pattern and Trends in Internal Migration

Generally, migration may be defined as the movement of people in space, often involving a change in the usual place of residence. A migrant is, therefore, a person whose current usual place of residence is different from his/her place of birth or previous place of residence. The study of migration is important for two reasons. First, migrants tend to contribute directly to population decrease in the source areas or increase in the destination areas. Second, migration exhibits sex- and age-selectivity. Hence, migration selectivity in terms of productive capacity, age and sex composition can have significant demographic, social and economic impact on both the source and destination areas.

Migration is difficult to measure because it is not a single event but one that is typically continuous and often repetitive. It is very difficult to establish permanency, for the exact timing or direction of subsequent moves cannot be known. The three key questions necessary for exploring internal migration: what movements take place in spatial terms (intra-regional and

inter-regional migration), who are involved in population movements and why these movements take place, unfortunately, are not covered in censuses. Using the census information regarding usual place of residence five years before the census and current residence, however, an attempt is made to discuss these migration issues.

Internal migration may be defined as the movement of people between geographical boundaries within national borders. Such migration may be seasonal, repetitive or long-term. Four main types of internal population mobility may be distinguished in Ghana: rural-rural, rural-urban, urban-rural and urban-urban. Internal migration can also be analyzed in terms of intra and inter region.

Intra-regional migration refers to population movement between localities within an administrative region, while inter-regional migration describes the movement of people between different regions of the country. These can be assessed on the basis of information on place of birth classified by place of usual residence, or place of residence five years ago or current place of residence. People migrate either within or from one region to another for a variety of reasons. The most common reasons are economic, family reunification, or educational opportunities. In Ghana, the ten regions are at varying levels of socio-economic development, with considerable differences in the distribution of educational and vocational institutions, large scale industrial, manufacturing, commercial and construction concerns, and availability of productive land. Additionally, the concentration of governmental and non-governmental institutions in the more prosperous regions have exacerbated the scale and direction of out-migration.

Table 7.7 indicates that for the country as a whole, intra-regional migration has declined from 19 per cent in 1960 to 10 per cent in 2000; the decline is reflected in all regions. This decline may reflect a spirit of adventure in that once a decision has been taken to migrate, the desire may be to explore the unknown and therefore a decision to move to another region rather than another locality within the same region. The Table also shows that in addition to Greater Accra, which has consistently been the highest recipient of migrants from other regions, Western, Brong Ahafo and Ashanti have received relatively high proportions of inter-regional migrants compared with other regions. There appears to have been significant declines in both intra and inter regional migration between 1960 and 2000.

**Table 7.7: Trends in Internal Migration by Type and Region**

Region	Intra-regional migrants				Inter-regional migrants			
	1960	1970	1984	2000	1960	1970	1984	2000
All Region	18.9	20.6	19.8	9.9	17.6	21.4	19.3	17.5
Western	26.3*	21.3	17.0	9.2	9.4*	28.8	28.7	26.1
Central	-	20.7	19.2	13.4	-	12.8	11.8	11.8
Greater Accra	7.0	5.2	8.0	6.0	35.8	46.6	36.3	36.9
Volta	21.9	25.4	25.6	13.9	6.0	7.9	5.6	6.7
Eastern	29.8	30.4	25.4	15.1	15.8	17.7	17.0	14.9
Ashanti	21.4	23.0	19.8	11.3	20.3	20.2	16.4	15.7
Brong Ahafo	14.0	18.9	17.6	7.1	20.6	25.4	24.7	20.2
Northern	24.6+	24.9	28.7	8.3	2.7+	9.5	8.6	6.0
Upper East	-	23.1^	19.6	2.4	-	4.5^	5.3	5.4
Upper West	-	-	24.0	10.0	-	-	6.3	5.8

Source: 1960-2000 Ghana Population Censuses

Note: \* includes Central

+ includes Upper East and Upper West

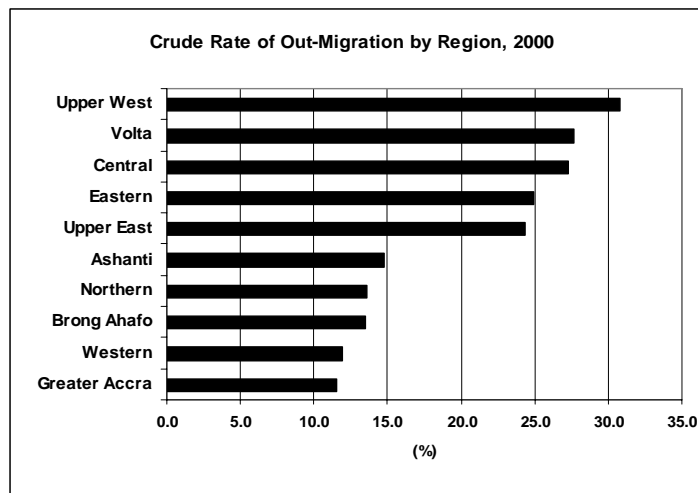
^ includes Upper West

In general, internal migration has moved from equal weight being given to both intra and inter-regional migration in the earlier years (1960-1984) to greater weight given to inter-regional as against intra-regional in 2000. For Western, Greater Accra and Brong Ahafo, inter-regional migration is about thrice that of intra-migration, while in other regions there is not much difference between the two types. The possible reason for this trend in inter-regional migration is the differential in development infrastructure and standard of living across regions.

Figure 7.7 displays the crude rates of out-migration by region. The rate of out-migration refers to the proportion of Ghanaian by birth born in that region who currently or usually reside in other regions, while the rate of in-migration is the proportion of residents of a region who were borne in other regions besides the one they live in. The Figure indicates that five regions are relatively large sending areas, in the sense that about a fourth of the population of these regions live in other regions: Upper West (31%), Volta (28%), Central (27%), Eastern (25%) and Upper East (24%), while the remaining five regions have less than 15 per cent living in other regions.

On the other hand, Greater Accra (41.3%), Western (29.3), Brong Ahafo(21.8%) and Ashanti (20.1%) appear to be the most likely destination areas for migrants. It is interesting to note that these are among the regions with low proportions of the native born living in other regions. Northern is also interesting, because it has one of the low proportions of native born living in other regions in addition to having very low proportion of usual residents born outside the region, which somehow makes it a closed region.

**Figure 7.7: Crude Rate of Out-Migration by region, 2000**



Ghanaians born outside the country constitute only about one per cent of the total population. A majority was born in ECOWAS countries, and contribute just about 0.6 per cent to the total Ghanaian population. Those born in non-ECOWAS African countries contribute less than 0.3 per cent to the total population, while those born in non-African countries contribute less than 0.2 per cent to the total population of Ghana.

Table 7.8 shows that Ghanaian nationals born outside the country currently reside in Ashanti and Greater Accra mainly. These are the most developed regions and should be attractive for Ghanaians who relocate, but it could also mean that most such Ghanaians may have parents who reside in these regions and therefore these would be their natural places to relocate to.

**Table 7.8 Ghanaians Born Outside Ghana by Region of Current Residence**

Current Region of Residence	Place of Birth		
	ECOWAS States	African Non ECOWAS	Outside Africa
Western	10.5	8.6	7.7
Central	10.6	2.4	8.1
Greater Accra	18.3	11.9	24.2
Volta	16.9	4.6	3.0
Eastern	6.4	5.1	7.7
Ashanti	21.7	59.1	37.6
Brong Ahafo	5.0	4.1	6.2
Northern	5.4	1.8	4.0
Upper East	3.1	2.0	0.9
Upper West	2.1	0.9	0.6
Total	100.0	100.0	100.0
N	101,098	43,678	33,834

The net migration rate, which is the net effect of in-migration and out-migration across regions, shows that the greatest net increase of 310 per 1000 population through migration is in Greater Accra, while the net loss of 332 per 1000 population is recorded for Upper West (Table 7.9).

**Table 7.9: In-migration, Out-migration, Net migration of Ghanaian by birth by Region**

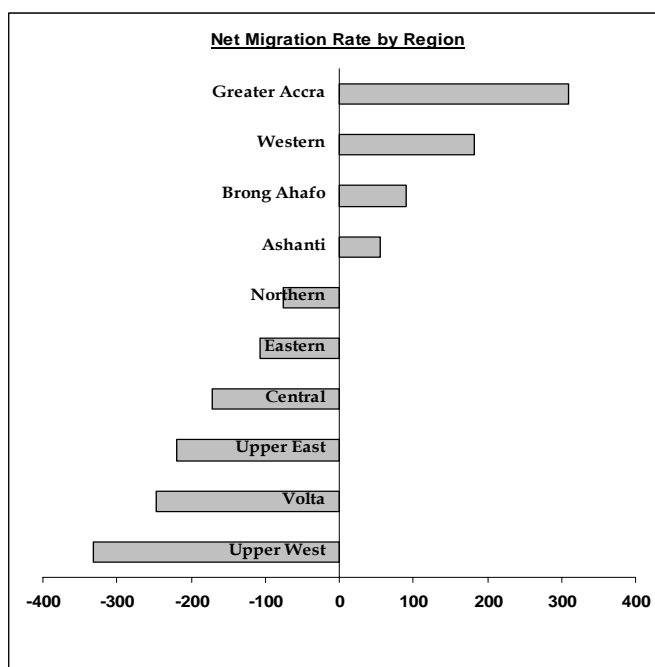
Region	In-migration	Out-migrant	Net Migration	Total Population	Net migration Rate (per 1000)
Western	519,584	168,792	+350,792	1,924,577	+182.3
Central	202,723	477,302	-274,579	1,593,823	-172.3
Greater Accra	1,106,52	204,749	+901,780	2,905,726	+310.3
Volta	130,227	533,631	-403,404	1,635,421	-246.7
Eastern	323,961	548,347	-224,386	2,106,696	-106.5
Ashanti	635,215	438,156	+197,059	3,612,950	+54.5
Brong Ahafo	371,557	207,808	+163,749	1,815,408	+90.2
Northern	117,557	256,279	-139,216	1,820,806	-76.5
Upper East	54,129	255,661	-201,532	920,089	-219.0
Upper West	36,221	227,874	-191,653	576,583	-332.4

Figure 7.8 shows that the other region with high net in-migration rate is Western (182/1000), while those with high net out-migration rates include Volta (247/1000), Upper East (219/1000) and Central (172/1000). The pattern appears to support the observation that there is a positive relationship between the level of social and economic development and the volume and direction of migration.

The general picture that emerges from the foregoing is that some regions are more attractive to migrants than others. The most attractive regions in Ghana appear to be Greater Accra, Western, Brong Ahafo and Ashanti. Among the factors that account for this is the greater access to

modern infrastructure: good roads, communication, educational institutions, hospitals facilities and favourable climatic conditions for agriculture. As a consequence, a vicious cycle has emerged. Regions with considerable advantages attract more investments, leading to widening of the disparities.

**Figure 7.8: Net Migration Rate by Region**



These differentials have profound influence on the direction, character and quality of out-migration flows. In this respect, Upper East, Volta and Upper West are at a considerable disadvantage. As a consequence, there is general movement of people from these to other more prosperous regions. The perception of easy availability of educational and other economic opportunities encourages many young people to migrate to the south, only to suffer disappointment and end up street hawking. In many cases, temporary migration for the purposes of obtaining education or vocational training has usually become permanent due to lack of job opportunities for the recent migrant.

For the poorer sending regions, the negative consequence of out-migration depends on the level and severity of the brain drain. In many cases, the more educated and more productive workers migrate leaving behind the uneducated and less educated. Migration to these poorer regions is limited and when it takes place, it is largely driven by compulsory job postings. For the more developed regions, the influx of large numbers of migrants, often with no guaranteed job prospects, has become a major burden. The negative effects include over-crowding, the development of large sprawling shanty towns, pollution, the breakdown of many social services and the large numbers of street hawkers.

There is undoubtedly a continuous and complex movement of people between rural areas within or between regions. Even at subsistence levels of development, intra-rural migration constitutes

the largest chunk of migratory movement. In general, rural-rural migration involves farmers moving spontaneously in search of new land or in formally organized rural development or resettlement programmes. The migration of people from rural or smaller urban to large urban places (step-wise migration) can also be a process of population redistribution.

## **7.5 Urbanization**

Urbanization refers to the change in the proportion of a population living in urban places. Urbanization can occur mainly through increased net in-migration and natural increase. The process of urbanization in the developing countries today differs in two respects from that experienced by the developed countries some decades ago. First, in the developed countries, the process of urbanization is closely associated with industrialization. Second, in contrast to the experience of the more developed countries, rural-to-urban migration is occurring in large volumes without a consequent depopulation of the rural areas. The reason, of course, is the difference in the rate of natural increase in the less developed countries compared with the rates in the more developed countries.

In Ghana, as in many other African countries, little attention was paid to the processes of urbanization until very recently. In general, urban growth was not viewed as a threat to national development (Chan and Lee, 1995; Mba, 2001; Mbamaonyeukwu, 2001). As a result, rural development and agro-based strategies of production were implemented without attention to urban growth. As economic development takes place, towns grow because they are economically more efficient. They bring together both the producers and consumers of a variety of goods and services. By mobilizing the raw materials, labour and the financial capital necessary for the production of goods and services in one area, cities and large towns reduce cost and increase the benefits accruing to industry. These benefits (profits) translate into higher standards of living. Hence, as cities/towns industrialize, their death rates fall, leading to increase in population. Even people living near cities tend to enjoy better health and other benefits, which act as magnets, attracting others to move into the more successful centres.

Additionally, both industrialization and commercialization generate a demand for jobs and create opportunities for people to move from agrarian to urban areas. Data from other developed countries suggest that third-world urbanization is more a function of opportunities in the city and town than it is of population pressure from the country side (Kelly and Williamson, 1984) but it cannot be discounted that adverse rural conditions in other circumstances do make an important contribution to rural-to-urban migration (Firebaugh, 1979). Thus, both rural push and urban pull continue to explain migration to cities in developing countries like Ghana.

### **Urbanization Levels and Trends**

Rural-urban migration is by far the most significant form of movement in long-term spatial population redistribution in Ghana. Economic and income disparities which give rise to a perception of availability of jobs in the urban areas appear to be the main driving force behind rural-urban migration. Other factors that influence the decision to move out include the presence of relatives and friends in the urban centres, availability of better housing, superior health services and educational opportunities.

The early perception by both the national governments and international development partners that urbanization is a neutral phenomenon has largely been abandoned. Findings from decennial censuses have indicated very substantial increases in the growth of the urban population (United Nations, 1985). Table 7.10 shows the levels and trends in the proportion urban, nationally and by region, for the period 1960 to 2000. At the national level, urbanization has increased from 23 per cent in 1960 to about 44 per cent in 2000. This corresponds to an annual growth rate of about 4.2 per cent for the period 1960-2000. The level of urbanization varies from one region to another. In 2000, the Greater Accra region was the most urbanized (88%), followed by Ashanti (51%), Central (37.5%) and Brong Ahafo (37.4%). The least urbanized regions are Northern (26.6%), Upper East (15.7%) and Upper West (17.5%).

**Table 7.10 Proportion Urban and Annual Growth Rate, National and by Region, 1960 – 2000**

Region	Urban Proportion				Annual Growth Rate			
	1960	1970	1984	2000	1960-1970	1970-1984	1984-2000	1960-2000
All Regions	23.1	28.9	32.0	43.8	4.7	3.3	4.6	4.2
Western	24.7	26.9	22.6	36.3	2.9	1.7	6.1	3.8
Central	28.0	29.1	28.8	37.5	2.1	1.7	3.7	2.6
Greater Accra	72.6	85.3	83.0	87.7	6.1	3.5	4.8	4.7
Volta	13.1	16.0	20.5	27.0	3.9	3.5	3.6	3.7
Eastern	21.1	24.6	27.7	34.6	3.4	2.9	2.8	3.0
Ashanti	25.0	29.7	32.5	51.3	4.6	3.1	6.3	4.8
Brong Ahafo	15.6	22.1	26.6	37.4	6.1	4.6	4.7	5.0
Northern	13.0	20.4	25.2	26.6	7.6	4.9	3.1	4.9
Upper East	3.9	7.3	12.9	15.7	7.8	6.5	2.3	5.2
Upper West	5.0	6.7	10.9	17.5	4.0	5.7	4.7	4.9

Each region experienced an increase in the level of urbanization over the period 1960 to 2000. There are significant differences, however, in the pace of urban growth within regions and at different periods. For instance, Brong Ahafo (6.1%), Greater Accra (6.1%), Northern (7.6%) and Upper East (7.8%) experienced substantial rates of urban growth between 1960 and 1970 but could not sustain the momentum, except Upper East (6.5%) that recorded the highest growth rate in the 1970-1984 period. Ashanti also recorded 6.3 per cent growth rate between 1984 and 2000. to break through the half-way mark, such that its urban population has increased from 25.0 per cent in 1960 to 51.3 per cent in 2000. In spite of the slack in urban growth since 1970, Greater Accra remains the most urbanized, with the urban population increasing from 72.6 per cent in 1960 to 87.7 per cent in 2000.

Generally, all regions experienced a much higher rate of urbanization in the immediate post-independence decade, 1960-1970. This may be attributed largely to intra-regional migration following the relaxation of the restrictive rural-urban migration laws of the colonial period. Between 1970 and 1984, all regions, except the Upper West, experienced a decline in the rate of urbanization some more so than others. These periods correspond to periods of rapid and substantial political changes and economic uncertainty in the country. In the period 1984-2000, many regions recorded either a decline or marginal changes in their rate of urbanization. The exceptions are Ashanti, Western, Greater Accra and Central which recorded increases in the rate of urban growth over the rates for 1970-1984.

While there are clear advantages to urbanization in Ghana, serious disadvantages have emerged as the pace of urbanization has outstripped the ability of city and town planners to meet the requirements for services and infrastructure: housing, water, roads, hospitals, schools. The movement of large numbers of people into the cities of Accra and Kumasi has led to the emergence of shanty towns. Many other large towns such as Tema, Tamale, Sekondi, Takoradi, are experiencing widespread pollution and over-crowding, both of which have serious implications for the health and well-being of the population. Crime and vice are also believed to be linked to urban life.

As a consequence, urbanization has become a major concern for Ghana. A variety of strategies for stemming the tide of rural-to-urban migration have been adopted. Principal among these is the decentralization of administration and governance to districts and local councils with the view to accelerating the pace of rural development. The introduction of micro-credit schemes and expansion of rural banks are all designed to move resources to the rural areas.

### **Urban Population Size**

Table 7.11 presents the growth in the urban population size and the contribution of the fifteen largest cities over the period 1970-2000. In 1970, the total urban population in Ghana was about 2.5 million, representing about 29 per cent of the total population. Of this number, 1.5 million people (62%) lived in fifteen urban areas with populations of more than 20,000, and accounted for about 18 per cent of the total population. Only two of the fifteen cities, Kumasi and Accra Metropolitan areas, had populations of more than 100,000. By the year 2000, the contribution of these 15 urban areas to the total urban population has dropped from 61.8 per cent to 50.2 per cent, even though their share of the national population has increased from 17.9 to 22.0 per cent. On the other hand, the 15 largest localities in 2000 constituted 51.0 per cent of the urban population (22.3% of total population), up from 60.5 per cent in 1960, an indication of substantial growth of smaller communities in 1960.

<b>City/Town</b>	<b>Population</b>			<b>Population Change</b>		<b>Contribution to Urban Growth</b>	
	1970	1984	2000	1970-1984	1984-2000	1970-1984	1984-2000
<b>Total Population</b>	8,559,313	12,296,081	18,912,079	3,736,768	6,615,998	-	-
<b>Total Urban Population</b>	<b>2,473,641</b>	<b>3,934,746</b>	<b>8,283,491</b>	<b>1,461,104</b>	<b>4,348,745</b>	-	-
<b>Proportion Urban</b>	<b>28.9</b>	<b>32.0</b>	<b>43.8</b>	<b>39.1</b>	<b>65.7</b>	-	-
<b>Bawku</b>	20,567	34,074	51,379	17,305	17,305	<b>0.92</b>	<b>0.40</b>
<b>Agona Swedru</b>	21,522	31,226	45,614	14,388	14,388	<b>0.66</b>	<b>0.33</b>
<b>Ashiaman</b>	22,549	50,918	150,312	99,394	99,394	<b>1.94</b>	<b>2.29</b>
<b>Nkawkaw</b>	23,219	31,785	43,703	11,918	11,918	<b>0.59</b>	<b>0.27</b>
<b>Sunyani</b>	23,780	38,834	61,992	23,158	23,158	<b>1.03</b>	<b>0.53</b>
<b>Ho</b>	24,199	37,777	61,658	23,881	23,881	<b>0.93</b>	<b>0.55</b>
<b>Obuasi</b>	31,005	60,617	115,564	54,947	54,947	<b>2.03</b>	<b>1.26</b>
<b>Koforidua</b>	46,235	58,731	87,315	28,584	28,584	<b>0.86</b>	<b>0.66</b>
<b>Cape Coast</b>	56,601	65,763	82,291	16,528	16,528	<b>0.63</b>	<b>0.38</b>
<b>Tema Municipality</b>	60,767	100,052	141,479	41,427	41,427	<b>2.69</b>	<b>0.95</b>
<b>Sekondi Sub-Metro</b>	63,673	70,214	114,157	43,943	43,943	<b>0.45</b>	<b>1.01</b>
<b>Takoradi Sub-Metro</b>	80,309	117,989	175,436	57,447	57,447	<b>2.58</b>	<b>1.32</b>
<b>Tamale Municipality</b>	83,623	135,952	202,317	66,365	66,365	<b>3.58</b>	<b>1.53</b>
<b>Kumasi Metropolitan</b>	346,336	496,628	1,170,270	673,642	673,642	<b>10.29</b>	<b>15.49</b>
<b>Accra Metropolis</b>	624,091	969,195	1,658,937	689,742	689,742	<b>23.62</b>	<b>15.86</b>
<b>Total</b>	<b>1,528,506</b>	<b>2,299,755</b>	<b>4,162,424</b>	<b>1,862,669</b>	<b>1,862,669</b>	<b>52.79</b>	<b>42.83</b>
<b>Prop. Of Total Urban</b>	<b>61.8</b>	<b>58.4</b>	<b>50.2</b>	<b>42.8</b>	<b>42.8</b>		
<b>Prop of Total Population</b>	<b>17.9</b>	<b>18.7</b>	<b>22.0</b>	<b>28.2</b>	<b>28.2</b>		

Between 1970 and 1984, the total population increased by 3.7 million people. Growth in urban population contributed 39.1 per cent to this increase; the 15 largest localities contributed 52.8 per cent of the increase in urban population (Accra and Kumasi between them accounted for 33 per cent of the increase). Similarly, urban growth accounted for 65.7 per cent of total increase in population from 1984 to 2000. The contribution of the 15 largest localities in 1960 was not as substantial (42.8%). This is because the 15 localities are not the 15 largest in 2000. If one were to use the 15 largest localities in 2000, however, their contribution to overall urban growth is 62.0 per cent. This is in view of the fact that Bawku, Agona Swedru and Nkawkaw are replaced by Madina (76,697), Wa (66,644) and Tema New Town (58,786) in the 15 largest localities in 2000.

The results reinforce the observation that localities that furnish the greatest opportunities for economic advancement and agricultural production are likely to contain the greatest number of inhabitants. Greater Accra is home to Ghana's capital, while Accra and Kumasi are the major industrial and commercial nerve centres. On the other hand, Western, Eastern and Brong Ahafo are places that are relatively favourable for agricultural production and mining. This partly explains why an overwhelming majority of the population in Brong Ahafo, Eastern, and Western are rural dwellers, which is in sharp contrast to what obtains in Greater Accra.

## **7.6 Summary, Conclusions and Recommendations**

### **Summary and Conclusions**

The thrust of this chapter is to expand knowledge about the levels, differentials, patterns, and trends in population distribution, migration, and urbanization in Ghana, using the 1960-2000 population census results and data from surveys. The findings suggest that the two most populous regions are Ashanti and Greater Accra, while the least populous regions are Upper East and Upper West. The results show that for the whole country, the rate of population growth was 2.4 per cent per annum between 1960 and 1970, 2.6 per cent per annum between 1970 and 1984, and 2.7 per cent per annum between 1984 and 2000, implying a doubling time of about 26 years. At the regional level, there has been consistent increase in population growth rates in only Western and Central, while growth rates in the other regions fluctuated during the period under review. The most densely populated regions are Greater Accra, Central, Ashanti, Eastern, and Upper East, in that order; the least densely populated are Northern, Upper West and Brong Ahafo, in that order. Less than 5 per cent of Ghana's population are immigrants.

The proportion of non-migrant population has risen from 62 per cent in 1960 to 72 per cent in 2000 at the national level. At the regional level, Central (70%), Volta (71%), Northern (72%), Upper East (83%) and Upper West (75%) have the highest proportions of non-migrants over the period. The results further indicate that for the country as a whole, intra-regional migration has declined from 19 per cent in 1960 to 10 per cent in 2000. The decline in intra-regional migration affects all the regions, with the exception of Greater Accra and Northern. The findings further reveal that in addition to Greater Accra (39%) which has consistently been the recipient of the highest proportion of migrants from other regions, Western (28%), Brong Ahafo (23%) and Ashanti (18%) have received relatively higher proportions of inter-regional migrants compared with other regions.

The findings support the observation that changes in Ghana's population distribution have resulted largely from internal migration. Because of the lopsided nature of developmental programmes, which have favoured few regions at the expense of others, the more fortunate regions, particularly Greater Accra and Ashanti, have remained the areas of greatest population concentration, while Upper East and Upper West are the most disadvantaged. In general, regions with better social and economic opportunities continue to attract more migrants not only from within the country but also from parts of Africa and beyond. Migration has largely taken the form of rural-urban movements. As a result, the growth rate of the major urban areas has been rapid over the years.

Governments over the period, faced with the problems associated with rapid urban population growth, have taken measures intended to slow it, particularly by reducing or reversing the flow of migrants to urban areas in general and to certain urban agglomerations in particular. Such programmes aimed at influencing migration have taken mainly three forms: (a) those intending to transform the rural economy so as to retain people in the rural areas; (b) those intending to control in-migration to large cities; and (c) those aimed at redirecting migration from cities to small or medium-sized towns.

Because national development planning has not specifically addressed the interrelationships between population distribution and more balanced spatial development, many attempts that have been made toward wider spatial development have tended to increase the unevenness of population distribution. As a consequence, the few cities and large towns continue to attract large volumes of migrants from other parts of the country and beyond.

### **Recommendations**

Despite the constraints facing government, there is no hiding from the fact that the most effective strategy to improve population distribution is to adopt a balanced approach that promotes simultaneously the economic development of rural areas, the improvement of employment and living conditions in the cities of Accra and Kumasi and the growth of small and medium urban centres (Cape Coast, Ho, Koforidua, Bolgatanga, Sunyani, and Wa).

The social and economic development of the rural areas, through construction and maintenance of good road networks, building of more services (schools, hospitals and health centres); and creation and expansion of employment opportunities, will certainly go a long way toward retaining people already staying in rural areas and attracting people from the urban centres, especially the unemployed and underemployed.

Indeed, the rather substantial increase in the number and proportion of population in the three northern regions are somewhat linked to the eradication of the blackfly attack and the resultant onchocerciasis, and the provision of some infrastructural facilities, especially in the health and transport sectors. While the government and development partners should be commended for such laudable achievements, it is recommended that such developmental efforts should be increased and strengthened by making more funds available to ensure that various activities and programmes being pursued are continued and sustained while new ones are initiated.

Access to land is a crucial factor that leads to retention of migrants at most rural places of destination. In order to ensure adequate and effective population distribution, settlers must be assured of sustainable access to fertile land for farming purposes by landowners. In this respect, landowners should abide by all agreements reached with settler and non-settler farmers concerning use of land, including duration of lease. Additionally, new frontier agricultural areas that are not particularly accessible due to physical barriers such as large water bodies, inaccessible farm lands such as the onchocerciasis areas, areas with poor road networks, and flood-prone and water-logged areas should be made more accessible by linking them with good feeder road network to ease transportation to and from these areas.

The promotion of rural development should be a goal in itself, irrespective of its possible impact on migration. Rural development strategies should be combined with policies that promote the growth of small towns and intermediate urban centres so that the latter may provide markets for agricultural products and be the centres of agro-processing and other small-scale industries. Efforts to improve the access of rural residents to health and educational services are crucial in improving the quality of rural life, while reduction in fertility related to the improved provision of reproductive health services is likely to reduce migration pressures in the medium term.

Because of very low rates of fertility and mortality, and barring massive immigration, urban growth is primarily due to internal migration in many developed countries (United Nations, 1991). This is not the case in Ghana and many developing countries where urban growth is almost equally the result of internal migration and the effect of natural increase (caused by high fertility and low mortality), though latest nationally representative empirical evidence suggests that fertility has declined significantly in the country (Ghana Statistical Service and Macro International Inc., 1999; Mba, 2002) which invariably leads to reclassification of areas from rural to urban. Further reductions of urban fertility through massive and sustained uptake of contraceptive technology would also contribute significantly to controlling the growth of the cities.

## APPENDICES

**Table A 7.1: Inter-Regional Migration and Migration Rates in Ghana for Ghanaians by Birth, 2000**

Region of Birth	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West	All Region	Crude Rate of Out-migration <sup>1</sup>
All Places	1,774,036	1,474,584	2,679,991	1,525,745	1,980,719	3,154,860	1,705,612	1,740,701	851,375	584,807	17,436,592	
Western	<u>1,254,452</u>	32,158	55,482	5,437	15,342	39,592	11,253	3,417	3,263	2,848	1,423,244	11.9
Central	127,956	<u>1,271,861</u>	174,557	7,553	55,709	86,811	15,446	6,151	2,005	1,114	1,749,163	27.3
Greater Accra	25,451	31,225	<u>1,573,462</u>	27,578	54,051	37,239	13,618	8,002	5,161	2,424	1,778,211	11.5
Volta	48,344	28,006	246,901	<u>1,395,518</u>	107,538	52,342	28,655	18,268	2,084	1,511	1,929,149	27.7
Eastern	63,304	41,897	315,775	21,315	<u>1,656,758</u>	77,800	19,351	4,288	2,842	1,775	2,205,105	24.9
Ashanti	89,950	32,025	158,748	10,034	35,743	<u>2,519,645</u>	69,128	14,842	17,630	10,056	2,957,801	14.8
Brong Ahafo	58,439	6,792	33,772	4,787	10,783	70,823	<u>1,334,055</u>	11,042	4,535	6,835	1,541,863	13.5
Northern	20,084	6,778	45,230	29,483	12,811	69,277	59,865	<u>1,623,638</u>	8,443	4,308	1,879,917	13.6
Upper East	43,569	5,227	26,862	2,147	10,932	90,720	54,622	18,906	<u>797,408</u>	2,676	1,053,069	24.3
Upper West	25,518	4,066	17,315	1,917	9,749	50,193	90,704	24,590	3,822	<u>512,586</u>	740,460	30.8
ECOWAS State	10,624	10,745	18,503	17,133	6,454	21,905	5,023	5,418	3,164	2,129	101,098	
Africa other than ECOWAS	3,740	1,056	5,197	1,818	2,237	25,814	1,808	793	876	339	43,678	
Outside Africa	2,605	2,748	8,187	1,025	2,612	12,717	2,084	1,346	304	206	33,834	
Crude Rate of In-migration <sup>2</sup>	29.3	1.7	41.3	8.5	16.4	20.1	21.8	6.7	6.4	6.6		

Source: Compiled from the 2000 population and Housing census of Ghana.

1. Regional row less diagonal as proportion of row total
2. Regional column total less diagonal as proportion of column total

**Table A 7.2: Male Inter-Regional Migration for Ghanaians by Birth, 2000**

Region/Place of Birth	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West	Total	Crude Rate of Out-migration
Total	885,624	695,416	1,309,597	731,127	963,379	1,548,486	847,329	857,833	400,874	260,520	8,499,602	
Western	<u>613,624</u>	14,784	26,641	2,620	7,347	19,713	5,685	1,656	1,717	1,367	695,154	11.7
Central	64,305	<u>595,407</u>	85,151	3,905	26,557	43,588	8,169	3,305	1,005	583	831,975	28.4
Greater Accra	13,469	15,400	<u>765,692</u>	14,056	27,109	19,704	7,343	4,283	2,663	1,203	870,922	12.1
Volta	25,712	14,284	121,511	<u>667,320</u>	53,773	28,129	15,068	9,194	1,083	779	936,853	28.8
Eastern	33,722	20,384	151,567	10,276	<u>801,320</u>	39,562	10,224	2,226	1,472	872	1,071,625	25.2
Ashanti	46,938	16,057	81,077	4,919	17,497	<u>1,219,156</u>	34,454	7,334	8,945	4,659	1,441,036	15.4
Brong Ahafo	30,706	3,398	17,236	2,254	5,265	35,269	<u>649,246</u>	5,481	2,233	3,180	754,268	13.9
Northern	10,908	3,743	22,211	14,164	7,146	36,039	32,259	<u>800,098</u>	4,191	2,063	932,822	14.2
Upper East	23,835	2,802	4,176	1,136	6,049	48,713	29,945	8,702	<u>373,823</u>	1,192	510,373	26.8
Upper West	13,213	2,089	8,487	1,055	5,542	27,037	50,195	11,954	1,768	<u>243,516</u>	364,856	33.3
*Other ECOWAS State	5,388	5,145	9,096	8,023	3,227	11,548	2,675	2,587	1,396	899	136,550	
*Africa other than ECOWAS	3,740	1,056	5,197	1,818	2,237	25,814	1,808	793	876	339	121,340	
*Outside Africa	2,605	2,748	8,187	1,025	2,612	12,717	2,084	1,346	304	206	49,984	
Rate of In-migration	30.7	14.4	41.5	8.7	16.8	21.3	23.4	6.7	6.7	6.5		

Source: The 2000 Population and Housing Census of Ghana

Note: These are persons who were born outside Ghana but are regarded as Ghanaians by birth by virtue of the fact that their parents are/were Ghanaians.

**Table A 7.3: Female Inter-Regional Migration for Ghanaians by Birth, 2000**

Region/Place of Birth	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
Total	885,995	79,168	1,370,394	794,618	1,017,340	1,606,374	858,283	882,868	450,663	288,287
Western	<u>640,828</u>	17,374	28,841	2,817	7,995	19,879	5,568	1,761	1,546	1,481
Central	63,651	<u>676,454</u>	89,406	3,648	29,152	43,223	7,277	2,846	1,000	531
Greater Accra	11,982	15,825	<u>807,770</u>	13,522	26,942	17,535	6,275	3,719	2,498	1,221
Volta	22,632	13,722	125,390	<u>728,198</u>	53,765	24,195	13,587	9,074	1,001	732
Eastern	29,582	21,513	164,208	11,039	<u>855,438</u>	38,238	9,127	2,062	1,370	903
Ashanti	43,012	15,968	77,671	5,115	18,246	<u>1,300,489</u>	34,674	7,508	8,685	5,397
Brong Ahafo	27,733	3,394	16,536	2,533	5,518	35,554	<u>684,809</u>	5,561	2,302	3,655
Northern	9,176	3,035	23,019	15,319	5,665	33,238	27,606	<u>823,540</u>	4,252	2,245
Upper East	19,734	2,425	12,686	1,011	4,883	42,007	24,677	10,204	<u>423,585</u>	1,484
Upper West	12,305	1,977	8,828	862	4,207	23,156	40,509	12,636	2,054	<u>269,070</u>
*Other ECOWAS State	5,236	5,600	9,407	9,110	3,227	10,357	2,348	2,831	1,768	1,230
*Africa other than ECOWAS	1,793	505	2,537	939	1,046	12,258	833	405	432	205
*Outside Africa	1,331	1,376	4,095	505	1,256	6,245	993	721	170	133

Source: The 2000 Population and Housing Census of Ghana

Note: These are persons who were born outside Ghana but are regarded as Ghanaians by birth by virtue of the fact that their parents are/were Ghanaians.

**Table A7.4: Urban and Rural Population Distribution of Ghana by Region: 1960-2000**

	1960		1970		1984		2000	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
All Region	1,551,174	5,175,641	2,472,456	6,086,857	3,934,796	8,361,285	8,274,270	10,637,809
Western	154,612	471,543	207,343	562,744	261,766	896,041	698,418	1,226,159
Central	210,411	540,981	258,636	631,499	329,196	813,139	598,405	995,418
Greater Accra	393,383	148,550	726,553	125,061	1,188,279	242,821	2,547,684	358,042
Eastern	220,765	823,315	310,073	951,588	466,276	1,214,614	727,914	1,378,782
Volta	102,101	675,184	151,096	796,172	247,906	964,001	441,084	1,194,337
Ashanti	276,772	832,361	440,526	1,041,172	697,750	1,410,350	1,853,065	1,759,885
Brong Ahafo	91,491	496,429	169,072	597,437	321,106	885,502	678,780	1,136,628
Northern	69,063	462,510	148,320	579,298	293,462	871,121	483,790	1,337,010
Upper West	14,342	274,342	21,374	298,491	47,549	390,459	100,848	475,735
Upper East	18,234	18,234	39,858	503,395	99,506	673,237	144,282	775,807

Source: The 1960-2000 Censuses of Ghana.

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## **CHAPTER 8: FERTILITY LEVELS, PATTERNS AND TRENDS**

### **8.1 Introduction**

Fertility patterns and trends provide a sense of the future course of population growth and its potential implications for other demographic processes. The fundamental importance of understanding these patterns and trends lies in the strong association between population growth and the social and economic well being of the individual. Until the mid 1980s, the total fertility rate for Ghana remained stable at around seven children per woman (Gaisie, 1976; Owusu, 1984; Shah and Singh, 1985). This was considered exceptionally high in relation to available national resources and several attempts were made by government to lower the rate of childbearing in the country (National Population Council, 1994; Republic of Ghana, 1995).

This began with the adoption of the first national population policy in 1969, which sought to reduce the population growth rate from its estimated level of 3 per cent to 1.7 per cent by the year 2000 (Ministry of Finance and Economic Planning, 1992). The launching of the Ghana National Family Planning Programme (GNFPP) followed in May 1970. This Programme sought to improve the quality of life by providing individuals and couples with the opportunity to regulate their families if they so desired. In 1971, the GNFPP Secretariat was established to implement the fertility reduction strategies outlined under the 1969 population policy. By 1988 and after almost two decades of implementation of the policy, Ghana's fertility level had declined only slightly to 6.4 children per woman (Ghana Statistical Service, 1999).

Concern for the mismatch between population growth rate and national resources led to the establishment of the National Population Council in May 1992 and a review of the national population policy in 1994 (National Population Council, 1994; Statistical Service, 1994). The aim was to integrate population issues into all sectors of development including health, education, environment and rural development and to ensure that family planning services are accessible and affordable to all couples and individuals. In addition, family planning services were to be integrated with maternal and child health services to reduce the high level of infant and maternal morbidity and mortality.

Some of the targets set include reducing the total fertility rate (TFR) from 6.4 children per woman in 1988 to 5.9 in 2000 and further to 5.0 by the year 2010. However, since 1988, there has been a persistent and seemingly dramatic fall in fertility. The TFR, for example, fell from 6.4 in 1988 to 5.5 in 1993 and then to 4.6 in 1998. The observed declines between 1988 and 1993 and 1993 and 1998 have been described as inconsistent with expectation, given the levels of contraceptive use and other proximate determinants of fertility during the period. This analysis attempts to re-examine and offer an assessment of the fertility situation in Ghana, using all available post independence data.

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Dr. Philomena E. Nyarko has contributed this chapter

## **Objectives and Scope of Analysis**

In an effort to understand the fertility situation in Ghana, this chapter examines the levels, patterns, and trends in fertility as well as the rate of childbearing. It also attempts to examine fertility differentials, the magnitude of premarital childbearing and the incidence of childlessness in Ghana. Fertility preferences and contraceptive use among various socio-economic groups are also discussed. Finally, the study explores the contribution of the proximate determinants to fertility behaviour in Ghana.

## **Sources of Data**

Data for the analysis come from the post independence population censuses and sample surveys. These data sources include: the 1960 Post Enumeration Survey (PES), the 1971 Supplementary Enquiry (SE), the 1979/80 Ghana Fertility Survey (GFS), the 1988 Ghana Demographic and Health Survey, the 1992 Ghana Infant, Child and Maternal Mortality Study, the 1993 Ghana Demographic and Health Survey, the 1998 Ghana Demographic and Health Survey, and the 2000 Ghana Population and Housing Census. In addition to basic social and demographic data, the 1960 PES, the 1971 SE and the 2000 census gathered information on the number of children ever born to women aged 15 years and older (in 1960 and 1971) and women aged 12 years and older (in 2000). These censuses also elicited information on the number of children born to the women during the twelve months preceding the interview.

Even though the focus of the four rounds of the Ghana Living Standards Survey was on the general welfare of Ghanaians, they included questions on children ever born to women aged 15-49 years as well as their knowledge and use of contraception. Though this information can, to a limited extent, be used to examine fertility trends and differentials in Ghana, the GLSS data have not been utilized in this report because of this limitation.

The 1979/1980 Ghana Fertility Survey and the three rounds of the Ghana Demographic and Health Survey, on the other hand, are nationally representative sample surveys which collected, among others, information on birth histories, reproductive preferences, contraceptive knowledge and use, pregnancy and breastfeeding practices, postpartum sexual abstinence, and marriage from women in the 15-49 age group. These surveys also provide information on the women's background characteristics such as age, education, place and region of residence, ethnicity, religion, migration history, and employment status, occupation and sector of employment.

The data for the analysis come mainly from the birth history modules included in these surveys. These modules collected information on all the live births a woman has ever had. For each of the children mentioned, questions are asked on their birth dates, sex, type of birth, survival status, age (for those alive) and date at death or age at death for those who have died. In addition to these questions, the 1979/1980 GFS and the 1998 GDHS probed for information on pregnancies, which ended in abortions, miscarriages or stillbirths.

## **Quality and Limitations of Data**

Errors such as age misreporting, shifting of event dates and the incomplete reporting of events, affect the outcome of any demographic analysis. If these errors are large, they could bias the fertility indices estimated. They may also distort the prevailing age pattern of fertility. Earlier

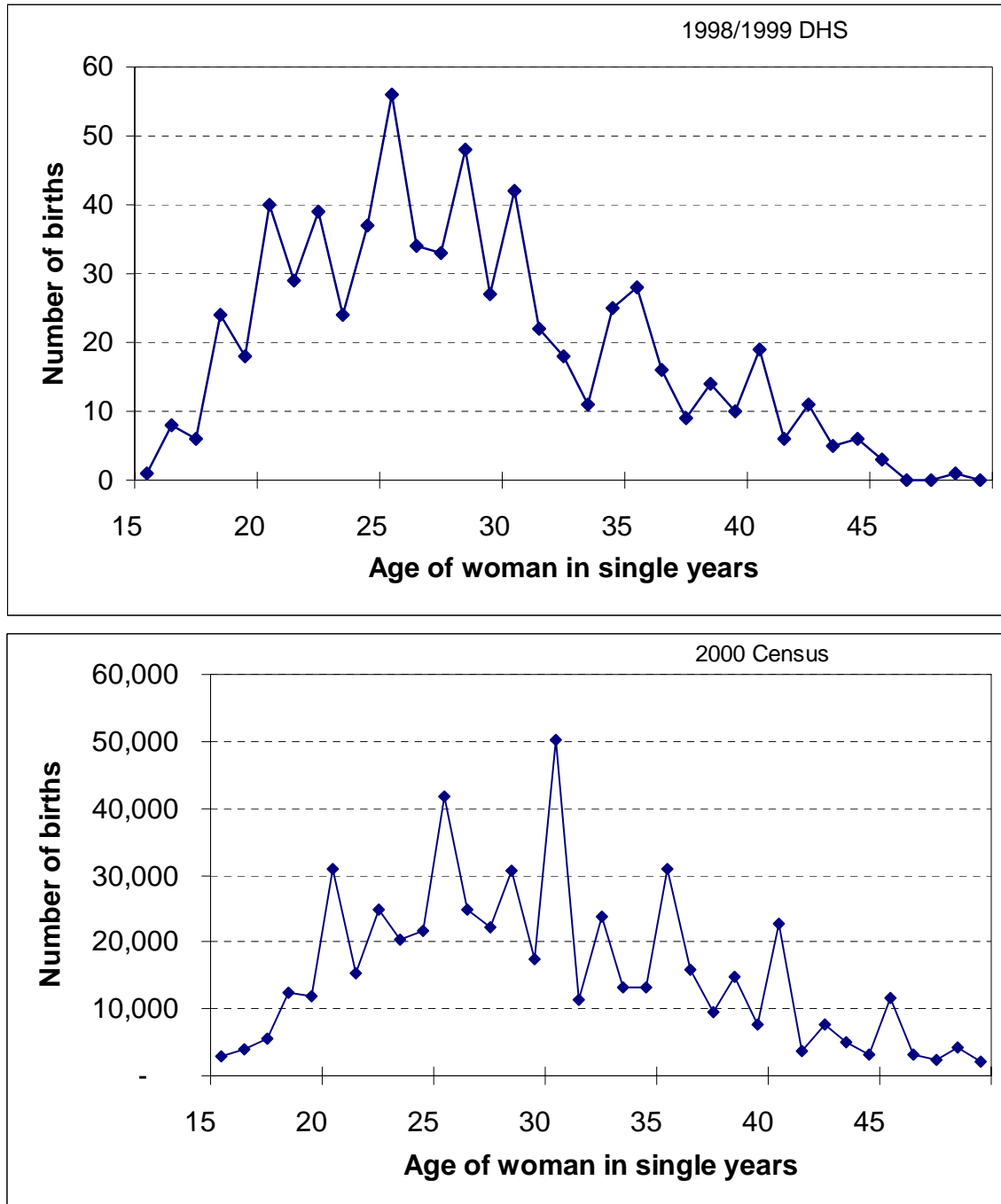
evaluation of the age data reported by women in the reproductive age group in the censuses and the Ghana Demographic and Health Survey (GDHS) data sets indicates a high preference for ages ending in digits 0 and 5 and a systematic avoidance of certain digits. For example, the Whipple's index for detecting the degree of age misstatement arising from preference for ages ending in digits 0 and 5 was estimated to be 137.5 for the 1998 GDHS data and 151.4 for the 2000 census data, indicating that the reported age data for the female reproductive age group is affected by errors (for an accurate age distribution, the value should lie below 110).

The application of the Myers' procedure also gave an index of 11.5 for 1998 and 16.0 for 2000, which suggest that some degree of age heaping may be present in both data sets (the value of the index ranges between zero (signifying no age heaping) and 90 (which would result if all ages were heaped on a single digit). There was also an obvious avoidance of digits 1, 3 and 4 in the 1998 data set while the results obtained for the 2000 census data showed clear avoidance of digits 1, 3, 4, 8 and 9. Previous evaluation of age data from earlier censuses and surveys conducted in Ghana also showed some degree of age preference (Gaisie, 1976; Adeku and Ameka, 1995). Nevertheless, the indices computed from the 1998 GDHS and 2000 census represent an improvement over those from these earlier data sets.

Assessment of the quality of reported vital events has also been extensively carried out for the pre-1998 census and survey data sets by various authors (Gaisie, 1969; Owusu, 1984; Shah et al, 1985). In his analysis of the 1960 PES, Gaisie (1969) demonstrated that births reported in the 1960 PES were under reported. In their investigations, however, Owusu (1984) and Shah (1985) found no evidence of omission of births in the 1979/1980 Ghana Fertility Survey data nor any systematic shifting of birth dates or heaping of events. Information for a comparable assessment of the fertility data for the 1971 Supplementary Enquiry was not available.

In the current exercise, data from the 1998 GDHS and the 2000 Census are used to establish the current levels of fertility in Ghana. In order to determine the reliability of the current fertility indices estimated from these data sets and to ensure that they are appropriately interpreted, the distribution of births in the last 12 months, mean parities, age-specific sex ratios and P/F ratios from these two data sources were examined. Figure 8.1 shows the distribution of births reported in the 1998 GDHS and the 2000 census by age of woman. The graph indicates the heaping of births on ages ending in digits 0 and 5, which is suggestive of possible shifting of events from adjacent age groups. This could either inflate or deflate the actual fertility performance of the study population, depending on the direction and degree of heaping.

**Figure 8.1 Births in the last 12 months by single years of Age, 1998 DHS**



The distribution of the average number of children ever born by age for 1998 and 2000 nevertheless show the expected increasing pattern with age, even though the mean parities for women aged less than 25 years may have been slightly underestimated in 1998 (Table 8.1). The

age-specific sex ratios calculated from data on retrospective fertility also suggest that in 1998, there was some under reporting of males among the 15-19, 20-24 and 30-34 age groups while for the older age groups (35-39, 40-44 and 45-49), there seems to have been some under reporting of females. Examination of the data from the 2000 Census, on the other hand, shows that the age-specific sex ratios lie in the expected range of 1.02 and 1.07.

The P/F ratio method is a procedure for comparing the reported mean parity or lifetime fertility,  $P_i$ , with the cumulative age-specific fertility,  $F_i$ . In the absence of errors in the data, the P/F ratio is expected to be one, indicating that the reported mean parity ( $P_i$ ) is equal to the cumulative age-specific fertility rate. The Trussell P/F ratios presented in Table 8.1 suggest that in 1998 there was under reporting of lifetime fertility for ages below 30 years and was more pronounced among females aged 15-19 years. Under reporting of current fertility (births in the last 12 months) is also observed in the age groups 30 years and older. The level of under reporting of current fertility is found to increase consistently with age. The 2000 census data, on the other hand, shows gross underreporting of current fertility within all age groups, with the youngest age group being mostly affected.

**Table 8.1: Mean Parities and Age-Specific Sex Ratios and P/F Ratios, 1998 GDHS & 2000 Census**

Age Group	Mean Parities		Age-specific Sex Ratios		P/F ratios	
	1998	2000	1998	2000	1998	2000
15-19	0.13	0.21	0.96	1.07	0.624	2.477
20-24	0.99	0.99	0.91	1.07	0.987	1.717
25-29	2.00	2.10	1.02	1.06	0.986	1.537
30-34	3.36	3.43	0.99	1.06	1.120	1.549
35-39	4.46	4.38	1.10	1.05	1.175	1.478
40-44	5.42	5.12	1.00	1.05	1.251	1.493
45-49	5.93	5.58	1.11	1.04	1.310	1.419
Total	2.63	2.21	1.04	1.05		

Overall, the evaluation of both the 2000 census and the 1998 Ghana Demographic and Health Survey data sets suggests that there is some degree of age heaping and event misreporting. However, those noted in the 2000 census are quite large and can bias the estimates of current fertility levels in the country, unless the data are adjusted to take care of the inherent errors.

Data on fertility from the censuses tend to underestimate the true level of fertility. This occurs because enumerators do not collect information from each individual household member but rather one person provides information on all members. This respondent may not be aware of the fertility status of each woman of childbearing age in the household. Another reason for possible underreporting is the time limitation for the enumerator, so there may not be adequate probing for correct responses. In addition, censuses do not include the full range of questions that would allow the gathering of very thorough fertility information.

### **Methods of Analysis**

Various mathematical techniques (rates, ratios, proportions, regression analysis) and indirect demographic procedures (P/F ratio method, the Relational Gompertz model and the Arriaga method) are used to give an indication of fertility levels in Ghana. Bivariate techniques are also used to explore differentials in fertility as well as the incidence and timing of premarital

childbearing and the level of childlessness in Ghana. Cohort parity progression ratios and birth interval analyses are also employed in the examination of the changes in the rate of childbearing in Ghana. Lastly, the fertility model developed by Davis and Blake (1956) and later modified by Bongaarts (1978), Bongaarts and Porter (1983), Bongaarts *et al* (1984) and Stover (1998) is used to evaluate the fertility inhibiting effects of the four most important proximate determinants of fertility (namely marriage, use and effectiveness of contraception, induced abortion, and postpartum infecundability caused by breastfeeding and abstinence).

## 8.2 Levels and Patterns of Fertility in Ghana

The high population growth rates observed in Ghana over the past three decades are attributed to the combination of high levels of fertility and declining but high mortality. In this section, the levels, patterns and trends in fertility since the 1960s are examined using two different approaches. One approach involves using current measures of fertility such as the age-specific fertility rate (ASFR), total fertility rate (TFR), general fertility rate (GFR) and crude birth rate (CBR), which are based on data covering a short period of time such as a year (in the case of the 2000 census) or five years (for all the surveys). The other approach entails using retrospective fertility indices such as mean children ever born, which measure women's reproductive performance over their lifetime.

### Current Fertility Measures

According to the 1998 Ghana Demographic and Health Survey, the total fertility rate for Ghana for the five-year period preceding the interview was 4.55 children per woman. The 2000 Population and Housing Census, on the other hand, gives a figure of 3.99 children per woman. Evaluation of these data, however, shows that the figures are slightly lower than expected. Table 8.2 presents the reported and adjusted fertility rates for 1998, using different adjustment procedures (Appendix I, II, and III provide an explanation of the methods, their underlying assumptions and their limitations).

**Table 8.2: Reported and Adjusted Total fertility Rates for 1979-2000**

Year	Reported	Adjusted		
		P-F Ratio	Relational Gompertz	Arriaga
1979/1980	6.47	6.38	6.58	6.59
1988	6.43	6.37	6.46	6.57
1993	5.50	5.46	5.52	5.47
1998	4.55	4.78	4.84	4.73
2000	3.99	-	4.77	4.64

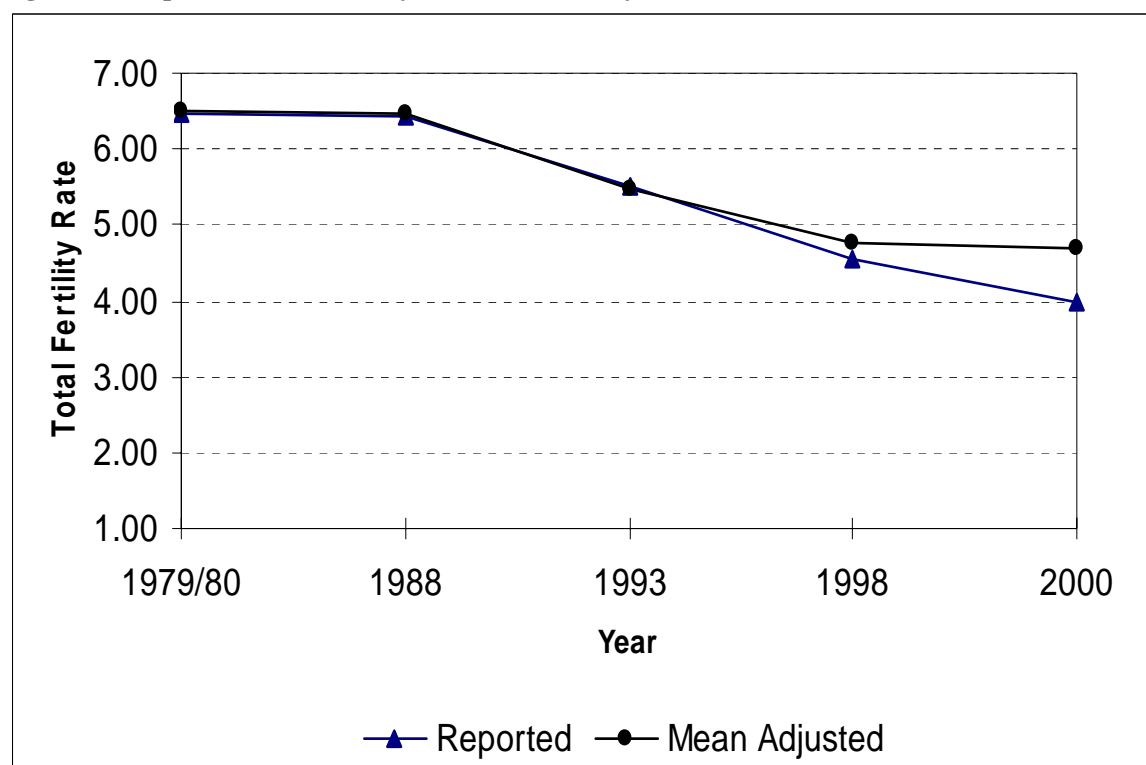
The results suggest that the fertility levels reported for 1979/1980, 1988, and 1993 were very close to the adjusted figures, and can therefore be accepted as the true fertility levels prevailing during those time periods. On the other hand, the reported figures for the 1998 and 2000 Census appear to have been under-reported. This is especially true with regards to the 2000 census figure. Owing to the high level of under-reporting of current fertility in the 2000 census data, the

P/F ratio method, which makes use of both current and retrospective cumulative fertility in the estimation procedure, could not be applied as an adjustment factor.

Similarly, in applying the Relational Gompertz and Arriaga techniques, the 1998 age pattern of fertility was applied to the data on children ever born because of the large errors observed in the 2000 current fertility data. The results from these indirect demographic techniques suggest that the TFR for 1998 should lie between 4.73 and 4.84 children per woman while that for the year 2000 should be between 4.64 and 4.77 children per woman. The average of the adjusted figures gives a TFR of 4.78 children per woman for 1998 and 4.71 children per woman for 2000. This means that the difference between the reported TFR and the adjusted TFR for the year 2000 is 0.72 children per woman while that for 1998 is about 0.2 children per woman, suggesting an underestimate of five per cent in the reported TFR for 1998 and 18 per cent for 2000.

Even though the indirect techniques employed have their individual weaknesses, the consistency observed in the estimated figures based on the different estimation models provide a sense of the possible underestimation in the levels of fertility prevailing in the country during those periods. Indeed, as indicated in Figure 8.2, the trend observed in the adjusted average TFRs for the period 1988 and 2000 is quite consistent with the pace of fertility decline observed in countries where fertility transition has already begun.

**Figure 8.2: Reported and Mean Adjusted Total Fertility Rates for Ghana, 1979/80-2000**



Bongaarts (2002) notes that at the initial stages of the transition the decline is fairly rapid, but begins to decelerate after some time. In the case of Ghana, the mean adjusted TFRs of 4.78 and 4.71 children per woman for 1998 and 2000 respectively suggest that Ghana's TFR dropped by

just about 0.04 children per woman per year between 1998 and 2000 compared to the decline of 0.19 children per woman per year for the period 1988-1998. In a study of fertility patterns in 38 less developed countries starting their transition in the 1960s, Bongaarts (2002) estimated that the annual decline in TFR averaged 0.15 in the early 1970s and only 0.06 in the 1990s. The relatively slow pace of decline in Ghana's TFR in the most recent period (1998-2000) is thus consistent with Bongaarts' observation that the lower the TFR at the onset of transition, the slower the pace of fertility decline. Taking into account the adjusted levels of TFR for 1998 and 2000, the country is expected to achieve replacement fertility by the year 2040.

Table 8.3 presents the total fertility rates (TFR), crude birth rates (CBR) and general fertility rates (GFR) for the period 1960-2000. Examination of the total fertility rates over time suggests that Ghana has experienced dramatic declines in fertility since the late 1980s. Prior to this period, the TFR ranged between six and seven children per woman.

**Table 8.3: Total Fertility Rates, Crude Birth Rates & General Fertility Rates**

Period	Source	TFR	CBR	GFR
1960	PES	6.50	49.5	171
1971	SE	6.91	49.0	-
1979/1980	GFS	6.47	43.1	197
1988	GDHS	6.43	39.5	200
1993	GDHS	5.50	37.3	175
1998	GDHS	4.55	32.8	142
2000	Census	3.99	31.1	130

Note: PES-Post Enumeration Survey; SE-Supplementary Enquiry; GFS -Ghana Fertility Survey  
GDHS-Ghana Demographic and Health Survey

Sources: Central Bureau of Statistics, 1971: Gaisie, S.K. and K.T. de Graft Johnson, 1976  
Central Bureau of Statistics, 1983: Ghana Statistical Service and Macro International Inc, 1994  
Ghana Statistical Service and Macro International Inc, 1999

As shown in Table 8.3, the TFR showed slight fluctuations between 1960 and 1980, recording levels of 6.5 for 1960, 6.9 for 1971 and 6.5 for 1979/1980. There is evidence to suggest that the level for 1960 might have been underestimated due to possible omission and misplacement of births (Gaisie, 1969; Ewbank, 1981). Consequently, the conclusion that fertility levels remained stable at around 7 children per woman from the 1960s to the late 1970s may be valid.

There has, however, been a sustained decline in fertility since the late 1970s, with dramatic declines being observed between 1988 and 2000. The decline in TFR between 1988 and 1993 alone was 14 per cent, which is far higher than the 10 per cent change in fertility suggested by various commentators to signify the onset of a demographic transition. It is, therefore, important to recognize that Ghana is currently undergoing significant demographic change. In providing information about the current situation, the adjusted TFR of 4.71 for 2000 was taken into consideration. Based on this adjusted figure, one can conclude that in just two decades, Ghana's TFR has declined by about 27 per cent from 6.47 children per woman in 1979/1980 to 4.71 children per woman in 2000. The 38 per cent decline between 1979/1980 and 2000 estimated from the reported figures of 6.47 and 3.99 children per woman may, therefore, be an exaggeration of actual events. Similarly, the estimated decline for the period 1988 and 2000 using the adjusted 2000 figure is 27 per cent compared to the 38 per cent decline for the unadjusted figure.

Examination of the other fertility indices suggest that the 2000 census gave a general fertility rate of 130 births per 1000 women aged 15-49 years and a crude birth rate of 31 births per 1000 population compared to 200 births per woman and 40 births per 1000 population computed from the 1988 data set. Table 8.4 presents the age-specific fertility rates for the period 1979/1980 to 2000. The data indicate that until the year 2000, childbearing peaked at age 25-29 years. The 2000 census data, however, indicates a change in the age-pattern of fertility in Ghana, with the peak of childbearing now occurring within a broader age group (i.e. 25-34 years).

Generally, the age-specific fertility rates show gradual declines as one moves from one period to the next. The slight rise in fertility for women aged 40 years and over in 2000 compared to 1998 may, however, be an artifact. As shown earlier, the evaluation of the 1998 data indicates some level of under-reporting of female children, which may be accentuating the fertility levels reported by older women in the 2000 census. On the other hand, the comparatively low age-specific rate reported for the age group 15-19 in 2000 may be attributed to the fact that most teenagers are likely to be found at home at the time of the census due to the school holidays compared to the survey periods, which can consequently affect the denominator used to compute the rate. Evidently, most of these in-school teenagers may be nulliparous.

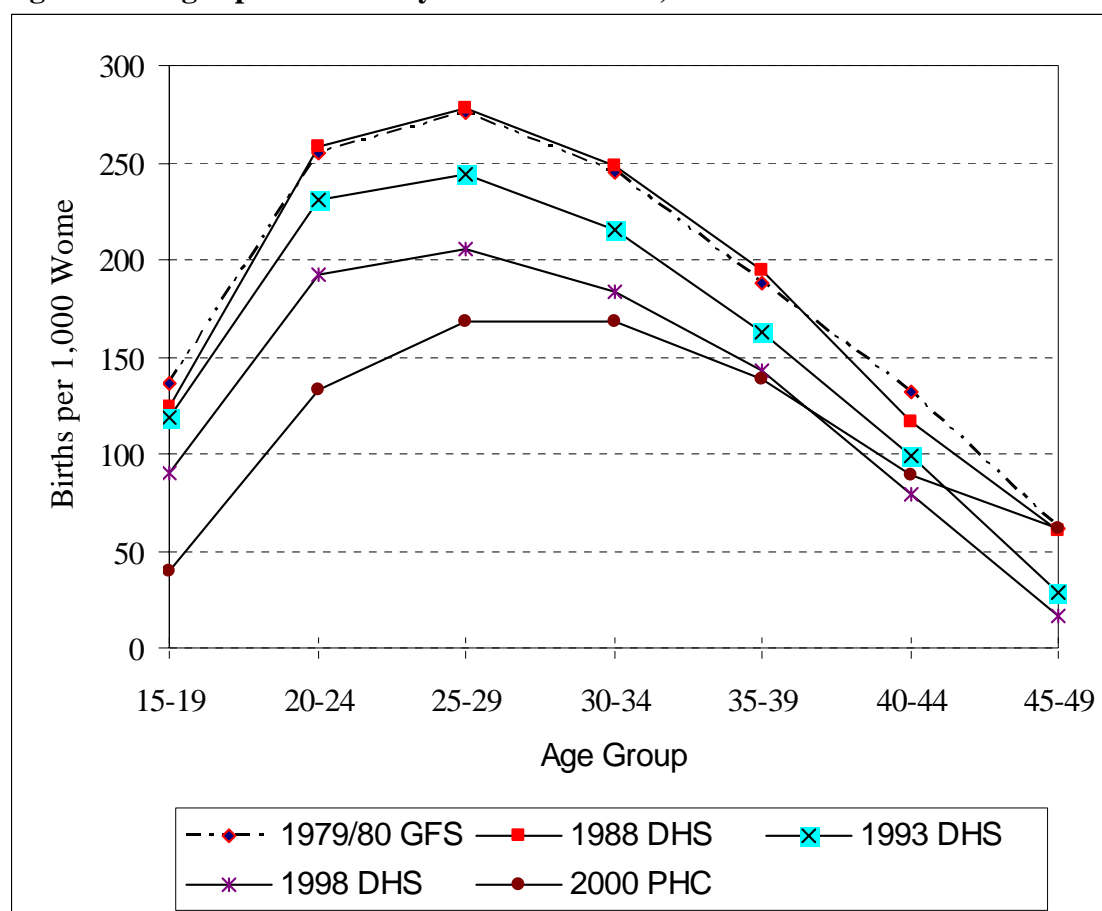
**Table 8.4: Age Specific Fertility Rates for Ghana, 1979/80-2000**

Age Specific Fertility Rates					
Age group	1979/80 GFS	1988 DHS	1993 DHS	1998 DHS	2000 Census
15-19	0.136	0.124	0.119	0.090	0.040
20-24	0.255	0.258	0.231	0.192	0.133
25-29	0.276	0.278	0.244	0.206	0.168
30-34	0.245	0.248	0.215	0.183	0.168
35-39	0.188	0.195	0.163	0.143	0.139
40-44	0.132	0.117	0.099	0.079	0.089
45-49	0.061	0.060	0.029	0.016	0.061
TFR	6.47	6.43	5.50	4.55	3.99

Sources: Central Bureau of Statistics (1983), Ghana Statistical Service (1989), Ghana Statistical Service and Macro International Inc. (1994); Ghana Statistical Service and Macro International Inc (1999); 2000 Census

A graphical presentation of the age-specific fertility rates over time provides a fair idea of the pattern of decline. Figure 8.3 shows a consistent downward shift of the fertility curve, particularly for ages below 25 years between 1979/1980 and 2000, indicating a reduction in the rate of childbearing for these reproductive age groups. Despite this decline, the country's fertility is still very high and accounts mostly for the current intercensal population growth rate of 2.7 per cent per annum.

**Figure 8.3: Age-specific fertility rates for Ghana, 1979/80-2000**



### **Lifetime Fertility**

Average parity or mean number of children ever born per woman measures the lifetime or cumulative fertility performance of female respondents in the reproductive age group 15-49. As indicated in Table 8.5, the average completed family size for women aged 45-49 years is generally much higher than the TFR reported for any particular survey or census period. For example, the average completed family size for 1998 was 5.93 children per woman whilst the TFR was estimated to be 4.55. For the year 2000, on the other hand, the average parity was 5.58 children per woman compared to a TFR of 3.99. These discrepancies are to be expected, because within the context of declining fertility, the age-specific fertility rates of younger women progressively fall, resulting in lower period fertility rates relative to retrospective fertility.

**Table 8.5: Mean Number of Children Ever Born per Woman by Age Group**

Age group	Mean number of children ever born							
	1960 PES	1971 SE	1979/80 GFS	1988 DHS	1992 ICMMS	1993 DHS	1998 DHS	2000 Census
15-19	0.46	0.26	0.24	0.22	0.32	0.21	0.13	0.21
20-24	1.72	1.54	1.37	1.25	1.44	1.15	0.99	0.99
25-29	3.06	3.06	2.69	2.65	2.72	2.31	2.00	2.10
30-34	4.24	4.61	4.04	4.18	3.99	3.84	3.36	3.43
35-39	5.08	5.61	5.36	5.47	5.09	4.58	4.46	4.38
40-44	5.70	6.28	6.12	6.58	6.11	5.82	5.42	5.12
45-49	5.85	6.42	6.71	7.25	6.72	6.64	5.93	5.58
Total	3.18	3.61	2.97	3.17	3.20	2.91	2.63	2.21

Sources: Gaisie, S.K. (1976), p.85, Table 3.18; Gaisie, S.K. (1969), p.17, Table 6;  
 Central Bureau of Statistics (1983), Ghana Statistical Service (1989), Ghana Statistical Service (1994),  
 Ghana Statistical Service and Macro International Inc. (1994),  
 Ghana Statistical Service and Macro International Inc (1999),

The distribution by age shows that the average parity increases consistently with age, with the fertility performance of the youngest age group (15-19 years) being almost negligible. An examination of completed fertility over time indicates that it was quite stable at a level of seven children per woman between 1979/1980 and 1993 but declined steadily thereafter to 5.6 in 2000. Based on the pattern shown in the last 20 years, it is apparent that the figures from the 1960 PES and 1971 Supplementary Enquiry were under estimated. The increasing trend observed between 1960 and 1988 indicates a gradual improvement in the quality of data collected.

### 8.3 Fertility Differentials among Socio-economic Groups

Several factors account for the variation in fertility among different populations. These may be geographic, socio-economic, demographic and cultural factors. Identifying these factors leads to a better understanding of the fertility behaviour of women in Ghana. In this analysis, an attempt is made to examine the relationship between the geographic place of residence, education, marital status, type of marriage, ethnicity, religion, employment status, occupation, sector of employment and level of fertility.

#### Place of Residence

Table 8.6 shows the reported TFRs for the period 1960-2000 by rural-urban place of residence. The Table indicates that large rural-urban differentials in fertility levels exist in Ghana. Women who reside in rural areas have a comparatively higher fertility rate than those in urban areas. In the year 2000, a TFR of 4.92 children per woman is reported for rural localities, while the estimate for urban localities is 3.00 children per woman. This indicates that the fertility of rural women is about 64 per cent or two children per woman higher compared to urban women.

**Table 8.6 Total Fertility Rates by Place of Residence**

Period	Source	Total Fertility Rate		
		Urban	Rural	Total
1960	PES	5.60	6.70	6.50
1971	SE	6.20	7.10	6.91
1979/80	GFS	5.78	6.85	6.49
1988	GDHS	5.05	6.64	6.43
1993	GDHS	3.99	6.36	5.50
1998	GDHS	2.96	5.41	4.55
2000	Census	3.00	4.92	3.99

The figures for previous years suggest that the urban-rural gap has been widening over time. In 1971 for example, rural TFR was 7.10 children per woman compared to 6.20 children per woman for urban women, suggesting a difference of approximately 13 per cent but by 2000, the fertility gap between urban and rural women had increased to 64 per cent.

The effect of urbanization on fertility may originate from the timing of the onset of marriage and childbearing, the incidence of marital dissolution and, to some extent, pregnancy wastage. For example, the 1998 GDHS indicate the median age at first birth is lower for all age groups of women aged 25-49 years in rural areas compared to those in urban areas. For urban women, it ranges from 20.4 years for the 45-49 year olds to 22.8 years for the age group 25-29 years, with an overall median of 21.0 years, while for rural areas the figures range from 19.6 for those aged 45-49 years to 20.4 for the 25-29 year olds, with an overall median of 20.0 (GSS and MI, 1999).

Similarly, the median age at first marriage for women aged 25-49 years is much higher in urban areas (19.7 years) than in rural areas (18.8 years), and increases from 19.3 years for urban women aged 45-49 years to 21.2 years for those aged 25-29 years, and from 18.5 years for the 45-49 year olds in rural areas to 19.0 years for women aged 25-29 years (GSS and MI, 1999). The very early age at first marriage in rural areas has the potential of exposing the women to higher risks of pregnancy compared to urban women who marry relatively late.

The level of pregnancy wastage also appears to be relatively higher in urban areas than in rural areas and this could dampen levels of fertility in these areas. The 1998 GDHS survey showed that early foetal loss accounted for 13.2 per cent of all pregnancies in urban areas 0-9 years preceding the survey compared to 8.5 per cent in rural areas. These figures probably reflect the levels of miscarriages. Since abortion is illegal in this country, it is likely that most women, especially those living in urban areas, will not report on them. This implies that the levels of pregnancy wastage, particularly for urban areas where facilities exist for safe abortion, may be higher than the reported figures. Since these pregnancies are not carried to term, actual fertility levels in urban areas will be much lower than what would be expected, all things being equal; this may partly account for the significantly lower levels of fertility reported in urban areas. Comparing the reported rural and urban TFRs for 2000 with those for 1988 (which were given as 6.64 and 5.05 respectively) suggest that over the 12-year period, there has been a 26 per cent decline in rural fertility and a 41 per cent fall in urban fertility. Table 8.6, however, shows that between 1998 and 2000, urban fertility remained more or less stable at around 3 children per woman.

The other point may be the differential reporting of fertility by urban and rural residents. Women, especially those in the younger age groups who are not in any socially sanctioned marriage, are more likely to conceal their childbearing status because of the negative social implications. This is especially so among young urban residents who may either be in school or may be waiting for a prospective spouse and so may not be willing to destroy their “good public image”.

The age-specific fertility rates displayed in Table 8.7 for rural and urban women show that prior to the year 2000, births to rural women were concentrated in the age group 20-29 years, while births in urban areas mostly occurred to women aged 25-29 years. The patterns exhibited in 2000 are slightly different.

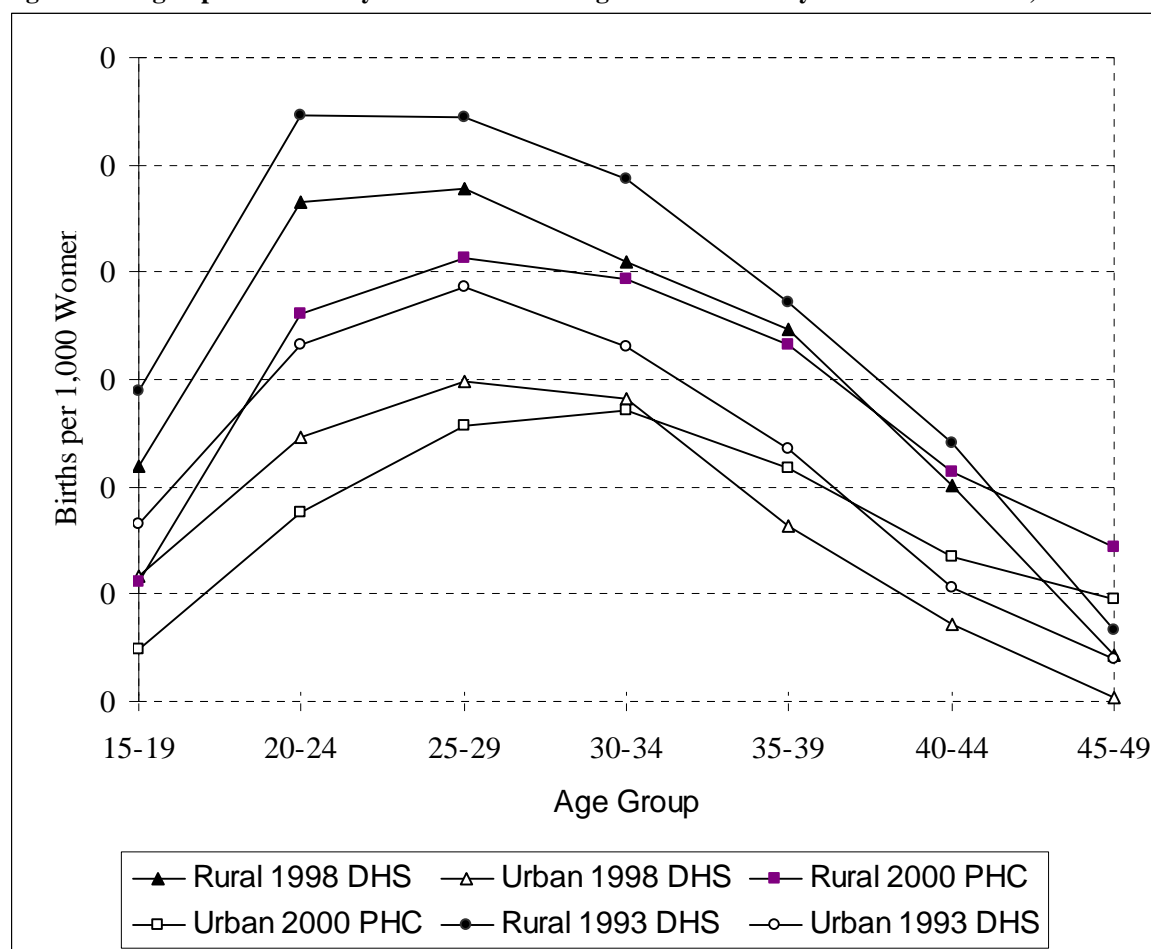
**Table 8.7: Age-Specific Fertility Rates by Place of Residence, 1993-2000**

Age Group	Age Specific Fertility Rate					
	1993		1998		2000	
	Rural	Urban	Rural	Urban	Rural	Urban
15-19	0.145	0.083	0.110	0.058	0.056	0.024
20-24	0.273	0.166	0.233	0.123	0.180	0.088
25-29	0.272	0.193	0.239	0.149	0.207	0.128
30-34	0.243	0.165	0.205	0.141	0.197	0.136
35-39	0.186	0.118	0.173	0.082	0.166	0.108
40-44	0.120	0.053	0.101	0.036	0.107	0.067
45-49	0.033	0.020	0.022	0.002	0.072	0.048
TFR	6.36	3.99	5.415	2.955	4.925	2.998
GFR	218.0	138.0	183.0	103.0	155.5	100.1
CBR	40.2	32.9	36.0	25.4	33.8	26.7

Sources: Ghana Statistical Service and Macro International Inc. (1994)  
Ghana Statistical Service and Macro International Inc (1999),  
2000 Ghana Population and Housing Census

The peak of rural fertility seems to centre on the age group 25-29 while the peak of urban fertility has shifted to the 30-34 age group. This changing pattern is clearly displayed in Figure 8.3.

**Figure 8.4: Age-Specific Fertility Rates of Women Aged 15-49 Years by Place of Residence, 1993-2000**



### **Region of Residence**

Table 8.8 presents the regional estimates of total fertility rates for the period 1979/1980-2000. For the year 2000, the lowest TFR of 2.5 children per woman is observed for Greater Accra. This region has two of the three largest cities in Ghana (i.e. Accra and Tema), and is the most developed region in Ghana in terms of social and economic facilities. Further examination of the data suggests that there is a clear and significant fertility differential between the Greater Accra and the other nine regions in Ghana. Volta follows Greater Accra, with a total fertility rate of 3.5 children per woman. Except in 1988 and until 2000, Northern has reported the highest level of fertility, with Upper West (except 1979/1980) closely following. The reported 2000 rates put Upper West slightly ahead of Northern though insignificant.

**Table 8.8: Reported Total Fertility Rate by Region (1979/80-2000)**

Region	(1979/80)	(1988)	(1993)	(1998)	(2000)	% Decline (1979-2000)
Western	7.08	6.10	5.54	4.70	4.42	37.6
Central	7.27	6.58	5.57	4.78	4.01	44.8
Greater Accra	5.10	4.64	3.56	2.66	2.53	50.4
Volta	6.58	5.72	5.41	4.44	3.51	46.7
Eastern	6.62	6.66	5.10	4.41	3.72	43.8
Ashanti	6.24	5.90	5.60	4.76	4.84	22.4
Brong Ahafo	6.74	6.86	5.46	5.40	4.24	37.1
Northern	7.78	6.80	7.39	6.98	4.87	37.4
Upper East	5.81	6.80	6.02	4.98	4.19	27.9
Upper West	5.81	6.80	6.44	6.14	4.90	15.7
Total	6.47	6.43	5.50	4.55	3.99	38.3

Sources: Central Bureau of Statistics (1983); Ghana Statistical Service (1989),  
 Ghana Statistical Service and Macro International Inc. (1994)  
 Ghana Statistical Service and Macro International Inc (1999)  
 2000 Ghana Population and Housing Census

A trend analysis of the data by region shows that the declines in total fertility rates did not only occur at the national level. The reported figures for the period 1979-2000 reveal dramatic declines in fertility in all ten regions of Ghana. The highest reduction of 50 per cent is reported for Greater Accra while the lowest decline of 16 per cent is Upper West, where development indices lag behind those observed in other regions.

It may not be completely accurate to attribute the pattern observed in the reported TFRs for Northern and Upper East solely to declining fertility. The relatively large reductions noted in the fertility levels for these regions since 1993 may partly be explained by the constant flow of migrants, particularly female youth, from these regions to southern Ghana in search of jobs. Some of these young female migrants have also been known to enroll in educational institutions in the south of the country to pursue their various educational goals. Those who enter the job market mostly move to the cities, particularly Kumasi and its environs or to Accra to find jobs. A number of them can be seen in the markets in the capital city carrying loads and are commonly referred to as 'kaya yei'. Evidently, the constant out-migration of young fertile females may cause distortions in the age structure for the female reproductive age group and consequently lower total fertility rates for the women in these regions.

## **Education**

As indicated in Table 8.9, total fertility rates appear to be inversely related to a woman's level of education. According to the 2000 census, the fertility of women with primary education is six per cent lower than for those with no formal education. Relative to those who had received no formal education, women with Middle/JSS education had a 24 per cent lower fertility. Those with secondary or higher levels of education exhibited a fertility level that was 35 per cent lower. This demonstrates the effect of education beyond the primary level on women's reproductive behaviour, because of the exposure and broadening on one's perspectives on the benefits of smaller family size and contraceptive use vis-a-vis opportunities for economic and income generating ventures.

**Table 8.9: Total Fertility Rates by Level of Education (1988-2000)**

Level of Education	1988 GDHS	1993 GDHS	1998 GDHS	2000 Census
No education	6.77	6.67	5.83	4.64
Primary	6.09	6.10	4.94	4.37
Middle/JSS	5.87	4.71	3.78	3.54
SSS/Tech/Voc or Higher	3.55	2.90	2.80	3.02
Total	6.43	5.50	4.55	3.99

Sources: Ghana Statistical Service (1989), Ghana Statistical Service and Macro International Inc.(1994)  
 Ghana Statistical Service and Macro International Inc (1999)  
 2000 Ghana Population and Housing Census

The differentials in the timing of marriage, the onset of childbearing and contraceptive use may account for the marked educational differences in fertility. For example, whereas the median age at first birth based on the 1998 DHS was 19.7 years for women with no formal education, it is 24.9 years for those with secondary or higher levels of education (Table 8.10).

**Table 8.10: Median Age at First Birth, Mean Age at First Marriage and Current use of Contraception by Level of Education, 1998 GDHS**

Level of Education	Median age at first birth (based on women aged 25-49 years)	Mean age at first marriage (based on women aged 25-49 years)	Current use of modern contraception (based on currently married women aged 15-49 years)
No education	19.7	18.5	8.9
Primary	20.0	18.8	12.9
Middle/JSS	20.3	19.2	16.1
Secondary or Higher	24.9	23.2	20.3
Total	20.3	19.1	13.3

Source: Ghana Statistical Service and Macro International Inc (1999)

Mean age at first marriage is also 18.5 years for women with no education while it is 23.2 years for those with secondary or higher education. Similarly, modern contraceptive use rises consistently with the level of education and in the 1998 GDHS, it was estimated at 8.9 per cent for women with no education compared to 20.3 per cent for those with secondary or higher education.

### **Marital Status**

Table 8.11 shows that currently married women and those in a non-formalized union experience significantly higher fertility than all other women aged 15-49 years. This is true for all the periods under discussion. For example, data from the 2000 Census indicate that while the never married exhibits the lowest fertility of about one child per woman, the TFR of women who are currently married and those in consensual union is about 5.3 children per woman. Similarly, the TFR for formerly married women (i.e. those who are separated, divorced or widowed) is close to 3.5 children per woman. This is generally because the never married are young and probably in school, but it also shows that marriage provides greater legitimacy and room for procreation than outside it.

**Table 8.11: Total Fertility Rate by Marital Status (1988-2000)**

Marital Status	1988 GDHS	1993 GDHS	1998 GDHS	2000 Census
Never married	0.65	0.41	0.53	1.18
Married/ Informal Union	7.38	6.70	6.03	5.29

Formerly married	4.93	4.47	3.65	3.45
Total	6.43	5.50	4.55	3.99

Sources: Computed from the 1988, 1993 and 1998 DHS and the 2000 Census data.

Examination of the data over time shows that the TFR of those married or in informal union dropped consistently from 7.4 to 5.3 between 1988 and 2000 while that for the formerly married fell from 4.9 to 3.5 children per woman between 1988 and 2000. The TFRs for the never married fluctuated over the entire period. The estimates for the period between 1988 and 1998 may be attributed to the small sample sizes usually found in that category. As earlier mentioned, in the case of the 2000 census, more young girls may have been enumerated than in the Demographic and Health Surveys, as those in school would be home during the census.

## 8.4 Pace of Childbearing

Changes in the timing of childbearing have important implications for fertility trends. Delaying the age at childbearing, for example, could significantly reduce fertility and in the process speed up the transition from high to low fertility. Similarly, lowering the age at childbearing would lead to a rise in the total fertility rate, causing reversals or stagnation in ongoing fertility declines. The observed TFR at any given point in time is made up of two distinct parts: a “quantum” component which is equivalent to the TFR that would have been observed in the absence of changes in the timing of births, and a spacing/timing or “tempo” component which is attributable to advancing or delaying of births (Bongaarts, 1999). Thus, whereas the quantum component measures the natural reproductive behaviour of a population, the tempo component is considered to be a distortion of the observed TFR. This section attempts to examine the role of “tempo” changes in Ghana’s fertility decline. Indicators that have been used to measure the timing of childbearing include the mean age at child bearing (MAC), parity progression ratios and waiting time to the next live birth (i.e. birth intervals).

### Mean Age at Child Bearing

As Table 8.12 indicates, the mean age at childbearing appears to have been quite stable at around 30 years between 1988 and 1998 but increased by about two years in 2000. This sudden increase in the mean age at childbearing in the year 2000 could reflect possible distortions in age reporting.

Table 8.12: Trends in Total Fertility Rates and Mean Age at Childbearing (1988-2000)

Year	TFR	MAC <sup>1</sup>
1988	6.43	30.3
1993	5.50	29.6
1998	4.55	29.6
2000	3.99	31.7

<sup>1</sup>Based on births in the last 12 months

Trends in the age pattern of fertility between 1988 and 1998 indicate that even though significant reductions in fertility were observed among the older age groups (20-44) prior to 2000, it did not change the magnitude of the mean age at childbearing. An examination of the mean age at

childbearing by birth order, however, shows that the age at first birth increased from 19.4 years in 1988 to 20.1 years in 1998 (Table 8.13). A similar observation is made for all other births, suggesting that there have been some increases in the age at which women progress to the next birth.

**Table 8.13 Mean Age of Mother at Childbearing by Birth order (all birth)**

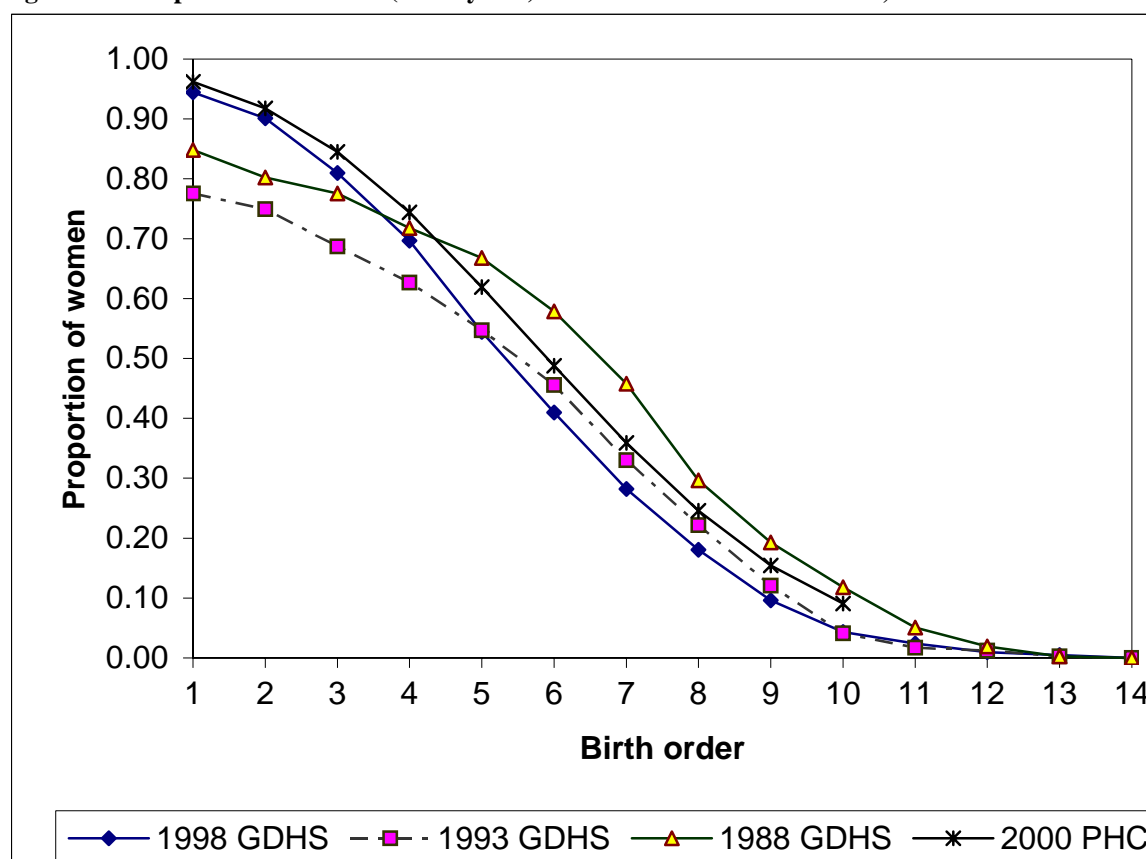
Birth Order	Mean age of mother at birth of the child		
	1988	1993	1998
1	19.4	20.0	20.1
2	22.3	23.0	23.1
3	24.7	25.8	25.7
4	27.1	28.1	28.2
5	29.5	30.3	30.7
6	31.8	32.6	32.5
7	33.6	34.6	34.4
8	35.6	36.2	35.9
9	36.9	37.7	37.4
10	38.2	38.8	38.6
11	39.9	40.5	39.4
12	40.5	40.5	41.7
13	42.8	42.8	42.8
14	44.4	45.7	41.0
Total	25.4	25.6	25.6

### **Parity Progression Ratios**

Figure 8.4 shows the parity progression ratios (calculated as the proportion of a cohort of women who have had a birth of order *i*.) for women aged 45-49 years. From the graph, there appears to be substantial limiting of higher order births over time for women who have reached the end of their reproductive cycle. The results of the analysis suggest that between 1988 and 1998, there were substantial declines in the proportions of women aged 45-49 who moved on to have higher order births, as indicated by the considerable lowering of the 1993, 1998 and 2000 curves in relation to the 1988 curve at birth orders five and above. Thus, the proportion of women aged 45-49 who moved from the fifth to the sixth birth order declined from 0.67 in 1988 to 0.55 in 1993, 0.54 in 1998 and 0.49 in 2000. Considering the declining fertility trend in Ghana since the late 1980s, the reduction in parity progression ratios, especially at higher birth orders, therefore appear to be an important determinant of the observed fertility decline in Ghana.



**Figure 8.5: Proportion of Women (45-49 years) with a Birth of a Given Order, 1988-2000**



The proportions of women moving between the first and fourth order births were much higher for 1998 and 2000 compared to 1988 while those for 1993 were much lower than those for 1988. These irregularities are difficult to explain but it could be that formerly women who were not married considered it socially unacceptable to have children outside marriage.

### **Birth Intervals**

The waiting time to the next live birth is closely associated with prevailing levels of fertility. A woman who chooses longer birth spacing is likely to have fewer children than one whose inter-birth intervals are short. Table 8.14 presents the median preceding and succeeding birth intervals by background characteristics. The analysis of succeeding birth intervals is limited to births with closed intervals while that of preceding birth intervals are based on second or higher order births.

### **Preceding Birth Intervals**

As shown in Table 8.14, the median preceding birth interval for all single births, which occurred five years prior to the 1998 Ghana Demographic and Health Survey is 38 months. There are variations, however, by selected demographic and socio-economic characteristics, such as age at the birth of the child, place of residence, level of education, occupation and employment status. The median preceding birth interval increases consistently with age of mother at the birth of the child from 28 months for the 15-19 year olds to 41 months for those aged 35 years and older. This means that birth intervals get longer as mothers grow older. This could be the result of a

natural decline in fecundity, a decline in sexual activity or increased use of contraception among these women. With respect to place of residence, preceding birth intervals are about six months longer in urban areas than in rural areas, possibly because of the educational advantage urban residents have and the fact that they are more likely to use contraception and to engage in occupations that make childbearing a disincentive.

In some Asian and Northern African countries (such as Bangladesh, Republic of Korea and Egypt) where son preference exists, the timing of the next birth is significantly affected by the sex of the index child. Where the index child is a female, the subsequent birth is hastened, especially if the couple has no male child or has less than the desired number of male children (Oyeka, 1989; Ram, 1992; Choe et al, 1998). The absence of sex differences in birth intervals is consistent with earlier observation made by researchers, which suggests that, in social and economic terms, both male and female children are highly valued by the Ghanaian society (Goody et al, 1981; Alderman, 1990, Agble et al, 1995; Adongo et al, 1998) and are thus unlikely to produce differential responses in terms of how quickly the next birth should occur.

A distribution of the median preceding birth intervals by level of education shows that the changes observed with rising levels of education are not as large as that observed for women with secondary or higher education. A woman who has attained secondary education has a preceding birth interval which is longer by five months compared to a woman with no education. The comparative figure for those who have Middle/JSS education is only one month. One therefore expects significantly lower levels of fertility for women with secondary or higher levels of education relative to those with lower levels of education.

Substantial variations are also observed for mothers in different occupational groups. Women who are engaged in professional, technical, managerial and clerical occupations have the longest preceding intervals of 51 months compared to 36 months for agricultural workers. Paid employees and the self-employed also tend to have longer birth intervals than those who are engaged in unpaid work.

### **Succeeding Birth Intervals**

Variations in succeeding birth intervals are not as pronounced as those for preceding birth intervals (Table 8.14). For example, the difference in median succeeding birth intervals for women with no education and those educated up to the secondary or higher level is two months as against the five months for preceding birth intervals. The observed relationship between succeeding birth intervals and a number of the demographic and socio-economic variables is also not in the expected direction. For example, the median succeeding birth intervals decline by mother's age at birth. The inference here is that the patterns observed with respect to succeeding birth intervals do not provide any strong basis for drawing meaningful conclusions regarding fertility levels in Ghana.

**Table 8.14: Median Preceding and Succeeding Birth Intervals (in months) by Selected Background Characteristics (last 5 years), 1998 GDHS**

Background Characteristic	Preceding Birth Interval (N=2314)	Succeeding Birth Interval (N=791)
<b>Mother's age at birth</b>		
15-19	28.0	31.0
20-24	34.0	30.0
25-29	38.0	29.2
30-34	40.0	29.0
35+	41.0	29.0
<b>Sex of child</b>		
Male	38.0	29.5
Female	37.0	30.0
<b>Birth order of child</b>		
1	-	28.5
2	38.0	29.4
3	37.0	30.0
4	39.0	30.0
5+	37.0	-
<b>Usual place of residence</b>		
Rural	37.0	29.0
Urban	42.9	30.0
<b>Mother's education</b>		
None	37.0	30.0
Primary	37.0	30.0
Middle/JSS	38.0	29.0
Secondary+	42.0	32.3
<b>Marital status</b>		
Never married <sup>1</sup>	-	-
Currently married	38.0	30.0
Formerly married	37.0	26.0
<b>Mother's occupation</b>		
Unemployed	35.0	28.0
Professional/Tech/Managerial/Clerical	51.0	26.0
Sales	40.0	29.0
Agric-self employed	36.0	30.0
Skilled manual	39.0	31.1
<b>Mother's employment status</b>		
Unemployed	35.0	28.0
Paid Employee	38.6	28.0
Self-employed	38.0	31.0
Unpaid worker	35.0	31.1
Total	38.0	30.0

<sup>1</sup> Number of births to women in this category is fewer than 25.

## 8.5 Premarital Childbearing

Premarital childbearing (defined as childbearing prior to marriage) is a useful indicator of unplanned births, even though it may not be a true reflection of unplanned pregnancies, most of which may end up being terminated. The indicator also gives an idea of the reproductive behaviour of young people and the possible health consequences they face.

Data from the 1998 Demographic and Health Survey suggest that premarital births made up only 3.5 per cent of the 6292 children born ten years prior to the survey. About 51 per cent of these premarital births occurred to women in their teens and by the age of 25 years 86 per cent of these births had occurred (Table 8.15). What is noticeable about the distribution is that the number of premarital births to women below the age of 15 years is just about three per cent. A distribution by level of education indicates that over half (51%) of these premarital births occurred to women who had had no formal education or had been educated up to the primary level.

Other socio-economic differentials from the GDHS (1998) demonstrate that they are also mostly rural (67%), self-employed 60%), in sales and agriculture (65%), and belong to “Other Christian” denomination (49%). The low proportion of urban women who indulge in premarital childbearing (33%) may partly be explained by the fact that these women, especially the educated ones, may have better facilities for terminating premarital pregnancies. Other possible explanations include increased access to contraception as well as access to health and other educational programmes on the radio and television.

**Table 8.15: Premarital Births by Age of Mother at Birth of Child (in the last ten years), 1988-1998**

Age at Child Birth	1988		1998	
	No. of Women	%	No. of Women	%
<15	9	3.3	6	2.9
15-19	157	58.4	107	48.5
20-24	89	33.1	75	34.3
25+	14	5.2	31	14.3
Total	269	100.0	220	100.0

A comparative analysis of the 1988 GDHS data showed that premarital childbearing among Ghanaian women has not changed. Out of 7683 births ten years prior to the survey, 269 (or 3.5%) were born out of wedlock. Limiting the analysis to births in the last five years indicates a slight decline in premarital childbearing from 3.5 per cent in 1988 to 3.1 per cent in 1998, which is comparable to the 2.9 per cent observed when the data for the 1998 GDHS are extended to cover a ten-year window.

## 8.6 Childlessness

Childlessness can be a very traumatic experience, especially for women. Childlessness in this report is measured in two ways: the proportion of women with no child by the age of 35 years or the proportion of women who remain childless after seven years of marriage (Larsen and Menken, 1989). Here exposure time or marriage duration spans the period of entry into first marriage to the date of interview. The explanation for this is that infertile women are more likely to have dissolved their first union and are less likely to have been in one for as long as seven years. Confining the analysis first to intact marriages would therefore lead to invalid conclusions (Larsen, 1994). Analysis of the Ghana Demographic and Health Survey data suggests that childlessness for ever-married women aged 35 years and older increased slightly from 1.5 per

cent in 1988 to 2.0 in 1998 (Table 8.16). This increase could reflect the emerging phenomenon of delayed marriages into the thirties as well as the deliberate postponement of childbearing among educated and professional women. This calls for a need to review the cut off age of 35 years.

**Table 8.16: Ever Married Women (35 years and older) by Childbearing Status**

Childbearing Status	1988 GDHS		1998 GDHS	
	No. of women	%	No. of women	%
Childless	19	1.5	30	2.0
Has at least one child	1238	98.5	1471	98.0
Total	1257	100.0	1501	100.0

On the basis of the second definition of marriage duration, the proportion childless rose from 1.3 per cent in 1988 to 1.8 per cent in 1998 as shown in Table 8.17. These estimates are very similar to those observed earlier using the age cut-off point of 35 years. Comparatively, the most recent estimate of 1.8 per cent for ever-married women who have been married for seven years or more is slightly lower than the levels observed for countries such as Tanzania (2.4%), Cote d'Ivoire (2.7%) and the Central African Republic (6.2%) based on an analysis of DHS data collected between 1995 and 1997 (Larsen and Yan, 2000).

**Table 8.17: Ever-Married Women (for 7 years or more) by Childbearing Status**

Childbearing Status	1988 GDHS		1998 GDHS	
	No. of women	%	No. of women	%
Childless	34	1.3	48	1.8
Has at least one child	2211	98.7	2600	98.2
Total	2558	100.0	2648	100.0

## 8.7 Fertility Preferences and Contraceptive Use

Fertility preferences are indicators of future reproductive behaviour but are usually adjusted to match changing socio-economic conditions depending on the quantitative assessment of both the utility and cost of children. Factors that motivate people to change their reproductive goals include urbanization, level of education, employment status, and occupation. For example, urban life styles may be too costly to support large family sizes. Urbanization may thus influence people to change their family size preferences to levels that match the anticipated cost of having children. Fertility preferences thus provide useful information about future trends in fertility in a given society. To gain an insight into women's reproductive intentions in Ghana, this section looks at women's ideal family size, the desire for additional children and the factors that affect these preferences. An attempt is also made to investigate the relationship between these desires and contraceptive use to see how far their need for contraception is met.

### Desire for Additional Children

Table 8.18 shows the distribution of currently married women by their desire for additional children. The data suggest that the desire for additional children has declined from 68.5 per cent in 1988 to 55.8 per cent in 1998. The proportion of women who desire no more children increased from 23 per cent in 1988 to 33.0 per cent in 1993 but remained stable at approximately the same level (34%) in 1998.

**Table 8.18: Currently Married Women by Desire for More Children, 1988-1998**

	1988 <sup>a</sup> (N=3156)	1993 <sup>b</sup> (N=3204)	1998 <sup>c</sup> (N=3131)
Desire for children			
Have another soon <sup>1</sup>	19.5	16.3	18.4
Have another later <sup>2</sup>	44.9	39.3	34.6
Have another, unsure when	4.1	0.7	2.8
Undecided	5.1	5.4	5.5
Want no more	22.8	33.0	33.7
Sterilized	-	0.9	1.3
Declared infecund	3.5	3.7	3.6
Not stated	0.1	0.6	0.1
Total	100.0	100.0	100.0

Sources: <sup>a</sup> Ghana Statistical Service and Macro International Inc. (1989)

<sup>b</sup> Ghana Statistical Service and Macro International Inc. (1994)

<sup>c</sup> Ghana Statistical Service and Macro International Inc. (1999)

Notes:

<sup>1</sup> Wants next birth within 2 years

<sup>2</sup> Wants to delay next birth for 2 years or more

Among the women interviewed in 1998, 18.4 per cent wanted another child within two years of the date of interview while 34.6 per cent wanted to have the child at a later date. Approximately five per cent of the women could not have additional children for reasons of infecundity. The desire to have another child consistently declines with the number of living children from 89 per cent for women with no living child to 12 per cent for those with six children or more, as indicated in Table 8.19. In contrast, the desire to stop childbearing is higher for women with more living children; for example, 76 per cent of women with six children or more do not want any more children, compared to less than one per cent of women with no living children.

**Table 8.19: Currently Married Women by Desire for More Children and by No. of Living Children**

Desire for children	Number of living children							Total
	0	1	2	3	4	5	6+	
Have another soon <sup>1</sup>	60.7	25.5	21.4	17.0	9.3	7.0	3.3	18.4
Have another later <sup>2</sup>	19.9	63.2	49.1	34.9	23.9	17.8	8.5	34.6
Have another, unsure when	8.4	4.5	3.1	2.0	2.0	0.8	0.6	2.8
Undecided	4.9	3.1	7.8	5.7	7.4	7.5	2.7	5.5
Want no more	0.8	2.3	15.7	34.9	50.7	60.9	76.0	33.7
Sterilized/Declared infecund	5.3	1.4	3.0	5.5	6.7	6.0	8.9	5.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	222	571	601	533	426	309	468	3131

Notes: <sup>1</sup> Wants next birth within 2 years

<sup>2</sup> Wants to delay next birth for 2 years or more.

There is little variation in the desire for additional children between categories of women who have received some formal education. There are substantial differences, however, in the desire to limit or postpone births between women with no formal education and their counterparts in other educational categories. For example, the proportion of women who want no more children is 32 per cent for those with no education and 35 per cent for each of the other educational groups. On the other hand, women with no formal education who desired to postpone childbearing to a later date was 37 per cent compared to 33 per cent for those with primary, middle/JSS and secondary or higher levels of education (Table 8.20).

**Table 8.20: Currently Married Women by Desire for More Children and by Level of Education, 1998**

Desire for children	Level of education				Total
	None	Primary	Middle/JSS	Sec+	
Have another soon <sup>1</sup>	18.0	17.5	18.7	21.3	18.4
Have another later <sup>2</sup>	36.9	33.2	33.5	32.7	34.6
Have another, unsure when	2.1	3.5	3.3	2.4	2.8
Undecided	5.2	6.6	5.7	3.5	5.5
Want no more	31.8	34.9	34.6	34.6	33.7
Sterilized/Declared infecund	6.0	4.3	4.2	5.5	5.0
Total	100.0	100.0	100.0	100.0	100.0
N	1106	576	1195	254	3131

Notes: <sup>1</sup> Wants next birth within 2 years

<sup>2</sup> Wants to delay next birth for 2 years or more

Table 8.21 also suggests that while the desire to postpone childbearing was much lower for urban women (33%) than for rural women (40%), the desire to limit childbearing was marginally higher for urban (35%) than for rural women (33%).

**Table 8.21: Currently Married Women by Desire for More Children and Locality**

Desire for children	Place of Residence		
	Urban	Rural	Total
Have another soon <sup>1</sup>	21.5	17.1	18.4
Have another later <sup>2</sup>	28.4	37.4	34.6
Have another, unsure when	4.1	2.2	2.8
Undecided	5.9	5.3	5.5
Want no more	34.6	33.3	33.7
Sterilized/Declared infecund	5.5	4.7	5.0
Total	100.0	100.0	100.0
N	979	2152	3131

Notes: <sup>1</sup> Wants next birth within 2 years

<sup>2</sup> Wants to delay next birth for 2 years or more

Regarding the distribution by occupational groups, the desire to limit births was substantially high for those in professional occupations (44%) relative to those in other occupational categories (Table 8.22). In contrast, the desire to have additional children (i.e. those who wanted to have another child whether soon, later or unsure when) was lowest for the professional, technical, managerial, and clerical workers (45%) and highest for women who had no jobs (67%) followed by those in manual occupations (63%).

**Table 8.22: Currently Married Women by Desire for More Children and Occupation, 1998**

Desire for Children	Unemployed	Professional/Technical/		Agric Self employed	Skilled Manual	Total
		Manager/Clerical	Sales			
Have another soon <sup>1</sup>	16.3	29.3	19.5	15.4	21.5	18.4
Have another later <sup>2</sup>	48.0	15.1	30.9	34.2	39.1	34.6
Have another, unsure when	2.6	0.9	3.6	2.0	2.6	2.8
Undecided	9.7	3.8	5.4	4.6	4.8	5.5
Want no more	20.5	44.3	36.2	37.0	28.2	33.7
Sterilized/Declared infecund	2.9	6.6	4.3	6.8	3.8	5.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
N	383	106	1233	990	419	3131

Notes: <sup>1</sup> Wants next birth within 2 years

<sup>2</sup> Wants to delay next birth for 2 years or more

The distribution of currently married women by their employment status and fertility desires in Table 8.23 shows that the highest proportion of those desiring to limit childbearing (i.e. those wanting no more children) is found among the professional, technical and managerial workers (44.3%), followed by the agricultural self-employed (37.0%), and sales workers (36.2%). Generally, women in professional occupations, agriculture, or sales work outside the home and having many babies may impede one's success in these activities, because each birth requires suspending work for a while to care for the child. Such work interruptions in themselves have adverse financial implications for the family, especially in situations where the woman may not be on paid leave.

**Table 8.23: Currently Married Women by Desire for More Children and by Employment Status, 1998**

Desire for Children	Unemployed	Paid employee	Self employed	Unpaid Worker	Not Stated	Total
Have another soon <sup>1</sup>	16.3	21.6	17.3	20.0	23.9	18.4
Have another later <sup>2</sup>	48.0	34.2	31.6	45.8	29.8	34.6
Have another, unsure when	2.6	1.5	2.9	5.3	1.8	2.8
Undecided	9.7	3.6	5.2	5.3	4.8	5.5
Want no more	20.5	33.6	37.5	17.8	36.8	33.7
Sterilized/Declared infecund	2.9	5.5	5.4	5.8	2.9	5.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
N	383	333	1953	190	272	3131

Notes: <sup>1</sup> Wants next birth within 2 years

<sup>2</sup> Wants to delay next birth for 2 or more years

### **Mean Ideal Family Size**

Knowledge about the mean ideal family size provides a fair idea about future fertility levels. In all the three rounds of the Ghana Demographic and Health Survey, women were asked how many children they would like to have if they could choose the exact number of children to have in their lifetime. These fertility decisions are greatly influenced by traditional norms and values as well as changing socio-economic circumstances, but they reflect fertility behaviour patterns. Table 8.24 shows that the average number of children women would have wished to have, if they had to start childbearing all over again has declined by one child between 1988 and 1998. In general, desired family size tends to increase with age, and this is true for all three rounds. With the exception of the 20-34 age groups, there are no substantial declines in family size preferences between 1993 and 1998. Compared to actual fertility levels, the desired family size of 4.3 for 1998 is closer to the reported figure of 4.6 whereas those for 1988 and 1993 are much lower than the actual estimated fertility levels of 6.4 and 5.5. These observations could mean that women in Ghana are now actually having their desired family size whereas in the past (1988-1993) these desires were mere expressions of what should have been.

**Table 8.24: Mean Ideal Number of Children for all Women by Age Group (1988-1998)**

Age Group	1988	1993	1998
15-19	4.7	3.6	3.6
20-24	4.7	3.9	3.7
25-29	5.2	4.4	4.1
30-34	5.5	4.8	4.5
35-39	5.7	4.8	4.7
40-44	6.0	5.1	5.0

45-49	6.5	5.5	5.5
Total	5.3	4.4	4.3

Table 8.25 shows that mean ideal family size varies considerably by place of residence, level of education, occupation and employment status. As expected, urban residents desire small family sizes. In terms of education, fertility desires decreased consistently with increasing levels of education. While women with no formal education desired a family size of 5.4 children, those with secondary or higher levels of education wanted to have 3.3.

**Table 8.25: Mean Ideal Family Size of all Women by Selected Background Characteristics, 1998**

Socio-economic characteristic	Mean ideal family size
<b>Place of residence</b>	
Urban	3.7
Rural	4.6
<b>Level of Education</b>	
No education	5.4
Primary	4.2
Middle/JSS	3.8
Secondary+	3.3
<b>Occupation</b>	
Unemployed	3.8
Professional/Tech/Managerial/Clerical	3.4
Sales	4.2
Agric self-employed	5.1
Skilled manual	4.0
<b>Employment Status</b>	
Unemployed	3.8
Paid employee	4.0
Self-employed	4.4
Unpaid worker	4.9
Total	4.3

The distribution by occupation indicates that those engaged in self-employed agriculture desire larger family sizes than women in other occupational groups. Comparatively, those in professional, technical, managerial or clerical occupations desired fewer children (3.4 children). Similarly, paid employees had the lowest fertility desires (4.0 children) compared to the self-employed (4.9 children).

Although fertility preferences are individually motivated, they have implications for the larger society and any changes in these preferences would influence actual fertility levels. Thus, factors that have the potential of reducing fertility desires should be taken into account during the formulation of policies aimed at reducing fertility in Ghana.

### **Demand for Family Planning Services and Use of Contraception**

Current users of contraception are classified as having a met need for family planning services. On the other hand, women who report that they do not want any more children or that they would like to wait for two or more years before having another child, but are not using contraception may be considered to have an unmet need for family planning. The sum total of

met and unmet need for family planning therefore constitutes the total potential demand for family planning services.

Table 8.26 shows the unmet and met needs for currently married women by background characteristics. Overall, 45 per cent of currently married women desired to have family planning services while only 22 per cent are currently using contraception and therefore have a met need for family planning services. This means that less than half (48.8%) of women who desire family planning services have their needs satisfied.

**Table 8.26: Currently Married Women with Met and Unmet Need for Family Planning by Background Characteristic (GDHS, 1998)**

Socio-Economic Characteristic	Unmet Need	Met Need	Total Demand	%Demand Satisfied
<b>Place of residence</b>				
Urban	21.6	30.4	52.0	58.4
Rural	23.6	18.1	41.8	43.4
<b>Level of Education</b>				
No education	23.7	13.2	36.9	35.7
Primary	26.5	20.3	46.8	43.4
Middle/JSS	21.8	26.6	48.4	54.9
Secondary+	17.2	42.3	59.5	71.0
<b>Occupation</b>				
Unemployed	21.1	16.4	37.5	43.8
Prof./Tech/Managerial/Clerical	13.2	39.6	52.8	75.0
Sales	25.2	25.0	50.2	49.8
Agric self-employed	23.3	16.6	39.9	41.7
Skilled manual	20.0	26.3	46.3	56.7
<b>Employment Status</b>				
Unemployed	21.1	16.4	37.5	43.8
Paid employee	18.7	28.0	46.7	60.0
Self-employed	24.6	22.3	46.9	47.6
Unpaid worker	18.4	14.2	32.6	43.5
Total	23.0	22.0	45.0	48.8

The distribution of women by selected socio-economic characteristics suggests that unmet need for family planning services varies by level of education, occupation and employment status. In terms of education and unmet need, an inverse relationship is observed. Whereas the unmet need for women with secondary education or higher was 17 per cent, that for women with primary education was 27 per cent.

Within the occupational groups, unmet need was highest among those in sales. The distribution by employment status also shows that the self-employed have the greatest unmet need of 25 per cent. Women with the highest percentage of their need for family planning services satisfied include women who live in urban areas (58%) or have secondary or higher levels of education (71%), or are professional, technical, managerial, or clerical workers (75%) or are paid employees (60%). On the other hand, the groups with the lowest percentage of their demand

satisfied include women living in rural areas (43%) or have no education (36%), are in self-employed agriculture (42%) or are unpaid workers (44%).

## 8.8 Proximate Determinants and the Fertility Reduction in Ghana

In this section, an attempt is made to estimate the relative contributions of the proximate determinants of fertility to the reduction in natural fertility (fertility in the absence of contraception) in Ghana using the fertility model developed by Davis and Blake (1956) and later modified by Bongaarts (1978), Bongaarts and Potter (1983), Bongaarts *et al* (1984) and Stover (1998). The revised model includes five proximate determinants of fertility (namely marriage, abortion, contraception, postpartum infecundability and pathological sterility) and is expressed as:

$TFR = C_m * C_i * C_c * C_a * C_p * TF$ , where  $C_m$  is the index of marriage,  $C_i$  is the index of lactational infecundability,  $C_c$  is the index of contraception,  $C_a$  is the index of abortion,  $C_p$  is the index of pathological sterility and  $TF$  is the total fecundity. The underlying concept of the model is that fertility is lower than its natural biological level as a result of the inhibiting effects of these five proximate determinants of fertility. A detailed description of the model is presented in Appendix IV. In calculating the index of contraception, the average contraceptive prevalence rate for two survey periods was used in order to adjust for the lagged effects of recent changes in contraceptive prevalence. The index of sterility was assumed to be 1.0 since the proportion of women who are childless among those aged 45-49 years is less than 3.0 per cent. The index of abortion was also estimated by assuming an average total fecundity rate of 15.3 births per woman.

Table 8.27 presents the relative contributions of the proximate determinants of fertility to the fertility reduction in Ghana. The data suggest that postpartum infecundability ( $C_i$ ) still has the greatest inhibiting effect on natural fertility reduction in Ghana. In 1998 postpartum infecundability accounted for 40.0 per cent of the fertility decline, followed by marriage ( $C_m$ ) with 35.9 per cent and contraception ( $C_c$ ) with 18.3 per cent. A similar pattern was observed during the analysis of the 1979/80 GFS and the 1988 DHS data (Gbortsu, 1995). The index of abortion ( $C_a$ ) was determined once all the known variables were substituted into the fertility model. For 1998, the index of abortion was estimated to be 5.8 per cent.

**Table 8.27: Proximate Determinants of Fertility and their Relative Contributions to the Fertility Reduction in Ghana (1998 Ghana DHS)**

Index	Relative Contributions (%)
$C_m$ (Marriage)	35.9
$C_c$ (Contraception)	18.3
$C_i$ (Lactational Infecundability)	40.0
$C_a$ (Abortion)	5.8
Total	100.0

## 8.9 Summary and Conclusion

This analysis has indicated substantial declines in fertility. For example, the reported total fertility rates fell from 6.47 children per woman in 1979/80 to 6.43 in 1988 and then to 4.55 in

1998 and finally to 3.99 in 2000. Application of different adjustment procedures to the available data, however, showed that the reported levels of fertility for 1998 and 2000 were lower than expected due to errors inherent in the data. The results of these analyses gave estimates of 4.74 and 4.64 children per woman for 1998 and 2000, indicating that Ghana's fertility has declined by about 28 per cent from a level of 6.43 in 1988 to 4.64 in 2000 within a period of 12 years. Even then, it is clear from the latter figure that fertility levels are still high in Ghana. This has both demographic and economic implications. The current level of fertility implies that the dependency ratio for the country will continue to be high for at least the next 50 years because of the inbuilt potential for the population to grow. The resulting increasing rate of population growth will continue to thwart efforts at rebuilding the economy, given our limited resources. At the individual level, high fertility has its own health implications resulting from low standards of living, malnutrition, and high exposure to disease.

The analysis also confirms that both current and retrospective fertility rates vary by the woman's socio-economic background. Data from the 1998 Demographic and Health Survey indicate that current fertility, for example, is strongly influenced by socio-economic factors such as region and place of residence, level of education and marital status. The pattern observed by place of residence, for instance, indicates that current fertility is highest for women who were resident in rural areas compared to those in urban areas. The analysis further shows that current fertility is inversely related to education. Women with no education have a significantly higher fertility than those with higher levels of education. Generally, education affects women's fertility by reducing adherence to unfavourable traditional values and increasing exposure to new ideas which can have a reducing effect on fertility. Other groups with relatively high levels of fertility include the currently married, the self-employed and the unpaid family worker and those engaged in self-employed agriculture.

With regard to the proximate determinants of fertility, postpartum infecundability remains the most important determinant of fertility behaviour in Ghana, followed closely by incidence of marriage, though there has been a decline in their level of contribution. Comparable analysis for 1988 (Gbortsu, 1995) shows that the effect of postpartum infecundability has declined from 47.7 per cent to the 40.0 per cent in 1998 and that of marriage has moved from 41.1 per cent in 1988 to the 35.9 per cent in 1998. On the other hand, the inhibiting effect of contraception on fertility is also rising, from 11.2 per cent in 1988 to the 18.3 per cent in 1998. Significantly, the effect of abortion was negligent in 1988 while in 1998 it was 5.8 per cent. Independently, the depressing effect on fertility of rising age at childbearing, which is a factor of marriage, between 1988 and 1998 was estimated to be only six per cent.

The analysis of reproductive preferences also shows that the desired family size of 4.3 is twice the post-transitional figure of two. This further supports the observation that the fertility transition in Ghana will take a long time to run its course. Only 49 per cent of the women who wanted to limit or space their births were actually using contraceptives to delay or avoid pregnancy. The data further show that a woman's tendency to have her need for family planning services satisfied is dictated by her place of residence, level of education, employment status and occupation. Family planning services should be targeted at rural women or those resident in the northern part of Ghana. Other target groups include women with no formal education. It is expected that increasing education, improving the standard of living, and increasing the pace of

infrastructural development, particularly in the rural areas and the three northern regions, can have a dampening effect on fertility through the gradual decline in the traditional value for large families, rising age at childbearing and the increasing acceptance of family planning services.

## APPENDIX 8.1

### The Brass P/F Ratio Technique

This technique is used to adjust the reported age-specific fertility rates to the level indicated by the average parities of women in age groups below 30 or 35 years. The adjustment factor is calculated by comparing the average number of children ever born (P) by age group of women with the average parity equivalent (F) obtained from the cumulated age specific fertility rate for that age group, and taking the average of these P/F ratios for younger women. The adjustment factor is then multiplied by all the observed period fertility rates to arrive at a new set of age-specific fertility rates.

The average parity equivalent  $F(i)$  is calculated using the Coale and Trussell fertility model:  $F(i) = \Phi(i-1) + a(i)f(i) + b(i)f(i+1) + c(i)\Phi(7)$ , where  $a$ ,  $b$  and  $c$  are constants and

$\Phi(i)$  is the cumulated fertility schedule for a period and is defined as:  $\Phi(i) = 5 \left[ \sum_{j=0}^i f(j) \right]$ .

Ideally, the  $P/F$  ratios should not exceed one if there are no errors in both the current and retrospective fertility data. By implication, if the observed results for younger age groups are close to unity, they indicate that the reported data on current fertility are consistent with those on retrospective fertility, suggesting that current fertility data have been collected with some degree of accuracy and are relatively reliable. Marked deviations of the  $P/F$  ratios from unity or gradual declines in the ratios with respect to age suggest the need for adjustment of the observed age-specific fertility schedule. In a situation where the  $P(i)/F(i)$  ratios are similar for different values of  $i$  below age 35, either  $P(2)/F(2)$  or  $P(3)/F(3)$  can be used as the adjustment factor. On the other hand, if the ratios are not similar, a weighted average of any consistent group of ratios can be used. A new set of age-specific fertility rates can then be obtained by applying the adjustment factor  $K$  to the reported age-specific fertility rates. Where the age-specific fertility rates are obtained from births in the last 12 months, in which case the mothers would be six months younger at the time of childbirth, the fertility rates for the conventional five-year age groups are calculated by weighting the data using the equation:  $f^*(i) = (1 - W_{(1-i)})f_{(i)} + W_{(i)}f_{(i+1)}$ .

The adjustment factor  $K$  is then applied to the adjusted  $f^*(i)$  values. The adjusted total fertility rate is then calculated as:  $TFR = 5 \left[ \sum_{i=1}^7 f^*(i) \right]$ .

The basic assumptions underlying the P/F ratio technique are that:

- The level and pattern of fertility have not changed during the 10 to 15 years preceding the survey or census;
- The reported number of children ever born per woman is complete at least up to age 30 or 35 years;
- There is no age misreporting of women in the reproductive age group; and
- The age pattern of fertility revealed by births in the past year is correct but the level of fertility is distorted by reference period errors.

The last three assumptions are reasonable at least for women in the age group 15-35 years but under conditions of changing fertility, as in the case of Ghana, the application of the technique may not be valid, since violation of the first assumption will significantly affect the detection of errors in the data. For example, a declining trend in the  $P/F$  ratios by age may either suggest that fertility has been rising or that the reported data on children ever born suffer from increasing omissions of children as the age of the woman increases. The method is, therefore, in the strict sense not applicable to the 1993, 1998 and 2000 data sets. This is because fertility decline was apparent following the 1993 Ghana Demographic and Health Survey. In view of this obvious violation, the procedure has been used more as a test of internal consistency for these years.

## APPENDIX 8.2

### Brass Relational Gompertz Model

This Brass Relational Gompertz model is used to evaluate and adjust fertility estimates obtained from current and retrospective fertility data. In this procedure, the Gompertz function is fitted to the information on the average number of children ever born per woman using the relationship:

$F(x) = F \cdot A^{B^x}$ , where  $F(x)$  is the cumulated fertility up to age  $x$  or the average number of children ever born by age of the woman;  $F$  is the total fertility rate;  $x$  is the age group of mother; and  $A$  and  $B$  are constants. The double exponential is first transformed into a linear model by taking logarithms twice. A scale transformation is then performed to obtain a better fit of the Gompertz function to the actual data. Total fertility rates for each five year-age group in the reproductive period are then obtained by adjusting the observed age pattern of fertility to the shape of the Gompertz function using a standard age pattern of fertility and a set of coefficients as follows:  $\eta(F(x)) = \alpha + \beta(F_s)$  where  $\eta(F(x))$  or the  $\eta$  transformation of the observed  $F(x)/F$  ratios is the linear function of the  $\eta$  transformation of the standard fertility schedule ( $F_s$ ). The Gompertz fertility model is based on the assumption that:

- The average number of children born by age of the women follows the Gompertz function;
- The reporting of the average number of children ever born per woman, by age is complete and represents the level of cumulative fertility up to each age group; and
- The completeness of reporting of children born during last 12 months prior to the census or survey is the same for all age groups of women.

Unlike the P/F ratio method, this model does not assume constant fertility in the recent past and is, therefore, one of the most appropriate techniques for indirectly estimating the current fertility level of Ghana. This model generally represents the fertility level of various populations rather well because the pattern of cumulative fertility rates has been observed to closely follow the Gompertz function (Newell, 1988; Arriaga, 1994)). In Africa, however, the assumption that the completeness of event reporting and the accuracy of age reporting are of the same magnitude across age groups may not hold and could result in biased estimates.

## APPENDIX 8.3

### The Arriaga Technique

This technique estimates fertility rates using data on children ever born, by age of mother, and the age pattern of fertility from at least two survey or census dates. Single-age estimates of the average number of children ever born per woman are first obtained for the years before and after the census or survey dates by linear interpolation. Age-specific fertility rates for single ages are then calculated based on the annual cohort changes in children ever born. Fertility rates for five-year age groups are further calculated by taking the average of the single-age fertility rates. From these average rates, cumulative fertility rates are calculated. Cumulative fertility rates are also calculated from the observed age pattern of fertility. Adjustment factors are subsequently calculated by dividing the cumulated fertility rates obtained (by comparing the increase in the number of children ever born in each cohort) by the corresponding cumulated fertility rates pertaining to the age pattern of fertility. Finally, the adjusted total fertility rate for each age group is estimated by multiplying the rates from the age pattern of fertility by a selected adjustment factor, which corresponds to the age group whose mean is closest to the mean age of the fertility pattern. The technique works on the assumption that:

- The reporting of the average number of children ever born per woman is complete (at least for women under 30 years or 35 years of age);
- The completeness of reported births used to estimate the age-specific fertility rates is the same for all age groups of women;
- Under conditions of declining fertility, the average number of children ever born by age of mother changes almost linearly for mothers under 35 years of age (Arriaga, 1983);
- Childbearing is limited to the age group 15-49 years;
- There is accurate reporting of ages by women providing the information.

The problems associated with this technique are similar to those identified for the Gompertz Relational model in terms of accuracy in age reporting and completeness in event reporting. It, however, does not require an assumption of constant fertility and so can be reliably applied in populations where fertility is declining.

## APPENDIX 8.4

### Estimating the Inhibiting Effect of the Proximate Determinants of Fertility

The fertility model, first developed by Davis and Blake (1956), and later modified by Bongaarts (1978), Bongaarts and Potter (1983), Bongaarts et al (1984) and Stover (1998), suggests that observed fertility is lower than its natural maximum biological level as a result of the inhibiting effect of the five most important proximate determinants of fertility, namely marriage and marital disruption, use and effectiveness of contraception, induced abortion, postpartum infecundability caused by breastfeeding or abstinence, and pathological sterility. Thus, the following relationship exists between the observed level of fertility and the fertility-inhibiting effects of these proximate determinants:

$$TFR = C_m * C_c * C_i * C_a * C_p * TF, \text{ where}$$

$C_m$ = index of marriage and is equal to 1 if all women of reproductive age are married and 0 in the absence of marriage;

$C_c$ = index of contraception and is equal to 1 in the absence of contraception and 0 if all fecund women use 100 per cent effective contraception;

$C_i$ = index of postpartum infecundability and is equal to 1 in the absence of lactation and postpartum abstinence and 0 if the duration of infecundability is infinite;

$C_a$ = index of induced abortion and is equal to 1 in the absence of induced abortion and 0 if all pregnancies are aborted;

$C_p$ = index of pathological sterility (i.e. primary or secondary sterility due to disease); and

$TF$ = total fecundity rate, which represents the combined effect of natural fecundability, spontaneous intrauterine mortality and permanent sterility. This component can be estimated when all other components in the model are known. Where this cannot be calculated, however, an average of 15.3 births per woman is suggested based on empirical evidence.

According to Bongaarts and Potter (1983), the various components of the above equation can be estimated using the following models:

$$C_m = [\sum m_a * g_a] / \sum g_a, \text{ where}$$

$m_a$  = age-specific proportions currently married (or in consensual union) among females

$g_a$  = age-specific marital fertility rates;

$$C_c = 1 - 1.08 * u * e, \text{ where}$$

$u$ =proportion of married women of reproductive age who are currently using contraception.

$E$ =average use effectiveness of contraception. It is actually a weighted average of method specific use effectiveness levels and is expressed as:

$$\sum [e_m * u_m] / \sum u_m, \text{ where}$$

$u_m$  = proportion of women using a method of contraception and

$e_m$  = method specific use effectiveness levels (see Hatcher et al, 1997);

$$C_i = \frac{20}{18.5 + i}, \text{ where}$$

$i$  = average duration of postpartum insusceptibility;

$$C_a = \frac{TFR}{TFR + 0.4(1 + u * e)TA}, \text{ where}$$

$0.4(1 + u * e)$  = an estimate of the births averted by a single abortion. According to Stover (1998), multiplying the contraceptive prevalence ( $u$ ) by the effectiveness of contraception ( $e$ ) helps to accurately estimate the women protected by contraception.

$TA$  = total abortion rate which is defined as the average number of induced abortions per married woman by the end of her reproductive cycle, if induced abortion rates remain at the prevailing levels throughout the reproductive period.

Finally, the index of primary and secondary sterility due to disease is estimated using the expression:  $C_p = (7.63 - 0.11 * s) / 7.3$ , where

$s$  = the proportion of women aged 45-49 who have had no live births. This equation is equal to 1.0 when 3 per cent of women are childless at age 45-49 years. Proportions above 3 per cent represent the effect of pathological sterility.

The relative contributions of each of the five proximate determinants to the reduction in natural fertility can be evaluated using the logarithmic transformation of the fertility model. This is expressed as:

$$\ln\left(\frac{TF}{TFR}\right) = \ln\left(\frac{1}{C_m * C_c * C_i * C_a * C_p}\right)$$

The equation can also be rewritten as:

$$\ln TF - \ln TFR = -(\ln C_m + \ln C_c + \ln C_i + \ln C_a + \ln C_p)$$

Empirically,  $TF$  has been found to average 15.3 births per woman in both developed and developing countries (Bongaarts, 1978). Thus, the index of abortion was calculated by substituting this average value of  $TF$  into the fertility model. Since the proportion childless among the age group 45-49 years was less than 3 per cent in the 1998 Ghana DHS survey, the index of pathological sterility was assumed to be 1.0. Thus, the relative contribution of the index of contraception to the reduction in natural fertility, for example, can be evaluated as follows:

$$\left(\frac{\ln C_c}{\ln C_m + \ln C_c + \ln C_i + \ln C_a}\right) * 100.$$

Since the observed  $TFR$  is centred at the mid-point of the five-year period preceding each survey, the index of contraception was estimated using the average of the contraceptive prevalence rates for two survey periods so as to adjust for the lagged effects of recent changes in contraceptive prevalence (Mauldin and Segal, 1988).

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## **CHAPTER 9: MORTALITY LEVELS, PATTERNS AND TRENDS**

### **9.1 Introduction**

The study of the mortality levels, patterns and trends serves three main purposes. First it provides information about the population's state of health, which in turn serves as a measure of living standards in the country. It also gives an indication of the social differences that exist within the society. Lastly, it provides information on the population's future growth potential. A rapid fall in mortality, for example, can result in accelerated growth in the situation of high fertility, unless the declines in mortality are matched by similar declines in fertility. Knowledge about a country's mortality situation is therefore relevant for effective development planning.

One of the priority goals of African governments is to reduce the prevailing high levels of mortality so as to raise the average life expectancy (United Nations Economic and Social Council, 2003). However, the ability of any government to achieve this goal depends on the state of household food security, environmental sanitation and health care provision. Various interventions (i.e. immunization, improved sanitation and access to clean water, etc) adopted in Ghana over the years have helped in bringing down mortality rates (Ministry of Health, 2003). Nevertheless, there is room for further reductions and this can be achieved if attention is focused on the groups with the highest levels of socio-economic inequalities.

Factors that account for high mortality levels are many and complex but the immediate causes of morbidity and mortality in Ghana are still infectious and parasitic diseases. In addition, other factors such as malnutrition interact with these diseases to increase their incidence, prolong their duration and aggravate their severity. As long as these problems exist, misapplication of human resources will continue and sustained socio-economic development will be difficult to attain. In order to promote further reductions in mortality, a review of Ghana's past and present mortality performance and the isolation of the factors that contribute to the high mortality risks in Ghana are necessary.

### **Objectives**

The study aims to provide in-depth analysis of the mortality situation in Ghana beginning from 1960. In line with this, the following main objectives are outlined:

- to estimate the levels and trends in infant and child mortality
- to examine differentials in infant and child mortality,
- to estimate the levels and trends in adult mortality,
- to examine these in the context of social and economic conditions.
- to recommend possible ways of reducing mortality levels in Ghana,

### **Sources of Data**

The system for registering deaths in Ghana is not widespread enough to achieve a complete count; over the years, there have been various attempts to improve the coverage of the vital

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This chapter has been contributed by Dr. Philomena E. Nyarko

registration system, which was instituted in the country in 1935. In spite of these efforts, the system is still not comprehensive enough to be nationally representative and, therefore, census and survey data continue to serve as the primary sources of data for deriving mortality indices for the country and for studying its pattern and trend over time.

The main sources of data for this study are the 1960 Post Enumeration Survey, the 1971 Supplementary Enquiry, the 1979/80 Ghana Fertility Survey, the 1988, 1993 and 1998 Demographic and Health Surveys, the 1992 Infant, Child and Maternal Mortality Study and the 2000 Ghana Population and Housing Census. These data sources have been sufficiently described in an earlier publication (see Batse and Nyarko, 1995).

In both the censuses and the surveys, mortality levels can be assessed indirectly from data on children ever born and children surviving. In addition, the surveys are designed to collect birth history information, which can be used to derive direct estimates of mortality. The data collected through these birth histories include the date of birth and survival status of the child, the date of death and age at death of each dead child as well as other variables that are relevant for studying mortality differentials. Thus, where possible, both direct and indirect estimates of mortality are presented.

### **Quality and Limitations of Data**

Evaluation of the quality of data used in any analysis helps to interpret the outcome of the investigation. Where necessary, adjustments are made to improve the reliability of the results. As indicated in an earlier chapter, birth history reports and information on children ever born are usually subject to age and date misreporting as well as omission of births, particularly for older women, due to memory lapses and the inability to record dates of events because of illiteracy. Young unmarried women may also fail to report events in order to demonstrate conformity to cultural values, as premarital childbearing is frowned upon in the Ghanaian society. It is, thus, necessary to evaluate the data on children ever born and children surviving to identify internal inconsistencies that might bias the results of the mortality analysis. The assessment carried out earlier suggests that for both 1998 and 2000, there was under reporting of children ever born for the age group 15-19 years. The results further suggest under reporting of male births in the age groups 15-24 years and 30-34 years in 1998, as indicated by the age-specific sex ratios of children ever born.

The mean surviving children and mean children dead are presented in Table 9.1. If the number of surviving children were accurately reported, there should be gradual increases in the average number of surviving children and in the proportion of dead children by age of women. Table 9.1, however, shows large fluctuations in the proportion of children dead by age group in 2000. Also, the low mean number of surviving children observed for the age group 15-19 years in 1998 and 2000 compared to those of earlier years (1988, 1992 and 1993) may be an indication of under reporting of births in that age group. Similarly, the comparatively high proportion of dead children reported for the age group 15-19 years in 2000 relative to the proportions noted for the earlier years is further indication of misreporting of dead children. Evidence from earlier surveys suggest that the proportion of children dead among children ever born to mothers 15-19 years old ranges between seven and nine per cent, even though these proportions have been found to be relatively low compared to the experiences of the subsequent age groups.

**Table 9.1: Mean Children Surviving and the Proportion of Dead Children by Age of Mother**

Age Group	Mean Children Surviving					Proportion of Children Dead				
	1988 GDHS	1992 ICMMS	1993 GDHS	1998 GDHS	2000 Census	1988 GDHS	1992 ICMMS	1993 GDHS	1998 GDHS	2000 Census
15-19	0.20	0.29	0.20	0.12	0.13	0.07	0.08	0.07	0.09	0.39
20-24	1.08	1.28	1.02	0.89	0.79	0.14	0.11	0.12	0.10	0.20
25-29	2.26	2.34	2.02	1.81	1.76	0.15	0.14	0.13	0.10	0.16
30-34	3.50	3.42	3.33	2.95	2.84	0.16	0.14	0.13	0.12	0.17
35-39	4.57	4.27	3.91	3.88	3.66	0.16	0.16	0.15	0.13	0.17
40-44	5.39	4.97	4.92	4.61	4.17	0.18	0.19	0.15	0.15	0.19
45-49	5.65	5.29	5.35	4.97	4.51	0.22	0.21	0.19	0.16	0.19
Total	2.62	2.80	2.45	2.29	2.07	0.17	0.16	0.15	0.13	0.18

The omission of deaths in censuses or surveys may also be biased towards one sex. Sex ratios for surviving and dead children have thus been computed to assess the extent to which the two sexes were misreported. As shown in Table 9.2, the computed sex ratios for surviving and dead children point to possible errors in the data. The sex ratios of surviving children for year 2000 fall within the accepted range of 102 and 107 and also follow the general declining pattern with age, but those for 1998 may indicate omission of surviving males for women below age 35 and some level of under reporting of female surviving children by women in the 45-49 age group.

**Table 9.2: Sex Ratios of Children Surviving and Children Dead by Age of Mother**

Age Group	Sex Ratio of Surviving Children		Sex Ratios of Dead Children	
	1998 GDHS	2000 Census	1998 GDHS	2000 Census
15-19	0.89	1.07	1.00	1.34
20-24	0.96	1.04	0.80	1.25
25-29	0.99	1.05	1.16	1.18
30-34	0.99	1.04	1.12	1.18
35-39	1.05	1.03	1.36	1.15
40-44	1.04	1.03	0.95	1.17
45-49	1.08	1.03	1.12	1.17
Total	1.03	1.03	1.11	1.17

The 1998 data also indicate large fluctuations with respect to the sex ratios for dead children. Typically, sex ratios at death for sub-Saharan Africa range between 102 and 140 for under fives. Under reporting of male deaths is thus apparent for age groups 15-19, 20-24 and 40-44 in 1998. For year 2000, there is no indication that dead children were better reported for one sex compared to the other. As observed earlier, misreporting of the ages of the women may also add to the observed distortions in the data. The conclusion here is that the recorded number of children ever born, children surviving and children dead based on the 1998 GDHS and the 2000 Census are, to some extent, affected by reporting errors. This means that the mortality indices for the most affected age groups, especially the 15-19 and 20-24 year olds, must be interpreted with caution.

The other problem is that the whole age range of mortality cannot be derived from birth history data or from data on children ever born. Attempts made to provide direct estimates of adult mortality using data on deaths which occurred in the household 12 months prior to the census or survey have usually not yielded good results, as indicated by the results of the 1960 Post Enumeration Survey (PES) and the 1971 Supplementary Enquiry (SE). Subsequently, indirect

methods have been used to derive measures of adult mortality from infant and child mortality indices.

### **Methods of Analysis**

The estimation of childhood mortality is traditionally limited to the age group below five years. Besides the direct procedure for estimating infant and child mortality levels, several techniques are available for deriving the indirect measures of infant and child mortality. The Trussell variant of Brass' technique is used to provide infant and child mortality rates within the context of declining mortality. Essentially, the method uses data on children ever born and children surviving by age group of mother to derive the proportions dead ( $D_i$ ) among children ever born. These proportions are then converted into probabilities of dying ( $q(1)$ ,  $q(2)$ ,  $q(3)$ ,  $q(5)$ , and  $q(10)$ ) using a set of multipliers ( $K_i$ ) computed from the average parities of women in the age groups 15-19, 20-24 and 25-29 and a given set of coefficients. The basic equation is given as:

$q(x) = K(i) \times D(i)$ , where  $K(i)$  is the multiplier, which adjusts for non-mortality factors affecting the value of  $D(i)$ .  $K(i)$  is derived from the following estimation equation:

$$K(i) = a(i) + b(i) \times P(1) / P(2) + c(i) \times P(2) / P(3).$$

The time locations of the estimated probabilities are also obtained using a similar procedure:

$$t(i) = a(i) + b(i) \times P(1) / P(2) + c(i) \times P(2) / P(3).$$

The relationship between the proportions of children dead and the  $q(x)$  function is determined by the association between the duration of exposure to the risk of dying and the mother's age and timing of childbearing (UN Manual IX provides a detailed discussion of the method).

Generally, indirect estimation of infant and child mortality indices requires knowledge of the country's age pattern of mortality based on the distribution of reported deaths. In the absence of reliable vital statistics to guide such decisions, model life tables have been developed for estimating mortality indices in countries with deficient demographic data. These include the United Nations sets of model life tables, the Coale and Demeny regional model life tables, and the Brass Logit life table system (UN, 1982; Coale and Demeny, 1983; UN, 1983). Of these, the most commonly used are the four families of the Coale and Demeny Model life tables (North, South, East and West) and the five families of the United Nations Model life tables (Latin American, Chilean, South Asian, Far East, General) because of their greater degree of flexibility and ease of application (Tsfay, 1983; UN, 1983). Since the age pattern of mortality depicted by the North Model of the Coale and Demeny life table system has been identified as representing the closest approximation of the mortality pattern for countries in sub-Saharan Africa, it was used to estimate the relevant childhood mortality indices for Ghana.

When mortality is changing, information on the proportion of children dead can yield not only estimates of childhood mortality but also estimates of trends. In order to determine these trends and to facilitate comparison between the data sets used, the estimated  $q(x)$  values were converted into single mortality measures and plotted against the reference date. For each selected childhood age group, therefore, the common mortality index equivalent to the estimated  $q(x)$  values pertaining to various points in time provide an indication of the age-specific mortality trends in the country. For the determination of the overall mortality level for the country, the most stable common index, in this case  $q(5)$ , is matched to the appropriate pattern of model life tables. From

the estimated mortality level, other mortality indices such as the expectation of life at birth can be derived for the population.

## 9.2 Levels and Trends in Infant and Child Mortality

As mentioned earlier, all the post-independence surveys that have been conducted in Ghana collect information on the birth histories of women and the survival status of each birth at the time of the survey, which have been used to prepare direct estimates of infant and child mortality. The reliability of such estimates, however, depends on the completeness and accuracy of event and date reporting. The problem of underreporting has particularly been noted for women aged 15-19 years, frequently resulting in biased child mortality estimates for this age group. Hence, the estimates for this group and those of the 20-24 age group are usually excluded from trend analysis.

Data on children ever born and children surviving gathered in the censuses, and quite often in the surveys, are expected to provide more reasonable estimates of infant and child mortality indices, especially in situations where the birth history information is fraught with errors of omission and inaccurate reporting of dates. On the other hand, it has been argued that the indirect methods could also result in an over estimation of mortality indices. For a more complete assessment of childhood mortality in Ghana, however, both direct and indirect estimates of three indices are presented. These are infant mortality (the probability of dying before age 1), child mortality (the probability of dying between exact age one and the fifth birthday), and under-five mortality (the probability of dying between birth and age five).

The indirect estimates of infant, child and under-five mortality rates from censuses and surveys conducted in Ghana since independence are presented in Table 9.3. A critical examination of the data presented in this Table suggests that most of the estimates for younger women (mostly the 15-19 and 20-24 year olds) do not exhibit a smooth trend.

**Table 9.3: Indirect Estimates of Infant and Child Mortality Rates, 1960-2000**

<b>Age group</b>	<b>Infant Mortality</b>	<b>Child Mortality</b>	<b>Under-five Mortality</b>	<b>Reference Date</b>
<b>1960 PES</b>				
15-19	143	108	236	1958.7
20-24	137	102	225	1957.3
25-29	144	109	237	1955.4
30-34	148	113	245	1953.3
35-39	155	119	256	1951.0
40-44	200	158	327	1948.6
45-49	159	122	261	1945.8
<b>1971 SE</b>				
15-19	121	93	203	1970.4
20-24	115	87	192	1969.1
25-29	118	91	198	1967.2
30-34	123	96	206	1964.9
35-39	123	96	207	1962.4
40-44	126	99	213	1959.7
45-49	129	102	219	1956.8

**Table 9.3: Cont'd**

<b>Age group</b>	<b>Infant Mortality</b>	<b>Child Mortality</b>	<b>Under-five Mortality</b>	<b>Reference Date</b>
<b>1979/80 GFS</b>				
15-19	85	49	129	1978.1
20-24	101	64	158	1976.9
25-29	86	50	132	1975.1
30-34	88	51	134	1972.9
35-39	87	51	133	1970.3
40-44	95	58	147	1967.4
45-49	105	69	167	1963.8
<b>1988 DHS</b>				
15-19	91	57	144	1987.0
20-24	108	73	173	1985.8
25-29	101	66	160	1984.0
30-34	101	67	161	1981.9
35-39	95	61	151	1979.6
40-44	96	62	152	1977.1
45-49	105	70	168	1974.2
<b>1992 ICMMS</b>				
15-19	74	46	117	1991.3
20-24	85	56	137	1989.9
25-29	90	61	146	1988.0
30-34	86	57	138	1985.9
35-39	90	61	145	1983.5
40-44	95	66	154	1980.9
45-49	98	69	160	1978.1
<b>1993 DHS</b>				
15-19	48	24	70	1992.6
20-24	88	60	143	1991.3
25-29	85	56	136	1989.5
30-34	81	53	130	1987.3
35-39	82	64	132	1984.8
40-44	80	52	128	1982.2
45-49	90	61	146	1979.4
<b>1998 DHS</b>				
15-19	92	63	149	1998.2
20-24	83	55	134	1996.9
25-29	68	41	106	1994.9
30-34	75	47	119	1992.5
35-39	73	45	116	1989.8
40-44	77	48	121	1987.0
45-49	75	47	119	1984.0
<b>2000 DHS</b>				
15-19	33	12	44	1999.2
20-24	107	79	178	1998.0
25-29	88	59	141	1996.3
30-34	94	65	153	1994.1
35-39	86	57	137	1991.8
40-44	89	60	144	1989.1
45-49	85	56	136	1986.2

Note: Based on the Trussell variant of Brass' technique and the North Model of Coale and Demeny life tables.

The estimates for women aged 20-24 years are biased upwards relative to the estimates for older women while those for the 15-19 year olds are biased downwards. The infant and child mortality indices for the five year period preceding each survey or census have therefore been estimated by fitting the logistic function to the data for the age groups with more plausible estimates.

## **Infant Mortality Rates**

Infant mortality rates estimated directly and indirectly have been presented in Table 9.4. The direct estimates have been derived from data on children born in the past 12 months and the number of children dying before age one. The direct estimate of infant mortality rate computed from the 1998 DHS for the period 1994-1998 was 57 deaths per 1000 while the application of the indirect technique yielded a value of 73 deaths per 1000 live births.

**Table 9.4: Trends in Infant Mortality Rates, 1960-2000**

Source	Period	Direct estimates (Rate per 1000 live births)	Indirect estimates (Rate per 1000 live births)
1960 PES	1956-1960	126	150
1971 SE	1967-1971	87	121
1979/80 GFS	1975-1979	72	90
1988 DHS	1983-1987	77	98
1992 ICMMS	1988-1992	-	85
1993 DHS	1989-1993	66	81
1998 DHS	1994-1998	57	73
Estimated <sup>a</sup>	1995-2000	-	72

<sup>a</sup> Estimated from the life table which corresponds to the extrapolated  $q_5$  value from all plausible  $q_5$  estimates for the period 1960-1998.

Since there was no information on deaths to children born 12 months prior to the 2000 census, only the indirect technique could be applied to the data. The application of the Trussell variant of the Brass technique to the 2000 census data indicated that the infant mortality rate prevailing during the five year period preceding the 2000 census (i.e. 1995-2000) was 87 deaths per 1000 live births. This estimate of 87 deaths per 1000 live births, which was obtained by extrapolating the estimates of infant mortality for the year 2000 (Table 9.3), is much higher than the 73 deaths per 1000 live births obtained indirectly from the 1998 GDHS data.

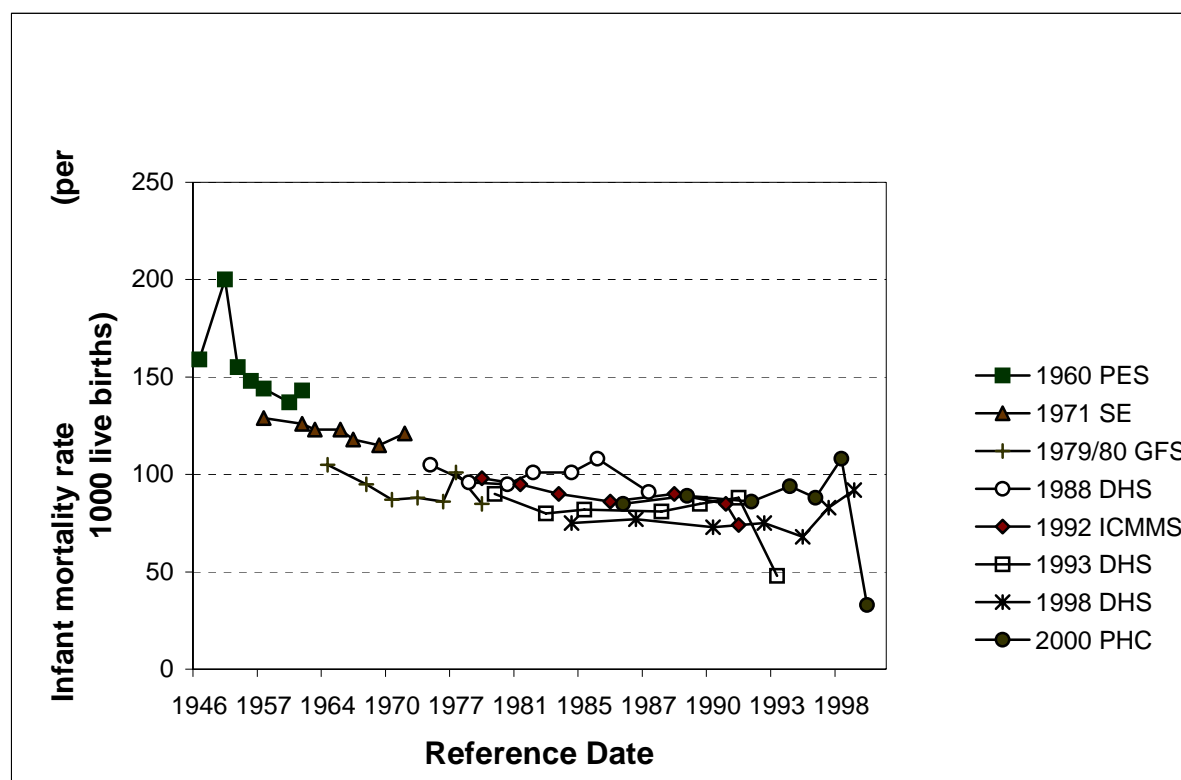
In order to provide a more reasonable estimate of the current level of infant mortality, the logistic regression procedure was fitted to the plausible estimates of the most stable index, ( $q_5$ ), computed from the various data sets. The estimated under-five mortality rate of 113.7 deaths per 1000 live births for the period 1995-2000 was then used as the point of entry into the North family of the Coale and Demeny model life tables to determine the implied level of mortality and the corresponding level of infant mortality for the five-year period preceding the 2000 census. The analysis gave an infant mortality rate of 72 deaths per 1000 for the period 1995-2000.

An examination of the infant mortality estimates over time clearly indicates that with the exception of the data for the period 1979/80, both the direct and indirect estimates of infant mortality show consistent declines over time (Table 9.4). While the direct estimates rates fell from a level of 126 deaths per 1000 live births to 57 deaths per 1000 live births between 1960 and 1998, the trend exhibited by the indirect estimates gave figures ranging from 150 deaths per 1000 live births in 1960 to 72 deaths per 1000 live births in 2000. The wide gap observed between the two sets of estimates reflects the failure of the North Model to represent the mortality experience in Ghana in particular and sub-Saharan Africa in general (Tesfay, 1996).

Nevertheless, in the absence of any country-specific model, the North Model represents the closest fitting model. Evidently, the direct and indirect methods of mortality estimation have their own limitations. The estimates presented for the different periods in Table 9.4 could thus be interpreted as representing the range within which the actual infant mortality rate for Ghana for that period falls. For the period 1994-1998, therefore, the infant mortality rate for Ghana is

estimated to have ranged from 57 to 73 deaths per 1000 live births. A critical examination of the data, however, suggests that the infant mortality rates obtained from the 1979/1980 GFS data may be lower than the actual rates prevailing at the time. The indirect estimates over time using all available data points from the various data sources are graphically presented in Figure 9.1.

**Figure 9.1: Indirect Estimation of Infant Mortality Rates, 1960-2000**



The graph clearly shows that with the exception of the data from the 1960 census, the infant mortality rates estimated for the periods, which are further into the past (and hence derived from reports of older women), show a declining trend. On the other hand, those referring to the most recent periods are usually biased upwards or downwards, reflecting inconsistencies in the reports of younger women (especially the 15-19 and 20-24 age groups). The graph further indicates that the estimates from the 2000 census data are generally much higher, particularly for the four most recent periods, and so do not conform strictly to the falling levels and trends displayed by the earlier data sets, an indication that the number of children ever born may have been under reported. Again, the 1979/80 GFS data show much lower than expected rates, which is a clear indication that the rate of mortality decline has stagnated, especially between the period 1985 and 2000. This is happening because of the fluctuations in the rates estimated for the youngest age groups from the 1998 GDHS and 2000 Census data sets. The general pattern has been that of a decline as is apparent in Table 9.4.

It is worth noting that death in infancy is not uniformly distributed across the entire age range but is generally heavily tilted towards the neonatal age group (i.e. children aged less than one month). The probabilities of dying between birth and the first month of life (neonatal mortality rates) and between exact age 1 month and age 11 months (postneonatal mortality rates) which

were computed from the 1993 and 1998 Demographic and Health Surveys are presented in Table 9.5.

**Table 9.5: Neonatal and Postneonatal Mortality Rates by Five-year Periods Preceding Survey**

Source	Period	Neonatal	Postneonatal	Infant
1993 GDHS	1974-1978	42.9	39.3	82.2
	1979-1983	46.9	29.2	76.1
	1984-1988	51.8	32.0	83.8
	1989-1993	40.9	25.6	66.4
1998 GDHS	1979-1983	44.5	35.0	78.5
	1984-1988	40.7	33.2	73.9
	1989-1993	35.1	30.7	65.8
	1994-1998	29.7	27.0	56.7

The data indicate that for all the periods shown, the majority of deaths to infants occur within the first month of life. However, the trend observed in the levels reported from the 1993 data set for the period 1979-1983 and 1984-1988 seem quite implausible. One would generally expect that these rates would decline with declining mortality. Estimates from the two data sets for overlapping periods are also expected to be comparable, but the results based on the 1993 GDHS data set indicate much higher neonatal rates for the periods 1979-1983 and 1984-1988 compared to the estimates from the 1998 GDHS data. These anomalies could be attributed to shifting of events and age misplacement. For the period 1979-1983, there could have been shifting of deaths from the post-neonatal period to the neonatal period in the 1993 GDHS.

Another possibility is that in the same survey, post-neonatal deaths for the period 1979-1983 data sets could have been reported as neonatal deaths for the period 1984-1993, resulting in the overestimation of the neonatal mortality rate for the period 1984-1988. Similarly, there was a slight underestimate of the neonatal mortality rate for the period 1974-1978 (42.9 deaths per 1000). This means that the reporting of neonatal and post-neonatal deaths may generally have been poor for the older women interviewed in the 1993 survey. Except for the discrepancies observed between the estimates presented from the two data sets for overlapping periods, the general trend is that the gap between neonatal mortality rates and post-neonatal mortality rates is gradually closing.

### **Child Mortality Rates**

The data shown in Table 9.6 provide information on the direct and indirect estimates of child mortality, defined as the probability of dying between exact ages 1 and 4 years. These rates are much lower than the infant mortality rates presented earlier. Quite contrary to expectation, the indirect estimate of child mortality from the 1988 DHS data is much lower than the direct estimate derived from the same data set. The results for 1993 and 1998, on the other hand, indicate a very close match between the estimates based on the two approaches.

**Table 9.6: Trends in Child Mortality Rates, 1960-2000**

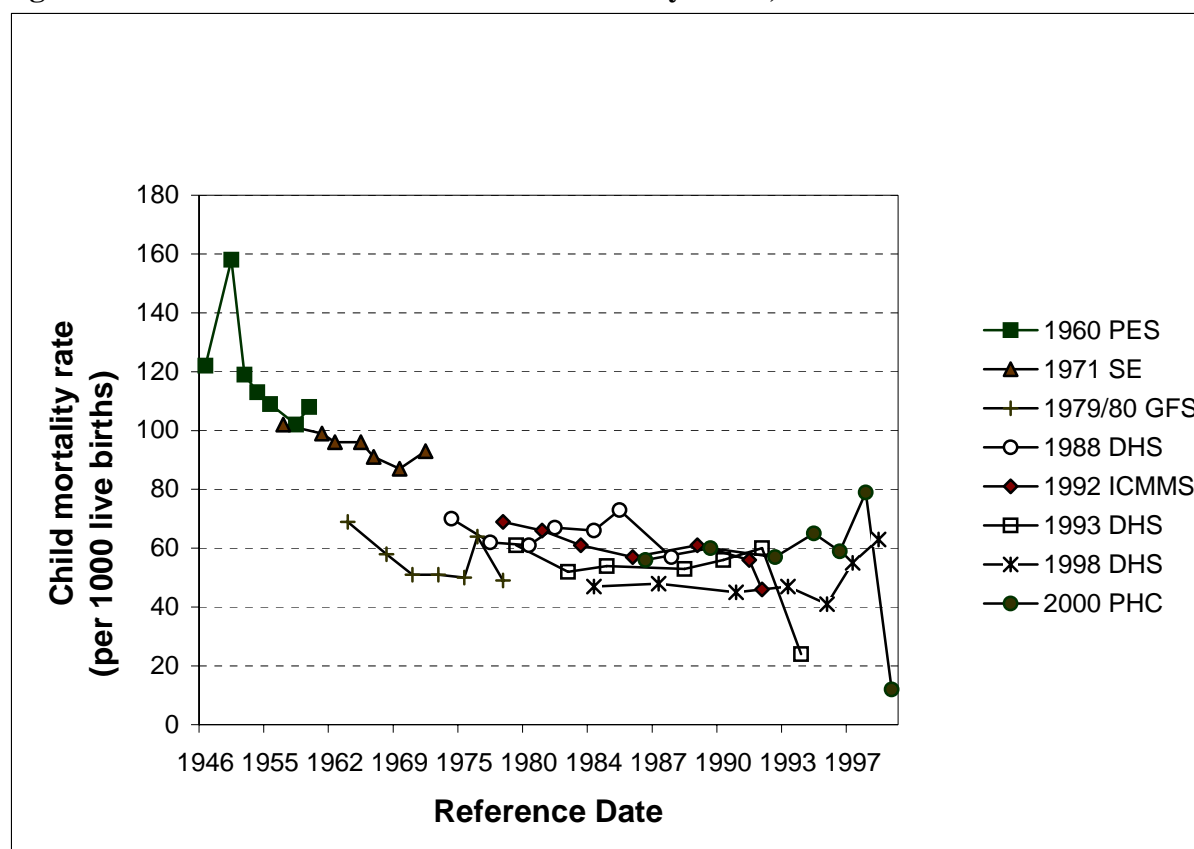
Source	Period	Direct estimates	Indirect estimates
		(Rate per 1000 live births)	(Rate per 1000 live births)
1960 PES	1956-1960	-	110
1971 SE	1967-1971	65	86
1979/80 GFS	1975-1979	-	53
1988 DHS	1983-1987	84	68
1992 ICMMS	1988-1992	-	57
1993 DHS	1989-1993	57	56
1998 DHS	1994-1998	54	51
Estimated <sup>a</sup>	1995-2000	-	44

<sup>a</sup> Estimated from the life table which corresponds to the extrapolated  $q_5$  value from all plausible  $q_5$  estimates for the period 1960-1998.

As was observed earlier for infant mortality, the indirect estimate of child mortality derived solely from the 2000 census data (59 deaths per 1000 live births) appeared to be an outlier compared to the estimates for the earlier periods. The mortality level arrived at using the common under-five mortality index yielded a child mortality rate of 44 deaths per 1000 live births for the period 1996-2000.

Looking at the distribution over time, child mortality rates appear to have been falling from a high of 110 deaths per 1000 live births in between 1956 and 1960 to a low of 44 deaths per 1000 live births in the period 1996-2000. The only exception is the drastic drop observed for the period 1975-1979. The trend exhibited by the indirect estimates is better illustrated in graphical form (Figure 9.2). The graph clearly shows that the curve for the 1979/80 GFS data is much lower than those exhibited by the estimates from the other data sets, suggesting underreporting of deaths in the GFS survey.

**Figure 9.2: Indirect Estimation of Child Mortality Rates, 1960-2000**



### Under-Five Mortality Rates

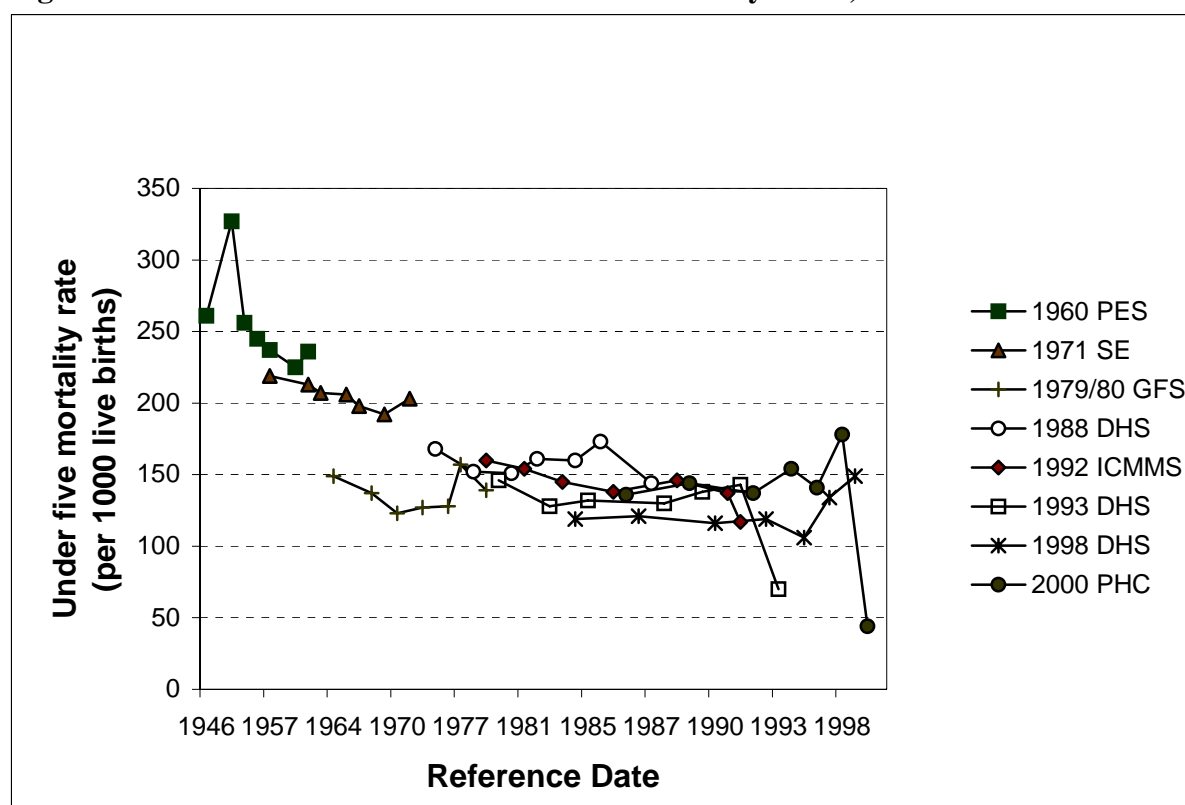
Table 9.7 shows the under-five mortality rates for the country since independence. Direct estimates for the five years prior to the interview are available for only three periods. Nevertheless, the trend exhibited by both the direct and indirect estimates of under-five mortality show a consistent decline. The most recent direct estimate of 108 deaths per 1000 live births pertains to the period 1994-1998. The indirect estimate for the same period was 117. This implies that the under-five mortality rate for Ghana for the period 1994-1998 was between 108 and 117 deaths per 1000 live births. The under-five mortality estimates presented in Table 9.7 indicate a close match between the direct and indirect estimates prepared from the 1988 DHS data set. The actual estimate of 141 deaths per 1000 live births obtained from the 2000 census data for the period 1995-2000 was far higher than those prepared for the earlier periods. A logistic regression function which provides the best fitting curve was therefore fitted to the most plausible  $q_5$  estimates obtained from the various data sets (Table 9.3). This procedure yielded an under-five mortality rate of 113.7 deaths per 1000 live births for the five-year period preceding the 2000 Census.

**Table 9.7: Trends in under-five mortality rates, 1960-2000**

Source	Period	Direct estimates (Rate per 1000 live births)	Indirect estimates (Rate per 1000 live births)
1960 PES	1956-1960	-	221
1971 SE	1967-1971	-	192
1979/80 GFS	1975-1979	-	121
1988 DHS	1983-1987	155	156
1992 ICMMS	1988-1992	-	137
1993 DHS	1989-1993	119	131
1998 DHS	1994-1998	108	117
Extrapolated <sup>a</sup>	1995-2000	-	114

<sup>a</sup> Extrapolated from all plausible *q5* estimates from surveys and censuses conducted during the period 1960-1998.

Figure 9.3 presents the trend in under-five mortality in a graphical form. It clearly shows a consistent downward movement in the level of under-five mortality. The significance of the Figure is that the general downward trend is discernible from all sources of data.

**Figure 9.3: Indirect Estimation of under Five Mortality Rates, 1960-2000**

### 9.3 Differentials in Infant and Child Mortality

Research conducted in several parts of the world have found significant variations in infant, child and under-five mortality rates. Such variations, however, are dependent on the physical, social, economic and political environment within which the child is located. This section investigates childhood mortality differentials in Ghana. Factors considered include the sex and birth order of the child, the length of the preceding birth interval and type of birth, mother's age, locality and region of residence, education, marital status, type of marriage, employment status and occupation.

## **Locality of Residence**

Differential mortality in childhood has generally been observed among rural and urban residents as a result of differences in living conditions and behavioural patterns. Since in the 2000 census no questions were asked on deaths in the last 12 months, indirect estimates of infant, child and under five mortality rates for the five-year period preceding the 2000 census have been presented in Table 9.8 according to locality of residence. These estimates were based on the extrapolation of the q5 estimates from the 1988, 1993 and 1998 DHS data sets. The Table shows that the under-five mortality rate for rural children is about one and a half times that for urban children. Infant mortality, on the other hand, is about 61 per cent higher among rural children compared to urban children.

**Table 9.8: Infant, Child and Under-Five Mortality Rates (5-year period before 2000) by Locality of Residence**

Place of Residence	Infant Mortality Rate	Child Mortality Rate	Under-five Mortality Rate
Urban	49.8	25.1	79.7
Rural	80.0	51.6	117.2
Ghana	72.0	44.3	113.7

Cross tabulations of births by survival status based on the birth history data from the 1998 GDHS have also been used to provide an indication of the significant determinants of early childhood mortality. Table 9.9 presents the proportion of deaths to infants and children aged less than five years by locality of residence. The analysis is based on births, which occurred 10 years prior to the survey. All births with incomplete exposure to the risk of infant or under-five deaths were excluded from the analysis. Chi-squared tests have been performed based on the distribution of births classified by survival status and various background characteristics to identify the important risk factors. Variables, which were significant at the 95% and 99% confidence levels are indicated with asterisks (\*).

Similar to what was observed earlier, the data presented in Table 9.9 indicate that the child mortality experience of rural women is more than 1.5 times that of women who reside in urban localities. This could be a reflection of the poor living conditions existing in rural areas as well as the lack of access to health services. The Ghana Living Standards Survey conducted in 1998/1999 suggests that the incidence of poverty is much higher in rural areas than in urban areas. Whereas only 12 per cent of urban residents are below the poverty line, more than a third (34%) of rural households falls in this category. The implication here is that besides other socio-cultural characteristics, which could have adverse impact on child survival, the rural population is less likely to meet its basic needs than the urban population.

**Table 9.9: Deaths to Infants and Children (less than 5 years) by Locality of Residence, 1998**

Place of Residence	Infant deaths (per 1000 live births)***	Under-five deaths (per 1000 live births)***
Urban	43	76
Rural	67	127
Total	61	114

Notes: (1) Based on children born 10 years prior to the survey. (2) \*\*\*=P<0.01

## **Region of Residence**

Region of residence is used to examine the influence of a mother's geographic location on infant and under-five mortality. Table 9.10 presents the indirect estimates of childhood mortality rates for the five years preceding the 2000 census based on the q5 estimates from the 1988, 1993 and 1998 data sets. Published information on mean parity and mean surviving children were unavailable for the earlier periods and so these could not be included in the extrapolation of the regional estimates for 2000.

As Table 9.10 shows, the incidence of deaths to children aged less than five years old ranges from 65 per 1000 in Greater Accra and Ashanti to 162.1 deaths per 1000 live births in Northern. Northern, Upper East, Upper West, Central and Volta have under-five mortality rates of more than 100 deaths per 1000 live births.

**Table 9.10: Infant, Child and Under-Five Mortality Rates (5-year period before 2000) by Region**

Region of Residence	Infant Mortality Rate	Child Mortality Rate	Under-five Mortality Rate
Western	70.1	42.6	108.9
Central	79.0	50.7	125.5
Greater Accra	45.1	21.6	65.4
Volta	73.0	45.1	114.6
Eastern	56.7	31.2	85.6
Ashanti	45.1	21.6	64.9
Brong Ahafo	61.4	35.1	93.9
Northern	99.0	70.1	162.1
Upper East	96.8	67.9	158.6
Upper West	87.3	58.4	140.9
Ghana	72.0	44.3	113.7

Table 9.11 shows the regional variations in childhood mortality using data from the 1998 GDHS. The results indicate that children in Greater Accra (63%) experience the lowest risk of under-five mortality while the highest risk is observed among children living in Northern and Upper East (163%). With respect to infant mortality, Ashanti (39%) and Greater Accra (45%) exhibit the lowest risks. In contrast, the risk of infant deaths is highest for Central (85%), followed by Upper East (84%) and Brong Ahafo (79%). These noted differentials in both infant and under-five mortality suggest a very strong association between the region of residence and early childhood death.

**Table 9.11: Deaths to Infants and Children (less than 5 years) by Region of Residence, 1998**

Region of Residence	Infant deaths (Per 1000 live births)***	Under-five deaths (Per 1000 live births)***
Western	68	111
Central	85	141
Greater Accra	45	63
Volta	52	123
Eastern	50	91
Ashanti	39	73
Brong Ahafo	79	137
Northern	66	163
Upper East	84	163
Upper West	64	155
Total	61	114

Note: Based on children born 10 years prior to the survey

\*\*\*=P<0.01

The child survival advantage demonstrated by Ashanti and Greater Accra over others is a reflection of the relatively more favourable socio-economic conditions in these regions. Available data indicate that the incidence of poverty for the period 1998/1999 ranges from 5 per cent in Greater Accra to 88 per cent in Upper East (Ghana Statistical Service, 2000). Even though poverty is mostly concentrated in the northern sector of the country, there are some sections in the southern sector, which also recorded significant levels. For example, while 84 per cent of households in Upper West fall below the poverty line (the second highest after Upper East), Northern (69%), Central (48%) and Eastern (44%) followed in that order. Thus, households in Greater Accra may have better access to health care services, potable water systems and good nutrition compared to others. This implies that the observed regional differentials in infant and under-five mortality may disappear if these economic disparities are minimized.

### **Sex of Child**

A number of studies have shown that the biological attributes of the child (including the sex, birth order, type of birth - whether single or multiple, and the length of the preceding birth interval) have significant influence on the child's survival chances. Sex differences, however, vary greatly among countries depending on the socio-cultural environment. The bivariate distribution of both infant and under-five deaths by sex using the 1998 GDHS data indicates that, as expected, males have a slightly higher mortality compared to females (Table 9.12). The differential is, however, not statistically significant.

**Table 9.12: Deaths to Infants and Children (less than 5 years) by Sex of Child, 1998**

Sex of Child	Infant deaths (per 1000 live births)	Under-five deaths (per 1000 live births)
Male	65	118
Female	57	110
Total	61	114

Note: Based on children born 10 years prior to the survey

### **Birth Order of Child**

The distribution of infant deaths by birth order follows the expected U-shaped pattern, where infant deaths are higher for first and very high order births and low for the intermediate ones. Table 9.13 indicates that first order births and 7<sup>th</sup> or higher order births have comparatively higher mortality but the observed differences among the different orders are not significant. In terms of under-five mortality, there seems to be a consistent increase in the number of deaths per 1000 births but as was noted for infants, the variations are not statistically significant.

**Table 9.13: Deaths to Infants and Children (less than 5 years) by Birth Order of Child, 1998**

Birth Order of Child	Infant deaths (per 1000 live births)	Under-five deaths (per 1000 live births)
1	65	104
2-3	62	110
4-6	54	120
7+	66	128
Total	61	114

Note: Based on children born 10 years prior to the survey

### **Type of Birth**

Studies conducted around the world indicate higher risks of death for children from multiple births compared to those from single births (Pison *et al.*, 1989; Sullivan *et al.*, 1994). These differentials are mainly ascribed to antenatal and postnatal complications, low birth weight, competition for time and material resources (Sullivan *et al.*, 1994).

Table 9.14 shows that the risk of dying during childhood is significantly higher for children from multiple births than for children from single births. These figures must, however, be interpreted with caution, since the rather significant observed differentials may be largely attributable to sampling errors, as a result of the estimates being based on small sample sizes.

**Table 9.14: Deaths to Infants and Children (less than 5 years) by Type of Birth, 1998**

Type of Birth	Infant deaths (per 1000 live births)***	Under-five deaths (per 1000 live births)***
Single	53	105
Multiple	(270)	(369)
Total	61	114

Notes: Based on children born 10 years prior to the survey

\*\*\*=P<0.01;

The figures in brackets are based on less than 200 cases.

### **Preceding Birth Interval**

Table 9.15 suggests that there is a strong negative relationship between length of preceding birth interval and childhood mortality. A child with preceding birth interval of less than two years is twice as likely to die in infancy as those with intervals of 2-3 years. The survival gains are even much higher for children with intervals of four years or longer. These results closely match what is reported in the literature. Typically, short birth intervals result in considerably high mortality risks due to inadequate time allowed for a mother to recover from the biological and nutritional stress of the previous birth, which could adversely affect the development of the unborn child.

**Table 9.15:Deaths to Infants and Children (less than 5 years) by Length of Preceding Birth Interval, 1998**

Preceding Birth Interval	Infant deaths (per 1000 live births)***	Under-five deaths (per 1000 live births)***
<2 years	109	167
2-3 years	54	114
4 years or more	31	66
Total	61	114

Notes: Based on children born 10 years prior to the survey

\*\*\*=P<0.01

### **Age of Mother at Birth of Child**

Generally, a mother's age at the birth of a child bears a curvilinear relationship to childhood mortality because of the biological and social immaturity of very young mothers and the heightened risk of delivery complications associated with older mothers. The data presented in Table 9.16 follows this pattern, with children born to women aged less than 20 years experiencing a comparatively higher mortality. However, the observed differences attributable to maternal age are not statistically significant.

**Table 9.16: Deaths to Infants and Children (less than 5 years) by Age of Mother at Birth of Child, 1998**

Age of Mother at Birth of Child	Infant deaths (per 1000 live births)	Under-five deaths (per 1000 live births)
<20 years	71	123
20-29 years	58	111
30+ years	60	115
Total	61	114

Note: Based on children born 10 years prior to the survey

### **Level of Education**

Education is generally seen as a determinant of a household's wealth and purchasing power and consequently access to better nutrition and health care. Education also exerts an independent influence on a child's risk of death because of its positive impact on behavioural attitudes connected with childcare (Caldwell and Caldwell, 1993). Table 9.17 indicates that a mother's level of education is inversely related to child mortality risks. This strong association is true for both age segments (that is, infancy and under-five). The observed association between education and mortality risks is stronger for under-fives than infants.

**Table 9.17: Deaths to Infants and Children (less than 5 years) by Mother's Level of Education, 1998**

Mother's Level of Education	Infant deaths (per 1000 live births)**	Under-five deaths (per 1000 live births)***
None	67	134
Primary	70	116
Middle/JSS or higher	50	90
Total	61	114

Notes: Based on children born 10 years prior to the survey

\*\*\*=P<0.01

\*\*=P<0.05

### **Marital Status**

Generally, married women are known to experience lower infant and child mortality risks than those not in union due to the mutual protection and care given by the partners (Benjamin and Pollard, 1993). For this analysis, the respondents were categorized into two marital groups: women who are currently in union and those who are currently not in union. The latter category includes the never married, widowed, divorced and those who are not in a consensual union. As observed in Table 9.18, even though women who are currently in union experience lower infant and under-five mortality risks, the differences noted are not significant.

**Table 9.18: Deaths to Infants and Children (less than 5 years) by Mother's Marital Status, 1998**

Mother's Marital Status	Infant deaths (per 1000 live births)	Under-five deaths (per 1000 live births)
Currently in union	59	112
Currently not in union	71	132
Total	61	114

Note: Based on children born 10 years prior to the survey

An attempt was also made to study the relationship between the type of marriage and infant and under-five mortality. There are two views regarding the role of polygamy in child survival. Some researchers see the practice as being beneficial to child survival due to its positive effect on birth intervals (Amankwaa, 1996) while others suggest that the risk is higher for women in polygamous unions compared to those in monogamous unions due perhaps to inadequate support from partners (UN, 1988). The results presented in Table 9.19 show that women in monogamous unions experience comparatively lower child mortality risks than those in polygamous unions. These differentials are only significant at the 90% confidence level.

**Table 9.19: Deaths to Infants and Children (less than 5 years) by type of Marital Union, 1998**

Type of Marital Union	Infant deaths (per 1000 live births)*	Under-five deaths (per 1000 live births)*
Monogamous Union	56	99
Polygamous Union	70	146
Total	61	114

Notes: Based on children born 10 years prior to the survey

\*=P<0.10

### Employment Status

A mother's employment status appears to be important only with regard to infant mortality (Table 9.20). The Table indicates that women in unpaid work have the lowest infant mortality risks while those in paid employment experience the highest risk. These results must, however, be interpreted with caution. The reason is that unpaid work is mostly associated with agricultural or trading activities, which may afford women involved in such work adequate time to feed and care for their infants.

**Table 9.20: Deaths to Infants and Children (less than 5 years) by Mother's Employment Status, 1998**

Mother's Employment Status	Infant deaths (per 1000 live births)**	Under-five deaths (per 1000 live births)
Not Employed	77	120
Paid Employee	84	147
Self-employed	54	109
Unpaid Work	49	133
Not Stated	67	103
Total	61	114

Notes: Based on children born 10 years prior to the survey

\*\*=P<0.05

### Occupation

In terms of occupation, Table 9.21 indicates that there are no significant differentials in infant mortality; marginal occupational differences, however, are noted for under-five mortality. While women in agricultural occupations experienced the highest mortality risks, those in the professional, technical, managerial, clerical, sales and service occupations experience the lowest risk of under-five deaths. Occupation has often been used as a measure of a persons socio-economic status and research has shown that children of highly skilled workers may have better nutrition as well as greater access to health care because of the close relationship between occupation and earnings.

**Table 9.21: Deaths to Infants and Children (less than 5 years) by Mother's Occupation, 1998**

Mother's Occupation	Infant deaths (per 1000 live birth)	Under-five deaths (per 1000 live births)*
Unemployed	78	120
Prof/Tech/Manager/Clerical/Sales/Service	59	96
Agric Self-employed	61	129
Skilled Manual	51	121
Total	61	114

\*=P<0.10

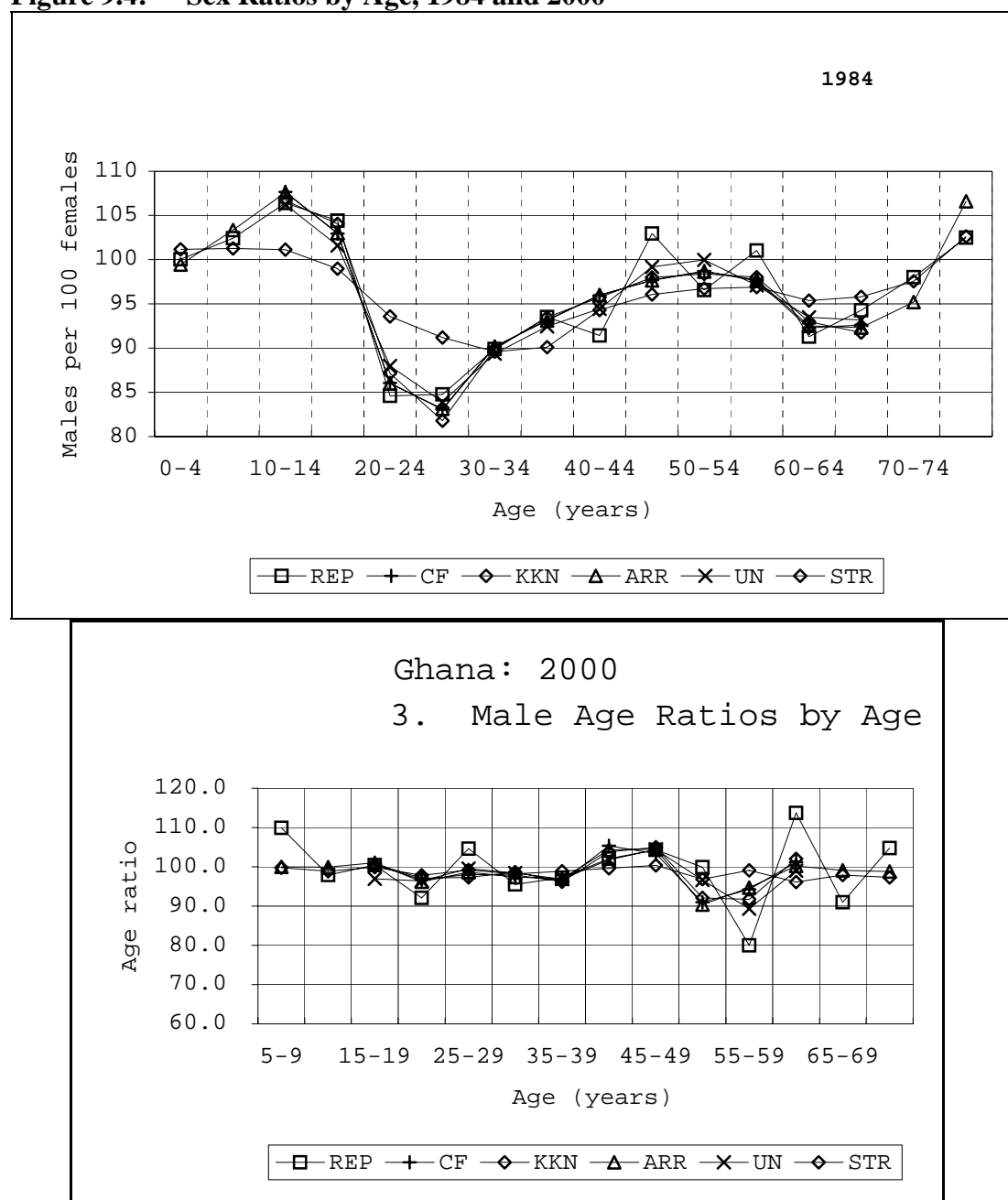
## **9.4 Adult Mortality**

For the estimation of adult mortality indices, an attempt was made to apply the Preston-Bennett technique to the census age structures for 1984 and 2000. This method uses the population age

distributions from the 1984 and 2000 censuses to estimate the level of life expectancy at older ages. The enumerated population in each age group and the average annual intercensal growth rate are first used to estimate the cumulative number of years lived by the population and the number of persons at exact age  $x$ . Life expectancies for exact ages five years and above are then calculated from these estimates. The method assumes that completeness of enumeration and possible age misreporting are the same in the two censuses and that international migration is negligible.

An evaluation of the data, however, showed that the age structures observed in the two censuses were very much affected by emigration, particularly of males in the age groups 20-39, as demonstrated by the reported sex ratios in Figures 9.4. The deficits observed for the male population aged 60-64 and 65-69 years may be a combination of differential mortality of males and misreporting errors. The other curves represent the sex ratios calculated on the basis of the adjusted age-sex distributions using different smoothing techniques, such as the Carrier-Farrag method (CF), the Karup-King-Newton formula (KKN), the Arriaga method (ARR), the United Nations technique (UN), and the Strong smoothing formula (STR) which basically involves smoothing the population by ten year age groups and then subdividing into five year age groups.

**Figure 9.4: Sex Ratios by Age, 1984 and 2000**



As a result of the out-migration of males noted among the 20-39 age groups, the Preston-Bennett method could not be applied to the 1984 and 2000 census data. Declining mortality and fertility also prevented the application of stable population theory. To get around this problem, one of the common childhood mortality indices was used to determine the level of mortality for the country. As mentioned earlier, under-five mortality rates are less affected by the selected age pattern of mortality. Consequently, the interpolated figure of 113.7 served as an entry parameter into the North Family of the Coale-Demeny model life tables to determine the general mortality indices for Ghana.

Based on a sex ratio at birth of 103 males per 100 females, the computations yielded a mortality level of 17.1 and an expectation of life at birth of 56.6 for males, 60.3 for females, and 58.4 for both sexes for the five-year period preceding the 2000 census (i.e. 1995-2000). Table 9.22

presents the expectation of life corresponding to each age and sex at this mortality level. These figures are slightly lower than the values derived from the mortality level implied by the 1998 DHS under-five mortality rate of 108. This latter estimate, which corresponds to level 17.6 of the north model life table, gives life expectancies of 57.8 for males, 61.5 for females and 59.6 for both sexes.

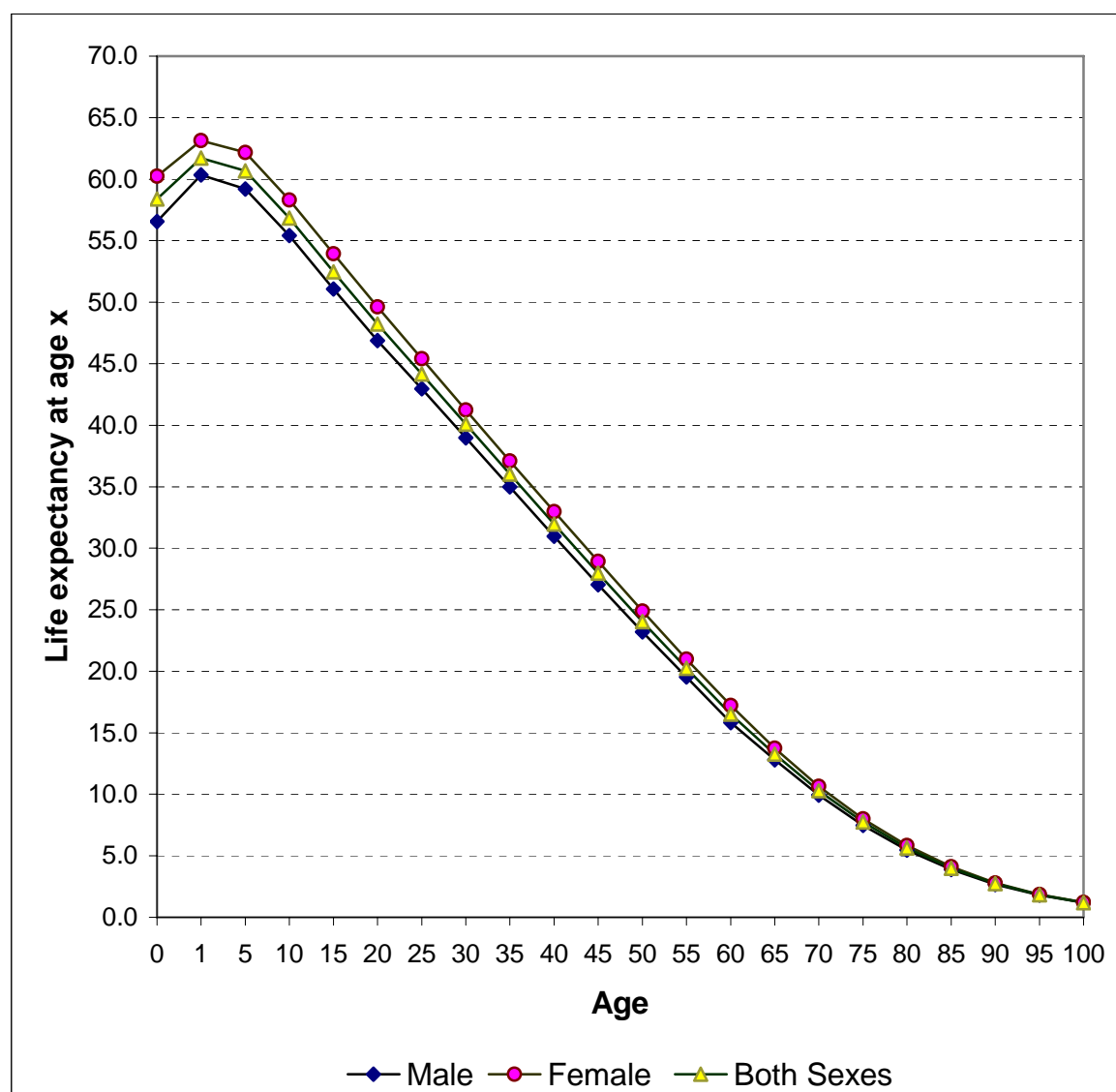
The derivation of current adult mortality indices for the country was based on level 17.1 of the North Model life table, which corresponds to the period 1995-2000. One measure of adult mortality, which is  $_{45}q_{15}$ , is estimated to be 269.4 deaths per 1000 population for the same period. For the year 2000, the level of mortality was estimated to be 18.5, with a life expectancy at birth of 59.5 for males, 63.8 for females and 61.6 for both sexes.

**Table 9.22: Expectation of Life by Age and Sex –1995-2000**

Age x	Life Expectancy at Age x		
	Male	Female	Both Sexes
0	56.6	60.3	58.4
1	60.4	63.1	61.7
5	59.2	62.2	60.7
10	55.4	58.3	56.8
15	51.1	53.9	52.5
20	46.9	49.6	48.2
25	43.0	45.4	44.2
30	39.0	41.2	40.1
35	35.0	37.1	36.0
40	31.0	33.0	32.0
45	27.0	28.9	28.0
50	23.2	24.9	24.0
55	19.5	21.0	20.3
60	15.8	17.2	16.5
65	12.8	13.7	13.3
70	9.9	10.7	10.3
75	7.5	8.0	7.7
80	5.5	5.8	5.7
85	3.9	4.1	4.0
90	2.7	2.8	2.7
95	1.8	1.9	1.8
100	1.2	1.2	1.2

These life expectancies are also presented in Figure 9.5 to show the sex differences in the pattern of mortality by age. That the expectation of life is highest at age one for both sexes rather than zero is to indicate that life before age one is very critical. Thereafter, declines are the result of aging.

**Figure 9.5: Life Expectancy by Age and Sex, 1995-2000**



The

expectations of life at birth for the various periods based on the indirect estimates of  $q_5$  during the five-year period preceding each survey or census are also displayed in Table 9.23. The data show that life expectancy in Ghana has increased from about 46 years between 1956 and 1960 to 58 years during the period 1995-2000. For males, the average life expectancy improved from 44 to 57 years and for females the figures increased from 47 years to 60 years. The mortality level estimated from the 1979/1980 GFS is much higher than expected and confirms the belief that underreporting of deaths may have been quite severe in that survey.

**Table 9.23: Selected Mortality Indices Based on Estimate of  $q(5)$ , 1956-2000**

Source	Period	Level of Mortality (North Model)	Expectation of life at birth ( $e_0^0$ )		
			Male	Female	Both Sexes
1960 PES	1956-1960	11.8	43.7	47.3	45.5

1971 SE	1967-1971	13.1	46.9	50.3	48.6
1979/80 GFS	1975-1979	16.6	55.3	59.0	57.1
1988 DHS	1983-1987	14.8	51.0	54.5	52.7
1992 ICMMS	1988-1992	15.8	53.4	57.0	55.2
1993 DHS	1989-1993	16.1	54.1	57.8	55.9
1998 DHS	1994-1998	16.8	56.1	59.8	57.9
Estimated <sup>a</sup>	1995-2000	17.1	56.6	60.3	58.4

<sup>a</sup> Estimates are based on the extrapolated  $q_5$  value from all plausible  $q_5$  estimates from censuses and surveys conducted during the period 1960-1998.

Selected mortality indices for the period 1995-2000 have also been presented in Table 9.24 and Table 9.25 by locality and region of residence. Table 9.24 indicates that the expectation of life at birth is five and a half years more for urban residents (63.4 years) than for rural residents (57.9 years).

**Table 9.24 Selected Mortality Indices by Locality of Residence**

Locality of Residence	Level of mortality (North Model)	Expectation of life at birth ( $e_0^0$ )		
		Male	Female	Both Sexes
Urban	19.1	61.6	65.3	63.4
Rural	16.9	56.1	59.8	57.9
Ghana	17.1	56.6	60.3	58.5

Table 9.25 presents the selected mortality indices by region of residence. The data indicate that residents in Greater Accra and Ashanti have the best survival prospects compared to residents in other regions. On the other hand, Northern, Upper East and Upper West have the worst mortality indices. The expectation of life at birth, for example, was 65.six years for both Greater Accra and Ashanti while it was far lower for Northern (51.9 years) and Upper East (52.4 years).

**Table 9.25 Selected Mortality Indices by Region of Residence**

Region of Residence	Level of mortality (North Model)	Expectation of life at birth ( $e_0^0$ )		
		Male	Female	Both Sexes
Western	17.3	57.1	60.8	58.9
Central	16.4	54.8	58.5	56.6
Greater Accra	20.0	63.8	67.5	65.6
Volta	17.0	56.3	60.0	58.1
Eastern	18.7	60.6	64.3	62.4
Ashanti	20.0	63.8	67.5	65.6
Brong Ahafo	18.2	59.3	63.0	61.2
Northern	14.5	50.2	53.7	51.9
Upper East	14.7	50.6	54.2	52.4
Upper West	15.6	52.8	56.4	54.6
Ghana	17.1	56.6	60.3	58.5

## 9.5 Summary and Conclusion

This chapter has assessed the levels, trends and determinants of infant and child mortality. It has also provided some indication of adult mortality in the country. Due to data deficiencies, the probabilities of dying in childhood were estimated from censuses and surveys prior to the 2000 Population and Housing Census using the Trussell variant of the Brass technique. The estimates

obtained were then extrapolated to the year 2000 using regression procedures to provide current estimates of mortality indices for the country.

The results indicate that for the period 1995-2000, the rate of infant mortality is 72 per 1000 live births and that of under-five mortality is 113.7 per 1000 live births. The estimates for the period 1994-1998 were slightly higher (73 and 117 deaths per 1000 live births). The *q5* estimate, which is the most stable of the childhood mortality indices, was used to determine the level of mortality for Ghana. This corresponds to level 17.1 of the north family of the Coale and Demeny regional model life tables (1966, 1983). The matching expectation of life at birth is 56.six years for males, 60.3 for females and 58.4 for both sexes. The estimated level of mortality was also used to compute the expectation of life at ages five years and older for the population. The results, for instance, show that persons who attain the age of 15 are expected to live for 52.5 more years while those who reach age 60 expect to live for 16.5 more years. The findings further suggest that the expectation of life at birth for females has improved from 47.3 years for the period 1956-1960 to 60.3 years in the period 1995-2000. The corresponding estimates for males are 43.7 years and 56.six years respectively. In terms of rural/urban place of residence, people who live in urban localities have an average life expectancy of 63.4 years compared to an average of 57.9 years for rural residents.

Investigations into the determinants of infant and under-five mortality indicate that significant linkages are observed between the risk of death to infants and under-fives and socio-economic factors. At the 95% confidence level, the variables that are found to be significantly associated with infant mortality include the type of birth (whether single or multiple), the length of the preceding birth interval, the mother's place and region of residence, level of education, and employment status. All the variables, except employment status, were equally significant determinants of under-five mortality. These associations do not take account of the effect of confounding variables. In order to identify the independent predictors of infant and under-five mortality, more in-depth analysis will be required. Nonetheless, some important issues have emerged from the analysis.

Even though the identified biological and socio-economic factors do not present a complete picture of the major underlying causes of childhood mortality in this country, the observed differentials could form the basis of policy formulation. For example, the positive association between child survival chances and the length of a child's preceding birth interval is a clear pointer to the need for intensive educational campaigns on the importance of birth spacing and the need to adopt a method of family planning. This will not only help people to have the children they can conveniently cater for but also it will improve the survival chances of children who are born at least three years after a preceding sibling.

The concerns expressed about the side effects of some modern family planning methods could be nullified if women are made aware of the whole range of methods that can be used to space births and emphasis is placed on the fact that modern methods are not the only means for spacing births. Educating women on the proper application of the rhythm method can go a long way to reduce childhood deaths. Providers of modern methods should also ensure the regular provision of contraceptive supplies and essential equipment required for providing family planning services. Furthermore, a reduction in the number of deaths to children from multiple births can be achieved through the adoption of proper antenatal and delivery care by pregnant women, as well as adequate postnatal assessment and care of the live births resulting from these pregnancies.

With regard to the locality and region of residence, it is recommended that in order to minimize the observed disparities in childhood mortality risks, there should be equitable income distribution as well as increased enrolment in schools. Previously, the regions with high mortality levels were Northern, Upper East, Upper West and Central. Brong Ahafo is now emerging as a region with similar adverse mortality conditions. It needs repeating the need to reverse the rural-urban drift and the migration of the youth from the northern regions to the southern sector by establishing development projects in these areas. The job opportunities that would be created by these projects may be one of the ways of ensuring household economic security and consequently improved access to health care, better housing, and proper nutrition.

The seasonal dietary deficiencies in the northern regions may also hinder the attainment of good health, a situation which is made worse during periods of illness. Due to the dry climatic condition, which is experienced for most part of the year by the three northern regions, the proper nourishment of children may be difficult to achieve because of the unavailability of certain essential nutrients during certain periods of the year. Combined with the high illiteracy rates, the provision of well-balanced diets for under-fives may only be a reality for few children. Despite the seasonality of many food crops, the northern sector produces a number of cereals, legumes and other food crops whose nutrient contents could provide the essential nourishment for children when combined in the right proportions. This would, however, require nutrition education and possibly seasonal supply of vitamin supplements for children in these areas. Such support should be extended to the vulnerable regions of Central and Brong Ahafo, which also have relatively high childhood mortality rates. Finally, attention should be focused on educating the general public on adopting habits that would help reduce environmental contamination, which is one of the major causes of malaria, upper respiratory infections and diarrhoea, known to be major childhood killers in the country.

Compared to other countries, Ghana's expectation of life at birth is quite low. For example, even though it may be comparable to what pertains in other West African countries, Ghana's life expectancy of 58.4 years is far below the 70 years and more in some African countries such as Tunisia, Seychelles, and South Africa. In order to enhance the survival chances of Ghanaians, the living standards of the population should be improved by increasing general access to education, providing occupational skills, expanding job opportunities, and improving and expanding social infrastructure. Recognizing that the problem is of a multi-faceted nature, attempts should be made to coordinate the efforts of both national and international institutions at the community, regional and national levels to ensure that maximum benefits are derived from programmes that are implemented to achieve this goal.

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## **CHAPTER 10: GHANA POPULATION PROSPECTS, 2000-2025**

### **10.1 Introduction**

Ghana's population has a high potential inherent in the age structure with a subsequent rapid expansion of the population well into the 21<sup>st</sup> century. A decline of fertility to the replacement level in such a population is usually accompanied by an ultimate population increase of two-thirds before growth ceases. The total fertility rate is not expected to reach replacement level before 2050. The implications of the population expansion for development are momentous. The assessment of the future population of the country is therefore intended to unearth the demographic realities that reflect the development challenges facing the country.

### **10.2 Estimates Based on Historical Profiles and Projections.**

Fertility and mortality levels and trends are basic information needed for planning for the future. They also constitute a map of their demographic history and they may therefore be considered as a view of the past. Comparison of the historical fertility and mortality rates assists in the analysis of data consistency as well as derivation of plausible population estimates for further research and policy analysis. The pieces of data collected in censuses and surveys over the past four decades were put together to map the historical trends of fertility and mortality. The estimated trends were then used in determining the growth of the population of Ghana.

### **10.3 Sources. Assumptions and Methods**

The adjusted age and sex distribution and the recorded total population of Ghana in 2000 have been used in deriving the base population for the projections. Estimates of the population of Ghana Origin (i.e., Ghanaians) suggest a shortfall of between four and five per cent in the 2000 census count. This may be explained, in part, by emigration but lack of information on international migration has not made it possible to assess the contributions of the two major factors (undercount and emigration). The base population was not, therefore, adjusted for any possible coverage errors. The United Nations method of growth rate difference was employed in projecting urban and rural projections.

#### **Assumptions on the Future of Fertility**

The 1998 demographic and health survey (DHS) data and 2000 census data yield a total fertility ranging from 3.8 (census data) to 4.55 (DHS data based on births in 1-59 months preceding the survey) and 4.60 (DHS data based on births in the past twelve months). Adjustment of the observed census figure for possible underreporting of births raised it to more than five children per woman; this estimate appears to be on the high side.

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This chapter has been contributed by Prof. S.K. Gaisie

As regards the survey data, a slight adjustment for displacement of birth dates raised the observed total fertility rate from 4.602 (based on births in the past twelve months) to 4.68 and

from 4.550 (based on births in 1-59 months preceding the survey) to 4.65. Other estimation procedures yielded a total fertility rate of between 4.7 and 4.8. These estimates indicate that the level of the prevailing fertility by the end of the century lay between 4.6 and 4.8 children per woman. With the observed rates given as 4.5-4.6 and the estimated ranging between 4.6 and 4.8, it seemed plausible to use 4.7 as the rate in generating population projections. This estimate, together with experiences of countries that have moved or are moving through the fertility transition as well as knowledge of the fundamental principles in population dynamics during the century provided the guidance and the basis of the fertility assumptions.

### **High Fertility Assumption**

*The fertility level estimated for 1995-2000 will decline to 4.4 by 2005 and then remain constant throughout the remainder of the projection years (High Variant).*

The assumption is based on the consideration of the following: past fertility trends; evidence of slowdowns of the rate of decline during the movement through the transition (e.g. in Tunisia, Egypt, Argentina and Uruguay); low levels of contraceptive prevalence that cast doubt on the continual fertility decline and the ability of the postpartum infecundability variables (i.e. postpartum abstinence, amenorrhoea, breastfeeding and foetal loss- natural or induced) to withhold the momentum of the decline for long; nature and the extent of the impact of the implementation of the population policy and programmes on the targeted beneficiaries; stabilization of the ideal mean number of children: dropping from 6.1 in the early and mid-1980s to 5.3 in the late 1980s and then to 4.4. in 1993 and 4.3 in 1998.

### **Medium Fertility Assumption**

*The estimated level of fertility for 1995-2000 will reach replacement level by 2050 (Medium Variant). Replacement-level fertility is defined as a total fertility rate (TFR) of 2.1 children per woman, which includes extra one-tenth of a child to make up for mortality of children and women who will not survive to the end of the reproductive years.*

### **Low-Fertility Assumption**

*The pace of the fertility decline as indicated by the observed or recorded fertility rates since the 1990s will continue throughout the projection years (Low Variant).*

Calculation of future births was based on the estimated and projected total fertility rates and on the age structure of fertility for 1998. The estimated total fertility values used in the projections are shown in Table 10.1.

**Total 10.1 Fertility Values Used in the Projections, 2000-2025**

<b>Period (Years)</b>	<b>High</b>	<b>Medium</b>	<b>Low</b>
1995-2000	4.7	4.7	4.7
2000-2005	4.4	4.4	4.4
2005-2010	4.4	4.1	3.7
2010-2015	4.4	3.5	3.1
2015-2020	4.4	3.5	2.7
2020-2025	4.4	3.3	2.2

### **Assumptions on Future Mortality Trends**

If mortality has been changing, information on the proportion of children dead can yield not only estimates of child mortality but also estimates of its trends. In fact, the power of Brass' method for estimating childhood mortality increases when it is applied to several data sets referring to the same population. Estimates covering overlapping periods provide a powerful tool for checking their consistency and selecting those less likely to be affected by extraneous biases.

The most reliable estimates of childhood mortality produced by the Brass method usually refer to a period between three and ten years preceding the interview. Under-five mortality  $q(5)$  was selected for the determination of the mortality trends because it is particularly sensitive to the mortality patterns underlying the different models. It has been demonstrated that no matter which mortality model is chosen to apply the Brass method, the errors that are likely to affect resulting estimates of  $q(5)$  are likely to be smaller in both absolute and relative terms than those affecting  $q(1)$  or  $q(2)$ . This underscores the robustness of  $q(5)$  as an indicator of mortality in childhood when it is estimated by the Brass method, because the estimate is not severely affected by deviations from assumptions on which it is based.

The most striking feature of the estimated  $q(5)$  values is the declining trend they display and although the estimates display considerable inconsistency one can infer from them the likely trend that mortality in childhood has followed through time. The power of Brass' method is substantially enhanced when it is applied to several data sets as in this analysis. The independent estimates covering overlapping periods allow the analyst to check their consistency and select those less likely to be distorted by extraneous factors. The estimates were then used to derive life expectancies at birth from the North model life tables.

### **Mortality Assumptions**

Future mortality trends were determined by fitting a logistic function to the estimated  $q(5)$  values and the implied life expectancies at birth for the periods 1960-1965 to 1995-2000 were derived from the North model life table. The logistic curve fits many types of growth data much better than that of other curves such as the exponential curve. It has been demonstrated that logistic curves possess a certain predictive value and that future estimates derived by means of logistic extrapolation have, in my cases, been reasonably confirmed by actual observations as censuses were taken subsequently.

The impact of HIV/AIDS was incorporated in a set of projections based on the estimates prepared by the UNAIDS. Estimates of the impact of HIV/AIDS were made by projecting the yearly incidence of HIV infection (UN 2002 Revision). The revision of the world population prospects in 2000 revealed that the impact of HIV/AIDS was worsening and that the number of highly affected countries had risen to 45, upward from 34 in the 1998 Revision (United Nations 2001). These are countries with HIV prevalence of 2 per cent or more among the population aged 15-49 years. Recent estimates by WHO indicate that HIV prevalence in Ghana has been underestimated and that it now lies in the neighbourhood of 4 per cent. Two sets of projections were therefore constructed: one incorporating the effect of AIDS and the other without AIDS; the difference between these two populations is indicative of the impact of AIDS.

The seriousness of the impact in terms of morbidity, mortality and population loss is reflected in estimated life expectancy at birth of 56.5 for males and 59.3 years for females in 2000-2005

instead of 58.3 for males and 62.0 years for females in the absence of AIDS. The excess deaths due to AIDS is expected to increase from 110,000 in 2000-2005 to 130,000 in 2010-2015. The estimated life expectancy values used in the projections are presented in Table 10.2.

**Table 10.2 Life Expectancy Values Used in the Projections, by Sex, 2000-2025**

Period (Years)	Assumption without AIDS		Assumption with AIDS*	
	Male	Female	Male	Female
1995-2000	56.6	60.3	55.0	57.6
2000-2005	58.3	62.0	56.5	59.3
2005-2010	60.0	63.6	58.5	60.9
2010-2015	61.7	65.2	60.5	62.9
2015-2020	63.6	66.7	62.3	64.2
2020-2025	66.5	68.2	64.0	65.8

\*United Nations The 2002 Revision, New York, 2003.

#### 10.4 Total Population of Ghana

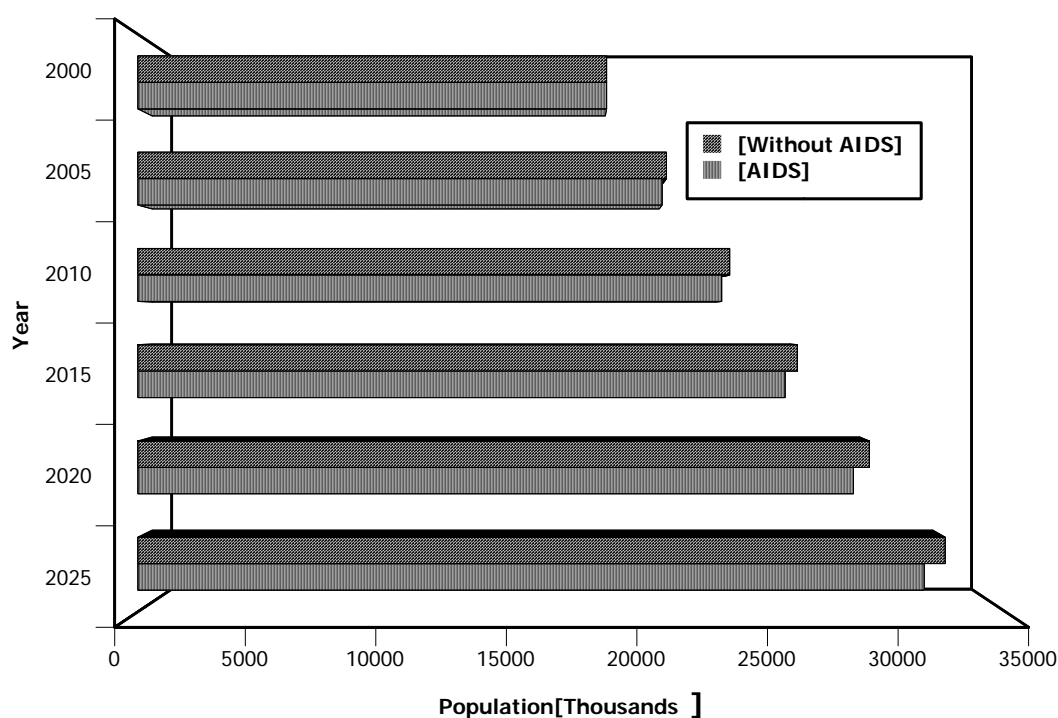
Table 10.3 presents, under the three fertility assumptions, the recorded and projected population of Ghana over the period 2000 to 2025. The medium projections indicate that the country's population will increase by 4.4 million during the decade of 2000-2010 and by 7.5 million in the 2010-2025 period. Every year about 440,488 people will be added to the population during the period 2000-2010; the annual average will increase to 500,000 in the period 2010 to 2025.

**Table 10.3 Projected Population of Ghana, 2000-2025**

Year	Without AIDS			With AIDS		
	Medium	High	Low	High	Medium	Low
2000	18,912,080	18,912,080	18,912,080	18,912,080	18,912,080	18,912,080
2005	21,026,106	21,026,106	20,943,590	20,913,780	20,913,780	20,832,468
2010	23,316,880	23,388,426	22,873,216	23,087,710	23,158,290	22,651,878
2015	25,669,386	26,161,880	24,743,272	25,327,426	25,811,046	24,419,384
2020	28,207,720	29,408,830	26,543,180	27,717,026	28,890,552	26,114,098
2025	30,806,944	33,087,398	28,163,204	30,150,172	32,368,242	27,599,882

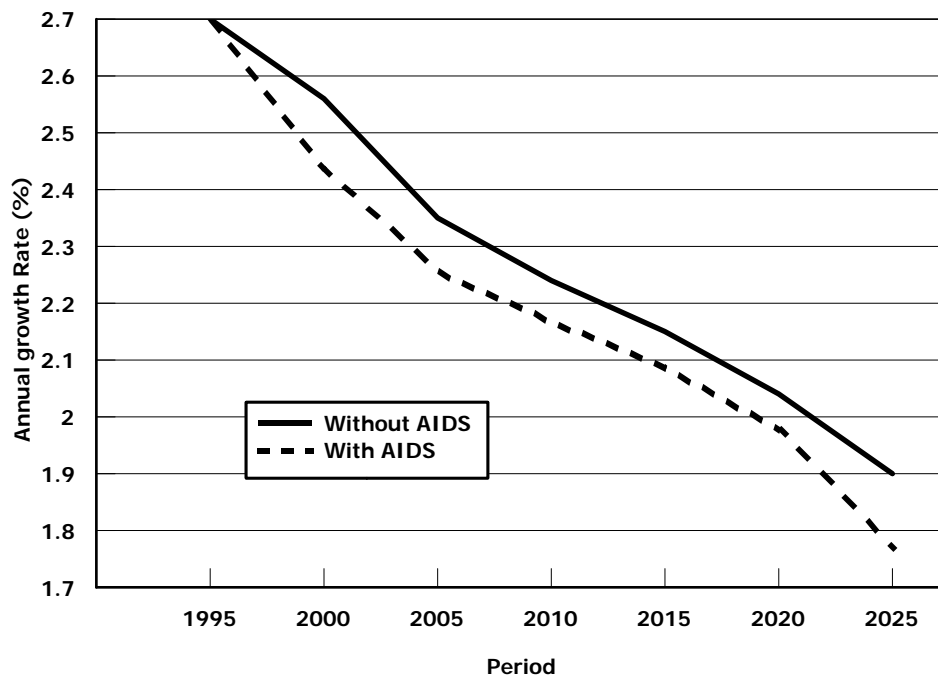
Despite the impact of AIDS, the country's population will continue to grow (Table 10.3). This is due to the prevailing relatively high fertility level. For instance, the medium variant projections indicate that the population will increase from 19 million in 2000 to 23 million instead of 23.5 million (in the absence of HIV/AIDS) in 2010. The projected population of 25.6 million for the year 2015 is also less than the projected "normal" one by 400,000 (i.e. 1.5 per cent). In other words, the population size will be reduced by 1.5 per cent by the incidence of AIDS.

**Figure 10.1 Projected Population With and Without AIDS, 2000-2025**



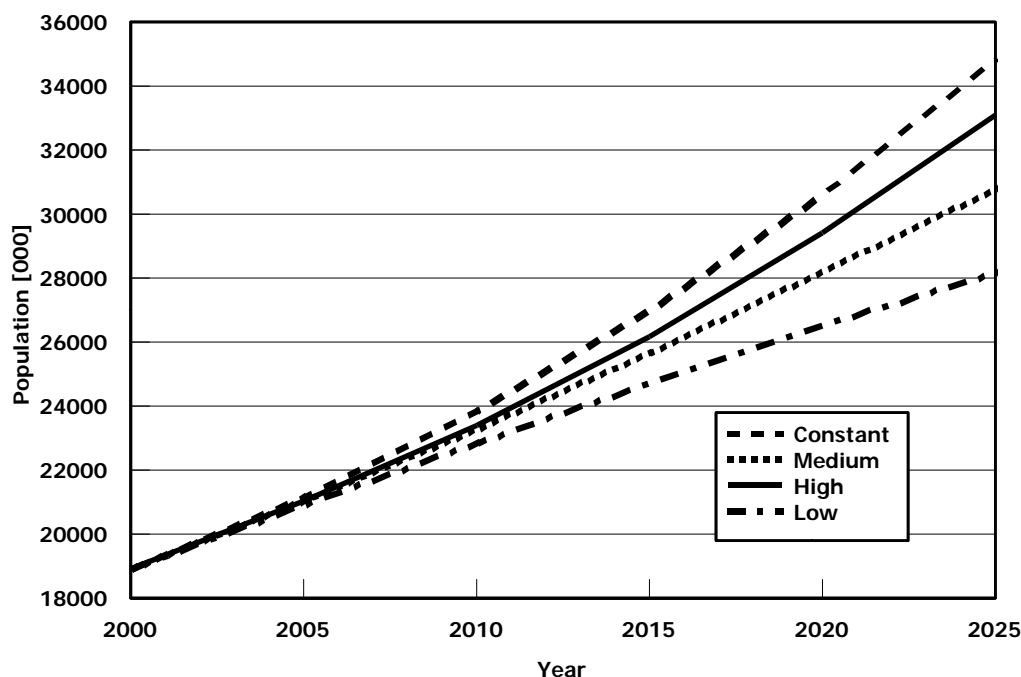
The projected annual rates of growth are shown in Figure 10.2. The narrowing of the gap with the years is due to the assumption that the probability of being infected by HIV will decline significantly in the future, particularly after 2015. Though the population size will be smaller because of the mortality impact of AIDS, the population will continue to expand as a result of high fertility.

**Figure 10.2 Annual Population Growth, 1990-1995 to 2020-2025**



The several population projection variants in the absence of AIDS are summarized graphically in Figure 10.3. The difficulty in moving the economy forward to ensure that standard of living is improved and sustained suggests that efforts at reducing rate of population growth through the attainment of the medium to low fertility variant would be a welcome option.

Figure 10.3 Projected Population by Different Variants, 2000-2025



## 10.5 Rates of Change

One of the guiding principles in evaluating the accuracy of a census count is that population change normally proceeds in an orderly manner. Thus, in the absence of any unusual events the rate of growth for a country as a whole and its subdivisions change only gradually in successive inter-censal periods, and almost invariably follows a fairly constant trend.

The estimated crude and death rates of 50 and 23 per thousand population for the late 1950s and early 1960s yield a rate of natural increase of 2.7 per cent per annum (Gaisie 1969). A set of estimates derived from the data collected in the 1968/1969 Demographic Sample Surveys and the 1960 and the 1970 census indicate a rise in the rate of natural increase to the neighbourhood of between 2.9 and 3.0 per cent per annum during the late 1960s and early 1970s (Gaisie and Johnson 1976). A virtually similar pattern is revealed by new estimates presented in Table 10.4 (based on data collected in censuses and sample surveys over the past four decades, 1960 - 2000). The rate of natural increase was about 3.0 per cent per annum during the 1960s and 1970s and remained constant until the late 1980s or early 1990s before dropping gradually to 2.6 per cent by the turn of the century (Table 10.4).

**Table 10.4 Reported and Estimated Rates of Natural Increase, 1960-2000**

Period	Reported	Estimated
1960-1970	3.10	-
1970-1984	2.89	-
1984-2000	2.68	-
1960-1965	-	3.10
1965-1970	-	3.04
1970-1975	-	3.07
1975-1980	-	3.18
1980-1985	-	3.31
1985-1990	-	3.16
1990-1995	-	2.83
1995-2000	-	2.58

The rise of the rate of natural increase during the 1960s and 1970s was triggered by declining mortality and constant fertility. Examination of the rates of natural increase for single years indicate that the population began to grow at the rate of 2.8 per cent as from 1995 and that the rate never dropped to below 2.8 per cent between 1984 and 1994. The growth rate of 2.7 per cent between 1984 and 2000, therefore, appears to be under reported, an indication of under enumeration in the census count in both the 1984 and 2000 censuses. However, a proportion of the under count in the 2000 census is attributable to emigration.

Under medium and high variant assumptions of fertility decline, the population will grow at an annual rate of 2.3 per cent between 2000 and 2005 and then decline to between 1.8 (medium variant) and 2.5 (high variant) per cent per annum during the projection period. The growth rates imply the doubling of the population in 30-37 years. Even the low variant projection suggests a doubling of the population in 45-50 years. Table 10.5 presents a summary of demographic indicators.

Fertility trends affect the rate of growth by determining the number of births women have the size of different generations. In the majority of African countries where fertility is above replacement level, children outnumber their parents by substantial levels and the children in turn have more children than required to replace their parents' generations, even when fertility level is declining. Consequently, as fertility falls, the number of births to relatively large generations of parents remains high for some time relative to the number of deaths, mostly of grand parents and great grand-parents. This process tends to maintain a relatively high population growth rate even though fertility is falling. In most of the countries where fertility rate is reported to be falling, overall population growth rates are relatively high and, in consequence, the balancing of the demographic "deficit" takes much longer to be effected. The decline of fertility in Ghana therefore is yet to make an impact on the demographic profile of the country.

**Table 10.5: Summary of Demographic Indicators**

Indicator	A. High Variant					
	2000	2005	2010	2015	2020	2025
<b>Fertility</b>						
Input TFR	4.7	4.4	4.4	4.4	4.4	4.4
GRR	2.32	2.17	2.17	2.17	2.17	2.17
NRR	1.91	1.83	1.86	1.90	1.93	1.96
Mean Age of Childbearing	29.7	29.7	29.7	29.7	29.7	29.7
Child-woman ratio	0.64	0.60	0.59	0.59	0.61	0.61
<b>Mortality</b>						
Male LE	56.6	58.3	60.0	61.7	63.6	66.5
Female LE	60.3	62.0	63.6	65.2	66.7	68.2
Total LE	58.5	60.2	61.8	63.5	65.2	67.4
IMR	71.2	64.7	58.4	52.2	46.3	38.6
U5MR	112.9	101.4	90.3	79.4	69.2	55.8
<b>Vital Rates</b>						
CBR per 1000	34.1	32.2	32.5	32.8	32.6	32.1
CDR per 1000	11.5	10.6	9.9	9.2	8.5	7.6
RNI per cent	2.25	2.16	2.26	2.36	2.41	2.45
GR per cent	2.25	2.16	2.26	2.36	2.41	2.45
Doubling time	31.1	32.4	31.0	29.8	29.1	28.6
<b>Annual births and deaths</b>						
Births	644,261	680,210	768,650	871,103	979,925	1,092,158
Deaths	218,165	223,894	233,883	244,502	255,752	257,897
<b>Population</b>						
Total population	18,912,080	21,134,518	23,646,912	26,590,856	30,043,278	33,990,008
Male population	9,357,382	10,463,692	11,716,957	13,189,259	14,940,879	16,939,278
Female population	9,554,697	10,670,825	11,929,952	13,401,597	15,102,400	17,050,726
per cent aged 0-4 years	15.25	14.35	14.25	14.49	14.64	14.59
per cent aged 5-14 years	24.33	24.69	24.17	23.37	23.46	23.80
per cent aged 15-49 years	47.13	47.56	48.05	48.49	48.10	47.62
per cent aged 15-64 years	55.88	56.33	56.89	57.4	57.09	56.70
per cent aged 65 years and older	4.54	4.62	4.69	4.74	4.81	4.90
per cent females 15-49 years	47.05	47.51	48.02	48.49	48.13	47.67
Sex ratio	97.93	98.06	98.21	98.42	98.93	99.35
Dependency ratio	0.71	0.69	0.68	0.66	0.67	0.68
Median age	20	21	21	21	21	21
<b>Urban population</b>	8,274,270	10,072,839	12,188,661	14,734,076	17,789,208	21,383,094
<b>Rural population</b>	10,637,810	11,061,679	11,458,251	11,856,780	12,254,070	12,606,914
per cent urban	43.75	47.66	51.54	55.41	59.21	62.91
per cent rural	56.25	52.34	48.46	44.59	40.79	37.09

Indicator	B. Medium Variant					
	2000	2005	2010	2015	2020	2025
<b>Fertility</b>						
Input TFR	4.7	4.4	4.0	3.8	3.5	3.3
GRR	2.32	2.17	1.97	1.87	1.72	1.63
NRR	1.91	1.83	1.69	1.64	1.53	1.47
Mean Age of Childbearing	29.7	29.7	29.7	29.7	29.7	29.7
Child-woman ratio	0.64	0.60	0.56	0.52	0.48	0.47
<b>Mortality</b>						
Male LE	56.6	58.3	60.0	61.7	63.6	66.5
Female LE	60.3	62.0	63.6	65.2	66.7	68.2
Total LE	58.5	60.2	61.8	63.5	65.2	67.4
IMR	71.2	64.7	58.4	52.2	46.3	38.6
U5MR	112.9	101.4	90.3	79.4	69.2	55.8
<b>Vital Rates</b>						
CBR per 1000	34.1	32.2	29.8	29.0	27.3	26.0
CDR per 1000	11.5	10.6	9.7	9.1	8.4	7.7
RNI per cent	2.26	2.16	2.00	1.99	1.89	1.83
GR per cent	2.26	2.16	2.00	1.99	1.89	1.83
Doubling time	31.0	32.4	34.9	35.1	37.0	38.3
Annual births and deaths						
Births	644,261	680,209	698,772	752,317	779,483	813,269
Deaths	217,211	223,893	228,560	235,122	240,770	240,781
<b>Population</b>						
Total population	18,912,080	21,134,500	23,458,808	25,950,150	28,511,828	31,311,432
Male population	9,357,382	10,463,684	11,622,126	12,866,258	14,166,650	15,583,953
Female population	9,554,697	10,670,817	11,836,684	13,083,892	14,345,179	15,727,842
per cent aged 0-4 years	15.25	14.35	13.56	13.08	12.27	12.12
per cent aged 5-14 years	24.33	24.70	24.36	23.24	22.51	21.58
per cent aged 15-49 years	47.13	47.56	48.44	49.69	50.68	51.12
per cent aged 15-64 years	55.88	56.33	57.35	58.82	60.15	60.98
per cent aged 65 years and older	4.54	4.62	4.73	4.86	5.07	5.32
per cent females 15-49 years	47.05	47.51	48.4	49.67	50.67	51.12
Sex ratio	97.93	98.06	98.19	98.34	98.76	99.08
Dependency ratio	0.71	0.69	0.66	0.62	0.58	0.55
Median age	20	21	21	22	23	24
<b>Urban population</b>	8,274,270	10,066,559	12,086,201	14,376,346	16,885,578	19,708,262
<b>Rural population</b>	10,637,810	11,067,941	11,372,607	11,573,804	11,626,250	11,603,170
per cent urban	43.75	47.63	51.52	55.4	59.22	62.94
per cent rural	56.25	52.37	48.48	44.6	40.78	37.06

Indicator	C. Low Variant					
	2000	2005	2010	2015	2020	2025
<b>Fertility</b>						
Input TFR	4.7	4.4	3.7	3.1	2.7	2.2
GRR	2.32	2.17	1.82	1.53	1.33	1.08
NRR	1.91	1.83	1.56	1.34	1.18	0.98
Mean Age of Childbearing	29.7	29.7	29.7	29.7	29.7	29.7
Child-woman ratio	0.64	0.60	0.53	0.45	0.39	0.34
<b>Mortality</b>						
Male LE	56.6	58.3	60.0	61.7	63.6	66.5
Female LE	60.3	62.0	63.6	65.2	66.7	68.2
Total LE	58.5	60.2	61.8	63.5	65.2	67.4
IMR	71.2	64.7	58.4	52.2	46.3	38.6
U5MR	112.9	101.4	90.3	79.4	69.2	55.8
<b>Vital Rates</b>						
CBR per 1000	34.1	32.2	27.7	24.2	22.1	18.6
CDR per 1000	11.5	10.6	9.6	8.9	8.4	7.7
RNI per cent	2.25	2.16	1.81	1.54	1.37	1.09
GR per cent	2.25	2.16	1.81	1.54	1.37	1.09
Doubling time	31.1	32.4	38.7	45.5	51.0	64.1
Annual births and deaths						
Births	644,261	680,210	646,364	613,731	601,318	539,258
Deaths	218,165	223,894	224,571	224,760	228,242	224,411
<b>Population</b>						
Total population	18,912,080	21,134,518	23,317,790	25,335,352	27,263,810	28,966,594
Male population	9,357,382	10,463,692	11,551,034	12,556,237	13,535,399	14,396,396
Female Population	9,554,697	10,670,825	11,766,756	12,779,113	13,728,410	14,570,196
per cent aged 0-4 years	15.25	14.35	13.04	11.51	10.47	9.26
per cent aged 5-14 years	24.33	24.69	24.51	23.26	21.32	19.53
per cent aged 15-49 years	47.13	47.56	48.73	50.89	53.00	54.79
per cent aged 15-64 years	55.88	56.33	57.70	60.25	62.91	65.45
per cent aged 65 and older	4.54	4.62	4.75	4.98	5.30	5.76
per cent females 15-49 years	47.05	47.51	48.69	50.86	50.95	54.72
Sex ratio	97.93	98.06	98.17	98.26	98.59	98.81
Dependency ratio	0.71	0.69	0.65	0.58	0.51	0.44
Median age	20	21	21	22	24	26
Urban population	8,274,270	10,072,839	12,021,591	14,047,963	16,163,683	18,257,178
Rural population	10,637,810	11,061,679	11,296,199	11,287,389	11,100,127	10,709,416
per cent urban	43.75	47.66	51.56	55.45	59.29	63.03
per cent rural	56.25	52.34	48.44	44.55	40.71	36.97

## **10.6 Urbanization**

There have been considerable migratory movements in the country since the period of European colonization. The country experienced a great deal of movement of population from one locality to another. The most important movement in recent years reflect the socio-economic changes taking place within the country. The usual four types of internal migratory movements have been identified: rural to rural, rural to urban, urban to urban and urban to rural. Of these, although the rural to rural movements are of the largest volume in most countries, the most significant in its impact is the accelerated migration from rural to urban areas.

Ghana exhibits one of the fastest urban growth in the world. In 1960, nearly one-quarter (23%) of the population lived in urban areas. By 2000, 4 out of 10 Ghanaians (8 million) were urban dwellers and it is expected that 14.4 million persons or 55.4 per cent of the population will be residing in urban areas in the year 2015. Thus, more than three quarters (88%) of all the population growth during 2000-2015 (about 6.6 million) will be in urban areas. By 2025, urban areas will contain 63 per cent of the population in the country.

Migration has been a population response to the changing social and economic conditions in the country. As these conditions changed, so did the type of migrant and the purpose of movement. Urban centres or agglomerations emerged as a destination of the major structural flows of people across the country. Thus, urbanization also becomes part of the response to social change; a response which is an integral part of the socio-economic and political transformations taking place to-date in Ghana. Furthermore, urbanization has led to redistribution of the population in such a way as to effect still more social change. The increasing agglomeration of the population engenders a new configuration of both political and purchasing power which will continue to attract still more people as well as economic activities to these centres. But this process is, among other things, a major factor of political instability and dissipation of economic potentialities.

As a component of the modernization process, urbanization is seen as a hub of the development process to which the political leadership should pay greater attention, if Ghana is to make any significant headway in poverty reduction. The concern should be focused more seriously on the strategy to make cities/towns play a more effective role as a form of social organization for social and economic development. The need to maintain them physically as a healthy environment deserves repeating. The pattern of future development will depend very much on the manner in which the country deals with these changing phenomena of internal migration and increasing urbanization. These observations immediately direct our attention to other related phenomena: size, composition and growth of the rural population, the most neglected people in the country. Despite high urban growth rates, African rural populations continue to grow. The rural population is currently growing at an estimated rate of 0.8 per cent per annum.

## **10.7 Age Structure**

The proportion of 0-14 year-olds is expected to decline from 41.0 per cent in 2000 to between 37 and 39 per cent in 2010. The medium population projections suggest that it will drop slightly to 39 per cent by the year 2010. In 1960, there were 1.1 million persons aged between 15-24 years. In 2000, the size of this population had expanded to 3.5 million, increasing its size by more than three-folds between 1960 and 2000. The growth of the country's youth population (adolescents and young adults) reflects the underlying high annual growth rate of 2.7 per cent. The rapid growth of the adolescent and youth population has increased the pressure to expand

education and health services and employment opportunities. Policy makers must bear in mind that the period of rapid expansion of the adolescent population will be long. For instance, the medium projections indicate that the number of young people (15-24 years) will grow much more rapidly, rising from 3.5 million in 2000 to 4.5 million in 2010 and nearly 5.6 million in 2020.

In addition to absolute numbers, the proportion of young people in the total population raises policy concerns. The proportion increased from 18.7 per cent in 1960 to nearly 19 per cent in 2000 and it is estimated to climb up to 20 per cent in 2020. A situation in which 20 per cent or more of a population is aged 15-24 years has been described as “young bulge”. There is a speculation that this phenomenon may subject a society to potentially disruptive, political and social movements.

In addition to increasing services and facilities to cope with large numbers of young people, the expansion of this segment of the population raises two important policy concerns: first, the adolescents and young adults are about to enter or are already in their prime reproductive years, leading to large numbers of births, even when fertility is low; second, the adolescent and young adults are prone to all types of risk behaviour, including smoking, drinking, drug abuse and high-risk sexual behaviour leading to increase in prevalence of HIV/AIDS. As noted earlier, the projected figures indicate that the youthfulness of the population will persist during the projection period. Thus, the population still has the high potential inherent in the age structure with subsequent rapid expansion of the population into the middle of the 21<sup>st</sup> century.

The population of women aged 15-49 years increased from 1.4 million in 1960 to 4.5 million in 2000 and it is expected to increase further to 5.7 million in 2010. Thus, large number of births and the size of different generations will generate expansion of the population even though fertility will be declining. When fertility declines from high to low levels, populations tend to be characterized (for about 15 to 20 years later) by unusually large proportions of men and women in their reproductive years, leading to large numbers of births even when fertility rates are low. For this very reason, the population continues to grow, a phenomenon described as “population momentum”. For instance, Japan reached replacement level in 1957, but because of population momentum, the Japanese population is projected to keep growing until 2006. Hence, even if Ghana’s fertility reaches replacement level in 2050, the population will continue to grow for a considerable length of time.

The proportion of the 15-64 year-olds will increase from 53 per cent in 2000 to between 54 and 55 per cent in 2005 and then to between 55 and 58 per cent in 2010. This segment of the age structure will increase the pressure on provision of job opportunities. The population is at the same time aging gradually, and it will be a great mistake to dismiss aging as an issue that need not be considered until some time in the future. The population aged 65 years and older increased from 271,639 in 1960 to one million in 2000 and it is estimated to rise to 1.1 million in 2010, 1.4 million in 2015 and 1.7 million in 2025. Policy options for this segment of the population will include enhancement of traditional support systems, greater employment opportunities for the elderly who are still capable to remain in the work force, institutions that support high levels of personal savings and government programmes such as pension schemes and health care systems (population projections by age and sex are presented in Appendix Table A.1 while the rural component is presented in Table A.2).

In conclusion, the implications of these demographic realities are manifold and penetrating. For instance, the obvious related dimensions of the age structure are the labour force potential, high dependency ratios, consumption needs and social and economic requirements for the present and

future generations. It is important to emphasize that population is the only major factor that interacts with all the other variables in the development equation. Unless serious and conscious attempt is made to put population at the core of development, all efforts to improve human well-being and reduce poverty will not be sustained. Stabilization of the population is therefore an essential requirement for sustained economic growth and sustainable social and economic development. Effective management of the population must, therefore, be one of the major concerns of all Ghanaians in the coming decades.

**Appendix Table A.1 Population Projection by Different Variants 2000-2025**

Age Group	High Variant			Medium Variant			Low Variant		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
<b>2000</b>									
0-4	2,884,653	1,445,741	1,438,912	2,884,653	1,445,741	1,438,912	2,884,653	1,445,741	1,438,912
5-9	2,455,447	1,228,646	1,226,801	2,455,447	1,228,646	1,226,801	2,455,447	1,228,646	1,226,801
10-14	2,145,515	1,072,375	1,073,140	2,145,515	1,072,375	1,073,140	2,145,515	1,072,375	1,073,140
15-19	1,875,902	936,691	939,211	1,875,902	936,691	939,211	1,875,902	936,691	939,211
20-24	1,634,841	814,107	820,734	1,634,841	814,107	820,734	1,634,841	814,107	820,734
25-29	1,419,321	703,687	715,634	1,419,321	703,687	715,634	1,419,321	703,687	715,634
30-34	1,229,285	608,240	621,045	1,229,285	608,240	621,045	1,229,285	608,240	621,045
35-39	1,060,987	524,022	536,965	1,060,987	524,022	536,965	1,060,987	524,022	536,965
40-44	913,513	449,162	464,351	913,513	449,162	464,351	913,513	449,162	464,351
45-49	780,191	382,723	397,468	780,191	382,723	397,468	780,191	382,723	397,468
50-54	659,194	320,964	338,230	659,194	320,964	338,230	659,194	320,964	338,230
55-59	549,544	264,819	284,725	549,544	264,819	284,725	549,544	264,819	284,725
60-64	445,547	212,417	233,130	445,547	212,417	233,130	445,547	212,417	233,130
65-69	343,443	160,951	182,492	343,443	160,951	182,492	343,443	160,951	182,492
70-74	245,079	113,226	131,853	245,079	113,226	131,853	245,079	113,226	131,853
75-79	154,263	70,182	84,081	154,263	70,182	84,081	154,263	70,182	84,081
80+	115,354	49,429	65,925	115,354	49,429	65,925	115,354	49,429	65,925
<b>Total</b>	<b>18,912,080</b>	<b>9,357,382</b>	<b>9,554,697</b>	<b>18,912,080</b>	<b>9,357,382</b>	<b>9,554,697</b>	<b>18,912,080</b>	<b>9,357,382</b>	<b>9,554,697</b>
<b>2005</b>									
0-4	3,032,594	1,526,971	1,505,623	3,032,543	1,526,944	1,505,599	3,032,594	1,526,671	1,505,623
5-9	2,795,738	1,398,921	1,396,817	2,795,783	1,398,945	1,396,838	2,795,738	1,398,921	1,396,817
10-14	2,423,409	1,211,503	1,211,906	2,423,411	1,211,504	1,211,907	2,423,409	1,211,503	1,211,906
15-19	2,115,638	1,055,694	1,059,944	2,115,637	1,055,693	1,059,944	2,115,638	1,055,694	1,059,944
20-24	1,842,712	917,504	925,208	1,842,711	917,504	925,207	1,842,711	917,504	925,207
25-29	1,601,393	795,046	806,347	1,601,392	795,046	806,347	1,601,393	795,046	806,347
30-34	1,387,299	686,031	701,269	1,387,299	686,030	701,268	1,387,299	686,031	701,269
35-39	1,197,949	591,455	606,494	1,197,946	591,453	606,493	1,197,949	591,455	606,494
40-44	1,028,738	506,722	522,016	1,028,740	506,724	522,016	1,028,738	506,722	522,016
45-49	878,849	430,077	448,773	878,849	430,076	448,773	878,849	430,077	448,773
50-54	741,539	361,281	380,258	741,539	361,281	380,258	741,539	361,281	380,258
55-59	614,775	296,665	318,111	614,775	296,665	318,111	614,775	296,665	318,111
60-64	496,638	236,644	259,995	496,638	236,644	259,995	496,638	236,644	259,995
65-69	382,498	179,906	202,592	382,498	179,906	202,592	382,498	179,906	202,592
70-74	272,294	125,573	146,721	272,294	125,573	164,721	272,294	125,573	146,721
75-79	173,363	78,542	78,542	173,363	78,542	94,821	173,363	78,542	94,821
80+	149,091	65,157	83,933	149,091	65,157	83,933	149,091	65,157	83,933
<b>Total</b>	<b>21,134,518</b>	<b>10,463,692</b>	<b>10,670,825</b>	<b>21,134,518</b>	<b>10,463,684</b>	<b>10,670,817</b>	<b>21,134,518</b>	<b>10,463,692</b>	<b>10,670,825</b>

**Table A.1 Contd.**

Age Group	High Variant			Medium Variant			Low Variant		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
<b>2010</b>									
0-4	3,369,721	1,698,188	1,671,533	3,181,601	1,603,347	1,578,254	3,040,602	1,532,265	1,508,337
5-9	2,951,330	1,483,847	1,467,484	2,951,326	1,483,845	1,467,481	2,951,330	1,483,847	1,467,484
10-14	2,763,365	1,381,483	1,381,882	2,763,411	1,381,507	1,381,904	2,763,365	1,381,483	1,381,882
15-19	2,392,794	1,194,263	1,198,531	2,392,796	1,194,264	1,198,532	2,392,794	1,194,263	1,198,531
20-24	2,081,356	1,035,747	1,045,609	2,081,354	1,035,746	1,045,608	2,081,356	1,035,747	1,045,609
25-29	1,808,153	897,690	910,463	1,808,151	897,689	910,462	1,808,153	897,690	910,463
30-34	1,568,296	776,650	791,646	1,568,294	776,649	791,645	1,568,296	776,650	791,646
35-39	1,355,389	669,061	686,328	1,355,385	669,058	686,327	1,355,389	669,061	686,328
40-44	1,165,052	574,051	591,000	1,165,051	574,050	591,000	1,165,052	574,051	591,000
45-49	992,369	486,663	505,706	992,370	486,664	505,706	992,369	486,663	505,706
50-54	837,916	407,412	430,504	837,914	407,411	430,503	837,916	407,412	430,504
55-59	694,227	335,352	358,875	694,225	335,351	358,874	694,227	335,352	358,875
60-64	558,332	266,510	291,822	558,329	266,509	291,820	558,332	266,510	291,822
65-69	429,107	201,778	227,329	429,104	201,776	227,328	429,107	201,778	227,329
70-74	305,757	141,582	164,175	305,754	141,581	164,173	305,757	141,582	164,175
75-79	194,572	88,049	106,523	194,571	88,049	106,522	194,572	88,049	106,523
80+	179,176	78,631	100,545	179,176	78,631	100,545	179,175	78,631	100,545
Total	23,646,912	11,716,957	11,929,952	23,458,808	11,622,126	11,836,684	23,317,790	11,551,034	11,766,756
<b>2015</b>									
0-4	3,852,205	1,943,084	1,909,121	3,394,524	1,712,213	1,682,311	2,917,033	1,471,325	1,445,708
5-9	3,291,840	1,656,780	1,635,060	3,108,789	1,564,628	1,544,161	2,971,508	1,495,519	1,475,988
10-14	2,921,426	1,467,562	1,453,864	2,921,424	1,467,561	1,453,862	2,921,426	1,467,562	1,453,864
15-19	2,731,952	1,363,631	1,368,322	2,731,999	1,363,655	1,368,343	2,731,952	1,363,631	1,368,322
20-24	2,357,535	1,173,592	1,183,943	2,357,536	1,173,593	1,183,943	2,357,535	1,173,592	1,183,943
25-29	2,045,824	1,015,255	1,030,569	2,045,822	1,015,255	1,030,568	2,045,824	1,015,255	1,030,569
30-34	1,774,166	878,666	895,500	1,774,164	878,665	895,499	1,774,166	878,666	895,500
35-39	1,535,965	759,544	776,421	1,535,967	759,548	776,419	1,535,965	759,544	776,421
40-44	1,322,070	651,740	670,330	1,322,074	651,744	670,329	1,322,070	651,740	670,330
45-49	1,126,855	552,988	573,866	1,126,853	552,988	573,866	1,126,855	552,988	573,866
50-54	949,035	462,633	486,402	949,035	462,634	486,401	949,035	462,633	486,402
55-59	787,438	379,778	407,660	787,435	379,776	407,659	787,438	379,778	407,660
60-64	633,556	302,855	330,701	633,552	302,853	330,699	633,556	302,855	330,701
65-69	485,464	228,776	256,688	485,460	228,774	256,686	485,464	228,776	256,688
70-74	345,817	160,172	185,646	345,814	160,170	185,644	345,817	160,172	185,646
75-79	220,676	100,346	120,330	220,673	100,345	120,329	220,676	100,346	120,330
80+	209,032	91,856	117,175	209,032	91,856	117,175	209,032	91,856	117,175
Total	26,590,856	13,189,259	13,401,597	25,950,150	12,866,258	13,083,892	25,335,352	12,556,237	12,779,113

**Table A.1 Contd**

Age Group	High Variant			Medium Variant			Low Variant		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
<b>2020</b>									
0-4	4,398,806	2,228,519	2,170,287	3,497,927	1,772,182	1,725,745	2,854,414	1,446,159	1,408,255
5-9	3,782,296	1,909,210	1,873,086	3,333,234	1,682,575	1,650,659	2,865,026	1,446,133	1,418,893
10-14	2,265,503	1,643,795	1,621,708	3,083,905	1,552,362	1,531,543	2,947,694	1,483,753	1,463,941
15-19	2,892,593	1,415,584	1,441,008	2,892,595	1,451,595	1,441,000	2,892,593	1,451,584	1,441,008
20-24	2,696,582	1,343,428	1,353,153	2,696,633	1,343,466	1,353,167	2,696,582	1,343,428	1,353,153
25-29	2,322,151	1,153,749	1,168,401	2,322,158	1,153,763	1,168,394	2,322,151	1,153,749	1,168,401
30-34	2,012,011	996,880	1,015,132	2,012,015	996,892	1,015,123	2,012,011	995,880	1,015,132
35-39	1,741,294	861,541	879,753	1,741,295	861,550	879,744	1,741,294	86,541	879,753
40-44	1,501,739	742,018	759,721	1,501,739	742,027	759,712	1,501,739	741,018	759,721
45-49	1,283,011	630,864	652,148	1,283,020	630,879	652,141	1,283,011	630,864	652,148
50-54	1,081,861	528,680	553,181	1,081,866	528,691	553,175	1,081,861	528,680	553,181
55-59	896,146	434,253	461,894	896,152	434,265	461,887	896,146	434,253	461,894
60-64	723,040	345,960	377,080	723,043	345,971	377,072	723,040	345,960	377,080
65-69	555,246	262,870	292,375	555,247	262,881	292,375	555,246	262,870	292,375
70-74	395,251	184,242	211,009	395,252	184,251	211,001	395,251	183,242	211,009
75-79	252,781	115,596	137,185	252,781	115,603	137,178	252,781	115,596	137,185
80+	242,971	107,691	135,280	242,971	107,698	135,272	242,971	107,691	135,280
Total	30,043,278	14,940,879	15,102,400	28,511,828	14,166,650	14,345,179	27,263,810	13,535,399	13,728,410
<b>2025</b>									
0-4	4,960,146	2,513,289	2,446,856	3,794,854	1,922,834	1,872,020	2,683,621	1,359,731	1,323,889
5-9	4,332,516	2,195,943	2,136,573	3,445,314	1,746,323	1,698,992	2,812,002	1,425,331	1,386,671
10-14	3,757,066	1,896,887	1,860,179	3,310,972	1,671,687	1,639,285	2,845,846	1,436,731	1,409,116
15-19	3,236,813	1,627,597	1,609,216	3,056,733	1,537,014	1,519,720	2,921,659	1,469,040	1,452,619
20-24	2,858,675	1,431,842	1,426,833	2,858,678	1,431,854	1,426,824	2,858,675	1,431,842	1,426,833
25-29	2,659,920	1,322,564	1,337,355	2,659,971	1,322,602	1,337,369	2,659,920	1,322,564	1,337,355
30-34	2,287,463	1,134,591	1,152,872	2,287,470	1,134,605	1,152,865	2,287,463	1,134,591	1,152,872
35-39	1,977,629	978,413	999,216	1,977,629	978,421	999,208	1,977,629	978,413	998,216
40-44	1,705,426	842,785	862,641	1,705,431	842,798	862,632	1,705,426	842,785	862,641
45-49	1,460,714	719,933	740,781	1,460,715	719,943	740,772	1,460,714	719,933	740,781
50-54	1,235,092	604,815	630,277	1,235,101	604,832	630,270	1,235,092	604,815	630,277
55-59	1,025,014	497,948	527,066	1,025,019	497,960	527,060	1,025,014	497,948	527,066
60-64	826,457	397,291	429,166	826,464	397,304	429,160	826,457	397,291	429,166
65-69	637,345	301,954	335,391	637,349	301,965	335,384	637,345	301,954	335,391
70-74	455,466	213,220	242,246	455,468	213,229	242,239	455,466	213,220	242,246
75-79	291,627	134,166	157,461	291,628	134,173	157,455	291,627	134,166	157,461
80+	282,638	126,042	156,596	282,637	126,050	156,588	282,638	126,042	156,596
Total	33,990,008	16,939,278	17,050,726	31,311,432	15,583,593	15,727,842	28,966,594	14,396,396	14,570,196

**Appendix Table A.2 Projected Urban Population, 2000-2025**

Age Group	High Variant			Variant Medium			Low Variant		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
<b>2000</b>									
0-4	1,033,732	513,281	520,451	1,033,732	513,281	520,451	1,033,732	513,281	520,451
5-9	1,053,432	517,610	535,822	1,053,432	517,610	535,822	1,053,432	517,610	535,822
10-14	963,577	461,218	502,359	963,577	461,218	502,359	963,577	461,218	502,359
15-19	918,094	441,479	476,615	918,094	441,479	476,615	918,094	441,479	476,615
20-24	836,838	407,200	429,638	836,838	407,200	429,638	836,838	407,200	429,638
25-29	747,897	358,913	388,984	747,897	358,913	388,984	747,897	358,913	388,984
30-34	582,893	279,843	303,050	582,893	279,843	303,050	582,893	279,843	303,050
35-39	485,638	231,910	253,728	485,638	231,910	253,728	485,638	231,910	253,728
40-44	403,317	201,666	201,651	403,317	201,666	201,651	403,317	201,666	201,651
45-49	317,875	167,117	150,758	317,875	167,117	150,758	317,875	167,117	150,758
50-54	240,038	120,107	119,931	240,038	120,107	119,931	240,038	120,107	119,931
55-59	191,920	95,407	96,513	191,920	95,407	96,513	191,920	95,407	96,513
60-64	157,139	77,893	79,246	157,139	77,893	79,246	157,139	77,893	79,246
65-69	137,788	68,246	69,542	137,788	68,246	69,542	137,788	68,246	69,542
70-74	101,415	49,546	51,869	101,415	49,546	51,869	101,415	49,546	51,869
75-79	62,414	31,409	31,005	62,414	31,409	31,005	62,414	31,409	31,005
80+	40,263	20,985	19,278	40,263	20,985	19,278	40,263	20,985	19,278
Total	8,274,270	4,043,830	4,230,440	8,274,270	4,043,830	4,230,440	8,274,270	4,043,830	4,230,440
<b>2005</b>									
0-4	1,198,167	597,870	600,298	1,197,274	597,423	599,851	1,198,167	597,870	600,298
5-9	1,307,566	643,093	664,473	1,306,747	642,686	664,061	1,307,566	643,093	664,473
10-14	1,182,615	567,780	614,836	1,181,886	567,418	614,469	1,182,615	567,780	614,836
15-19	1,117,983	538,653	579,329	1,117,346	538,336	579,010	1,117,983	538,653	579,329
20-24	1,014,895	494,557	520,338	1,014,343	496,282	520,061	1,014,895	494,557	520,338
25-29	905,727	436,325	469,401	905,250	436,088	469,162	905,727	436,325	469,401
30-34	712,002	342,304	369,698	711,583	342,098	369,485	712,002	342,304	369,698
35-39	595,030	284,661	310,369	594,667	284,482	310,185	595,030	284,661	310,369
40-44	494,171	247,168	247,003	493,862	247,017	246,845	494,171	247,168	247,003
45-49	319,524	204,421	187,103	391,263	204,292	186,971	319,524	204,421	187,103
50-54	297,437	148,638	148,799	297,222	148,533	148,689	297,437	148,638	148,799
55-59	237,070	117,772	119,298	236,894	117,686	119,208	237,070	117,772	119,298
60-64	193,284	95,521	97,762	193,141	95,453	97,688	193,284	95,521	97,762
65-69	168,040	83,204	84,836	167,926	83,150	84,776	168,040	83,204	84,836
70-74	123,105	59,805	63,300	123,023	59,767	63,256	123,105	59,805	63,300
75-79	76,695	38,197	38,499	76,644	38,173	38,471	76,695	38,197	38,499
80+	57,530	30,170	27,360	57,488	30,150	27,338	57,530	30,170	27,360
Total	10,072,839	4,930,137	5,142,702	10,066,559	4,927,032	5,139,527	10,072,839	4,930,137	5,142,702

**Table A.2 Contd**

Age Group	High Variant			Medium Variant			Low Variant		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
<b>2010</b>									
0-4	1,459,133	728,880	730,253	1,375,167	686,913	688,254	1,313,987	656,339	657,648
5-9	1,495,546	739,800	755,746	1,492,926	738,493	754,433	1,492,507	738,287	754,221
10-14	1,456,445	701,195	755,250	1,453,948	699,975	753,973	1,453,473	699,758	753,715
15-19	1,357,129	655,695	701,434	1,354,832	654,568	700,263	1,354,336	654,339	699,997
20-24	1,226,212	598,079	628,133	1,224,159	597,066	627,093	1,223,677	596,835	626,842
25-29	1,091,394	526,971	564,423	1,089,582	526,083	563,499	1,089,131	525,872	563,259
30-34	865,935	417,718	448,217	864,455	416,996	447,460	864,158	416,856	447,302
35-39	726,169	348,060	378,109	724,916	347,451	377,465	724,685	347,345	377,340
40-44	605,216	302,356	302,860	604,163	301,829	302,334	603,983	301,733	302,249
45-49	480,626	250,262	230,364	479,775	249,824	229,951	479,653	249,748	229,905
50-54	367,974	183,169	184,805	367,305	182,836	184,469	367,237	182,798	184,439
55-59	293,838	145,814	148,024	293,299	145,547	147,752	293,251	145,520	147,732
60-64	238,370	117,702	120,668	237,933	117,487	120,446	237,893	117,464	120,429
65-69	205,144	101,165	103,980	204,778	100,986	103,793	204,730	100,958	103,772
70-74	150,154	72,941	77,213	149,888	72,813	77,075	149,850	72,791	77,059
75-79	93,584	46,248	47,337	93,418	46,167	47,251	93,395	46,153	47,242
80+	75,795	39,466	36,330	75,658	39,396	36,261	75,644	39,385	36,259
Total	12,188,661	5,975,518	6,213,144	12,086,201	5,924,430	6,161,771	12,021,591	5,892,181	6,129,411
<b>2015</b>									
0-4	1818,706	909,407	909,299	1,597,927	798,951	798,976	1,370,583	685,223	685,360
5-9	1,797,929	891,014	906,916	1,693,029	838,956	854,073	1,615,005	800,243	814,762
10-14	1,654,020	802,376	851,644	1,649,241	799,996	849,245	1,645,855	798,330	847,525
15-19	1,654,529	801,314	853,215	1,649,806	798,967	850,839	1,646,264	797,224	849,041
20-24	1,478,147	722,156	755,991	1,473,915	720,035	753,880	1,470,714	718,438	752,276
25-29	1,311,267	634,169	677,098	1,307,520	632,309	675,211	1,304,648	630,896	673,752
30-34	1,048,464	506,682	541,782	1,045,446	505,186	540,260	1,043,251	504,104	539,147
35-39	882,940	424,794	458,146	880,394	423,539	456,855	878,571	422,644	455,927
40-44	738,796	368,674	370,122	736,660	367,586	369,073	735,155	366,805	368,350
45-49	590,167	306,000	284,168	588,449	305,093	283,356	587,285	304,454	282,831
50-54	453,991	226,081	227,910	452,662	225,406	227,256	451,808	224,961	226,847
55-59	363,925	179,904	184,021	362,856	1789,365	183,491	362,184	179,017	183,167
60-64	295,194	145,564	149,630	294,326	145,128	149,198	293,780	144,845	148,935
65-69	251,263	123,672	127,591	250,529	123,304	127,225	250,040	123,049	126,991
70-74	182,475	88,782	94,693	182,940	88,518	94,422	182,579	88,333	94,245
75-79	114,847	56,619	58,228	114,512	56,451	58,061	114,287	56,332	57,955
80+	96,417	49,705	46,712	96,134	49,558	46,576	95,954	49,455	46,499
Total	14,734,076	7,236,914	7,497,163	14,376,346	7,058,348	7,317,998	14,047,963	6,894,352	7,153,612

Age Group	High Variant			Medium Variant			Low Variant		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
<b>2020</b>									
0-4	2,251,274	1,130,915	1,120,359	1,782,884	895,391	887,493	1,451,728	728,887	722,841
5-9	2,213,827	1,101,343	1,112,484	1,942,943	966,318	976,625	1,666,087	828,351	837,735
10-14	1,975,043	962,676	1,102,367	1,857,517	905,108	952,409	1,771,206	862,819	908,387
15-19	1,860,037	907,974	952,063	1,852,335	903,948	948,387	1,847,696	904,459	946,238
20-24	1,789,651	876,225	916,425	1,782,255	872,347	909,908	1,777,664	869,866	907,798
25-29	1,572,070	762,806	809,264	1,565,544	759,415	806,129	1,561,485	757,249	804,236
30-34	1,265,514	612,929	652,585	1,260,286	610,217	650,068	1,257,177	608,551	684,626
35-39	1,067,986	515,128	552,858	1,063,580	512,852	550,728	1,061,003	511,475	549,528
40-44	897,647	448,301	449,346	893,941	446,319	447,621	891,802	445,113	446,689
45-49	722,532	373,551	348,982	719,557	371,907	347,650	717,884	370,908	346,976
50-54	560,507	279,236	281,271	558,215	278,014	280,201	556,992	277,315	279,677
55-59	449,714	222,852	226,862	447,881	221,880	226,000	446,918	221,330	225,588
60-64	365,553	179,945	185,608	364,061	179,160	184,901	363,276	178,712	184,564
65-69	309,365	152,358	157,007	308,096	151,691	156,405	307,390	151,286	156,104
70-74	225,307	109,263	116,044	224,382	108,785	115,597	223,862	108,490	115,372
75-79	141,542	69,677	71,865	140,961	69,372	71,588	140,636	69,181	71,455
80+	121,640	62,474	59,165	121,142	62,202	58,939	120,877	62,035	58,843
Total	17,789,208	8,767,653	9,021,555	16,885,578	8,314,926	8,570,652	16,163,683	7,953,028	8,210,655
<b>2025</b>									
0-4	2,734,588	1,374,329	1,360,259	2,084,894	1,047,155	1,037,739	1,470,155	737,887	732,268
5-9	2,700,806	1,350,461	1,350,345	2,140,089	1,069,460	1,070,629	1,741,242	869,589	871,653
10-14	2,412,719	1,182,720	1,229,999	2,118,641	1,037,933	1,080,708	1,815,226	888,658	926,569
15-19	2,197,275	1,077,320	1,119,955	2,067,507	1,013,038	1,054,468	1,969,600	964,418	1,005,182
20-24	1,996,626	984,240	1,012,386	1,989,328	980,030	1,009,298	1,982,589	976,065	1,006,523
25-29	1,891,367	920,317	971,050	1,884,470	916,388	968,083	1,877,982	912,634	965,348
30-34	1,522,205	739,398	782,807	1,516,726	736,275	780,451	1,511,780	733,389	778,391
35-39	1,286,356	621,662	664,695	1,281,753	619,048	662,704	1,277,651	616,661	660,989
40-44	1,083,708	540,568	543,140	1,079,833	538,295	541,538	1,076,410	536,204	540,206
45-49	879,052	453,402	425,650	875,927	451,501	424,426	873,234	449,768	423,466
50-54	688,648	343,119	345,528	686,262	341,716	344,546	684,277	340,477	343,800
55-59	554,973	275,112	279,862	553,064	273,991	279,073	551,499	273,014	278,485
60-64	450,568	222,232	228,336	449,018	221,327	227,691	447,741	220,530	227,211
65-69	379,834	186,498	193,336	378,501	185,724	192,777	377,357	185,015	192,342
70-74	277,194	134,471	142,723	267,219	133,911	142,307	275,373	133,393	141,981
75-79	174,599	85,874	88,725	173,984	85,516	88,469	173,455	85,181	88,275
80+	152,577	77,913	74,664	152,048	77,592	74,456	151,610	77,293	74,317
Total	21,383,094	10,569,636	10,813,458	19,708,262	9,728,900	9,979,362	18,257,178	9,0001,75	9,257,003

**Table A.3: Projected Rural Population by Variant**

Age Group	High Variant			Medium Variant			Low Variant		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
<b>2000</b>									
0-4	1,850,921	932,460	918,461	1,850,921	932,460	918,461	1,850,921	932,460	918,461
5-9	1,402,015	711,036	690,976	1,402,015	711,036	690,976	1,402,015	711,036	690,976
10-14	1,181,938	611,157	570,781	1,181,938	611,157	570,781	1,181,938	611,157	570,781
15-19	957,808	495,212	462,596	957,808	495,212	462,596	957,808	495,212	462,596
20-24	798,003	406,907	391,096	798,003	406,907	391,096	798,003	406,907	391,096
25-29	671,424	344,774	326,650	671,424	344,774	326,650	671,424	344,774	326,650
30-34	646,392	328,397	317,995	646,392	328,397	317,995	646,392	328,397	317,995
35-39	575,349	292,112	283,237	575,349	292,112	283,237	575,349	292,112	283,237
40-44	510,196	247,496	262,700	510,196	247,496	262,700	510,196	247,496	262,700
45-49	462,316	215,606	246,710	462,316	215,606	246,710	462,316	215,606	246,710
50-54	419,156	200,857	218,299	419,156	200,857	218,299	419,156	200,857	218,299
55-59	357,624	169,412	188,212	357,624	169,412	188,212	357,624	169,412	188,212
60-64	288,408	134,524	153,884	288,408	134,524	153,884	288,408	134,524	153,884
65-69	205,655	92,705	112,950	205,655	92,705	112,950	205,655	92,705	112,950
70-74	143,664	63,680	79,984	143,664	63,680	79,984	143,664	63,680	79,984
75-79	91,849	38,773	53,076	91,849	38,773	53,076	91,849	38,773	53,076
80+	75,091	28444	46,647	75,091	28444	46,647	75,091	28444	46,647
Total	10,637,809	5,313,552	5,324,257	10,637,809	5,313,552	5,324,257	10,637,809	5,313,552	5,324,257
<b>2005</b>									
0-4	1,834,427	929,102	905,326	1,834,427	929,102	905,326	1,834,427	929,102	905,326
5-9	1,488,173	755,829	732,344	1,488,173	755,829	732,344	1,488,173	755,829	732,344
10-14	1,240,794	643,723	597,070	1,240,794	643,723	597,070	1,240,794	643,723	597,070
15-19	997,655	517,040	480,614	997,655	517,040	480,614	997,655	517,040	480,614
20-24	827,817	422,947	404,870	827,817	422,947	404,870	827,817	422,947	404,870
25-29	695,666	358,721	336,946	695,666	358,721	336,946	695,666	358,721	336,946
30-34	675,298	343,727	331,571	675,298	343,727	331,571	675,298	343,727	331,571
35-39	602,919	306,795	296,124	602,919	306,795	296,124	602,919	306,795	296,124
40-44	534,567	259,554	275,013	534,567	259,554	275,013	534,567	259,554	275,013
45-49	487,325	225,656	261,669	487,325	225,656	261,669	487,325	225,656	261,669
50-54	444,102	212,643	231,459	444,102	212,643	231,459	444,102	212,643	231,459
55-59	377,705	178,893	198,812	377,705	178,893	198,812	377,705	178,893	198,812
60-64	303,354	141,122	162,232	303,354	141,122	162,232	303,354	141,122	162,232
65-69	214,458	96,702	117,756	214,458	96,702	117,756	214,458	96,702	117,756
70-74	149,188	65,768	83,420	149,188	65,768	83,420	149,188	65,768	83,420
75-79	96,667	40,346	56,322	96,667	40,346	56,322	96,667	40,346	56,322
80+	91,561	34,988	56,573	91,561	34,988	56,573	91,561	34,988	56,573
Total	11,061,678	5,533,555	5,528,123	11,061,678	5,533,555	5,528,123	11,061,678	5,533,555	5,528,123

**Table A.3: Contd.**

Age Group	High Variant			Medium Variant			Low Variant		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
<b>2010</b>									
0-4	1,910,589	969,309	941,280	1,806,434	916,434	890,000	1,726,615	875,926	850,688
5-9	1,455,785	744,047	711,737	1,458,401	745,353	713,048	1,458,823	745,560	713,263
10-14	1,306,920	680,288	626,632	1,309,463	681,532	627,931	1,309,892	681,725	628,167
15-19	1,035,666	538,569	497,097	1,037,964	539,696	498,268	1,038,458,	539,924	498,534
20-24	855,144	437,668	417,476	857,194	438,679	418,515	857,679	438,912	418,767
25-29	716,759	370,720	346,040	718,569	371,606	346,963	719,023	371,818	347,204
30-34	702,361	358,932	343,430	703,839	359,653	344,186	704,138	359,793	344,344
35-39	629,220	321,001	308,220	630,469	321,607	308,863	630,705	321,716	308,989
40-44	559,836	271,696	288,140	560,888	272,221	288,667	561,069	272,318	288,751
45-49	511,743	236,401	275,342	521,594	236,840	275,755	512,716	236,915	275,801
50-54	469,942	224,243	245,699	470,609	224,574	246,035	470,679	224,614	246,066
55-59	400,390	189,539	210,851	400,926	189,804	211,122	400,976	189,833	211,143
60-64	319,962	148,808	171,154	320,396	149,022	171,374	320,438	149,046	171,392
65-69	223,963	100,613	123,349	224,326	100,791	123,535	224,377	100,820	123,557
70-74	155,602	68,641	86,961	155,866	68,768	87,098	155,906	68,791	87,116
75-79	100,988	41,802	59,186	101,153	41,882	59,271	101,177	41,897	59,281
80+	103,380	39,165	64,215	103,518	39,235	64,283	103,532	39,246	64,286
Total	11,458,248	5,741,440	5,716,809	11,372,609	5,697,696	5,674,913	11,296,199	5,658,854	5,637,346
<b>2015</b>									
0-4	2,033,500	1,033,677	999,822	1,796,597	913,262	883,335	1,546,450	786,102	760,348
5-9	1,493,911	765,766	728,145	1,415,760	725,672	690,088	1,356,503	695,276	661,226
10-14	1,267,406	665,186	602,220	1,272,183	667,565	604,618	1,275,571	669,233	606,338
15-19	1,077,423	562,316	515,107	1,082,193	564,689	517,504	1,085,688	566,407	519,281
20-24	879,398	451,437	427,952	883,621	453,558	430,063	886,821	455,154	431,667
25-29	734,557	381,086	353,471	738,302	382,945	355,356	741,176	384,359	356,817
30-34	725,702	371,983	353,718	728,718	373,479	355,239	730,915	374,562	356,354
35-39	653,025	334,750	318,275	655,573	336,009	319,563	657,394	336,900	320,493
40-44	583,274	283,066	300,209	585,414	284,158	301,256	586,916	284,936	301,980
45-49	536,687	246,989	289,699	538,405	247,895	290,510	539,570	248,535	291,035
50-54	495,044	236,552	258,492	496,373	237,229	259,145	497,227	237,672	259,554
55-59	423,513	199,873	223,640	424,579	200,412	224,168	425,253	200,761	224,493
60-64	338,362	157,291	181,072	339,226	157,725	181,501	339,776	158,010	181,766
65-69	234,201	105,104	129,097	234,931	105,470	129,460	235,424	105,726	129,698
70-74	162,343	71,390	90,953	162,874	71,652	91,222	163,239	71,838	91,400
75-79	105,829	43,727	62,102	106,162	43,894	62,268	106,389	44,014	62,375
80+	112,614	42,151	70,464	112,897	42,298	70,599	113,078	42,401	70,677
Total	11,856,780	5,952,345	5,904,435	11,573,804	5,807,910	5,765,894	11,287,387	5,661,886	5,625,502

**Table A.3 Contd.**

Age Group	High Variant			Medium Variant			Low Variant		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
<b>2020</b>									
0-4	2,147,532	1,097,604	1,049,928	1,715,043	876,791	838,252	1,402,686	717,272	685,414
5-9	1,568,469	807,867	760,602	1,390,291	716,257	674,034	1,198,940	617,718	581,158
10-14	1,290,460	681,119	609,341	1,226,388	647,254	579,134	1,176,488	620,934	555,554
15-19	1,032,555	543,610	488,945	1,040,260	547,647	492,613	1,044,896	550,125	494,771
20-24	906,931	467,203	439,728	914,378	471,119	443,259	918,918	473,562	445,356
25-29	750,080	390,943	359,137	756,614	394,349	362,265	760,665	396,500	364,165
30-34	746,497	383,950	362,547	751,729	386,674	365,055	754,834	388,329	366,505
35-39	673,309	346,413	326,896	677,714	348,698	329,016	680,292	350,066	330,225
40-44	604,092	293,717	310,375	607,798	295,708	312,090	609,937	296,905	313,032
45-49	560,479	257,313	303,166	563,463	258,973	304,490	565,127	259,955	305,172
50-54	521,354	249,444	271,910	523,651	250,677	272,974	524,869	251,365	273,504
55-59	446,432	211,400	235,031	448,272	212,385	235,887	449,229	212,923	236,306
60-64	357,488	166,015	191,473	358,982	166,811	192,171	359,764	167,248	192,516
65-69	245,880	110,512	135,368	247,151	111,190	135,961	247,855	111,584	136,271
70-74	169,944	74,979	94,965	170,869	75,466	95,403	171,389	75,752	95,637
75-79	111,239	45,919	65,320	111,820	46,231	65,590	112,145	46,414	65,731
80+	121,331	45,217	76,114	121,829	45,496	76,333	122,094	45,656	76,437
Total	12,254,071	6,173,226	6,080,845	11,626,252	5,851,725	5,774,527	11,100,126	5,582,371	5,517,755
<b>2025</b>									
0-4	2,225,557	1,138,960	1,086,597	1,709,960	875,679	834,281	1,213,466	621,845	591,621
5-9	1,631,711	845,482	786,229	1,305,226	676,862	628,363	1,070,760	555,741	515,019
10-14	1,344,347	714,167	630,180	1,192,331	633,754	558,577	1,030,620	548,073	482,547
15-19	1,039,538	550,277	489,261	989,227	523,975	465,251	952,059	504,622	447,437
20-24	862,049	447,602	414,447	869,350	451,824	417,526	876,087	455,777	420,310
25-29	768,552	402,247	366,305	775,500	406,214	369,286	781,937	409,931	372,007
30-34	765,258	395,193	370,065	770,744	398,330	372,414	775,683	401,201	374,481
35-39	691,273	356,751	334,522	695,876	359,373	336,503	699,979	361,751	338,227
40-44	621,718	302,217	319,501	625,597	304,503	321,094	629,016	306,581	322,435
45-49	581,662	266,531	315,131	584,788	268,441	316,347	587,480	270,165	317,315
50-54	546,444	261,696	284,748	548,839	263,116	285,723	550,815	264,338	286,477
55-59	470,041	222,837	247,204	471,956	223,969	247,987	473,515	224,934	248,581
60-64	375,890	175,059	200,830	377,446	175,977	201,469	378,716	176,761	201,955
65-69	257,511	115,456	142,005	258,848	116,241	142,607	259,988	116,939	143,049
70-74	178,271	78,748	99,523	179,249	79,317	99,932	180,092	79,827	100,266
75-79	117,029	48,292	68,736	117,644	48,657	68,986	118,172	48,985	69,187
80+	130,060	48,129	81,932	130,589	48,458	82,132	131,028	48,749	82,279
Total	12,606,910	6,369,642	6,237,268	11,603,173	5,854,693	5,748,480	10,709,414	5,396,221	5,313,193

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# POPULATION DATA ANALYSIS REPORTS

## **Volume 2**

### **POLICY IMPLICATIONS OF POPULATION TRENDS DATA**

UNFPA funded Project (GHA/01/P07)  
Undertaken by Ghana Statistical Service

GHANA STATISTICAL SERVICE  
August 2005

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## **PREFACE**

The Population Census is the single most important source of data on the population and its characteristics in the country. It provides information on the size, growth, composition and distribution of the entire population, and for subpopulations; as well as for geographical areas, to the lowest levels, below the district level, i.e., such as localities, villages and settlements, and residential areas in the municipal areas. In the absence of a reliable civil registration system, the population census is currently the only source of data from which population growth and estimates can be derived.

The 2000 Population and Housing Census, is therefore an indispensable source of data for planning in the country. The results of the 2000 Census are being made available to users in three stages. At the first stage, the summary results of the census were released, in 2003, in three reports. At the second stage, publications on detailed tables on the population composition and distribution by various characteristics that were collected during the census are produced. At the third, analytical reports based primarily on the census data, and complemented with data from other sources, including sample surveys and administrative records, are being made available to give a more comprehensive view of the state of the population and the policy implications of some of the observed patterns and trends.

Nineteen analytical reports have been produced as two sets of publications with funding from the United Nations Population Fund (UNFPA). The first set is published as regional reports in separate volumes, on the analysis of district data and their implications for planning. This publication is one of a two-volume report covering nine major themes. This first volume is on socio-economic and demographic trend data analysis and this volume, the second, is on the implications of the census results for the demographic outlook and key policy needs of the country. Another set of reports are region-based, published in ten separate volumes corresponding to the ten regions. Each regional report is on the analysis of district data and their implications for planning.

This and all the other census-based reports are initially disseminated in print and will subsequently be made available on the web to promote a wider and easier access to census data. In addition, the reports will be issued in electronic format, on CD Rom, upon request. The tables in the basic census publications will also be made available at all the Regional Offices of the Statistical Service, located in the respective regional capitals.

The Statistical Service is exploring ways of improving its services to its stakeholders, through exchange of information and constructive feedback on how the needs of users could best be served. We would therefore greatly appreciate comments and suggestions from readers.

**August 2005**

**DR. GRACE BEDIAKO  
GOVERNMENT STATISTICIAN**

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One of the objectives of the Data Analysis Project, from which this and other analytical reports have been produced, was to equip senior professional staff with analytic and report writing skills to support policy planners and policy makers. Senior GSS professional staff, with the required background, were paired with known and experienced researchers from the University of Ghana and other institutions. A team of 4 contributed to preparing this Volume of the report, while a team of 16 worked on Volume 2.

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While acknowledging the assistance of individuals and institutions in finalizing this Volume, any shortcomings and demerits remain my responsibility as National Project Director and Chief Editor.

**DR. KWAKU A. TWUM-BAAH**  
**CENSUS COORDINATOR**

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## **PREFACE**

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**DR. KWAKU A. TWUM-BAAH**  
**CENSUS COORDINATOR**

# CHAPTER ONE

## HOUSEHOLD FORMATION, HOUSING AND HOUSING CONDITIONS<sup>1</sup>

### Executive Summary

#### **Trends in Population Dynamics and Growth**

The population of Ghana in 2000 was 18,912, 079. It has increased from 6,726,000 in 1960 growing at an average annual rate of 2.4 per cent in 1960-1970, 2.6 per cent in 1970-1984 and 2.7 per cent in 1984-2000. Though the growth rates are similar, inter census absolute population increases approximately doubled during the subsequent inter census period. The population is projected to increase by 12,399,352 people, 53.1 per cent over the period 2000-2025.

More significant changes in population growth and absolute increases in population at the regional levels have occurred over the last 40 years. In terms of population distribution, Western, Greater Accra, Ashanti, Brong Ahafo, and Northern have gained in their share of the population. Central, Volta, Eastern, Upper West and Upper East have consistently experienced a decline in their proportion of the population throughout the 40-year period (1960-2000).

The population of Ghana is gradually ageing over time with the over 64 years old share of the population changing from 3.2 per cent (215,232 persons) in 1960 to 5.2 per cent (983,428 persons) in 2000, an absolute increase of 768,196 persons from the observed trends. The share of the population that will be in over 64 years age group by 2025 will be around 1,667,082.

In 2000, apart from the age group 15-24 years, all the other age groups had more people living in the rural areas than the urban areas. The share of the population within the age groups between rural and urban areas depends on the age group. The main factors contributing to this trend are many and include: young adults and adults (15 to 64 years) may migrate to urban areas for educational purposes and then look for employment in the formal and informal sectors; some retired civil/public servants move back to their home towns and villages reducing the urban share of the population in that age groups. This trend in population distribution between urban and rural areas by age group has implications for housing needs.

#### **Trends in Households Formation**

The number of households in 2000 is 3,701,241. The annual average rate of increase in households rose from 1.5 per cent in the 1960-1970 period to 2.3 per cent in 1970-1984 and 2.5 per cent in 1984-2000. In general, the population grew faster than household formation during all inter-census periods between 1960 and 2000. This resulted in the average household sizes to continue to increase from 4.3 in 1960, 4.7 in 1970 and 5.0 in 1984 to 5.1 in 2000. The more rapidly increasing population and much slower increase in rate of

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This chapter is contributed by Dr. Goerge T-M. Kwadzo, with assistance from Mrs. Gifty Gosu.

household formation have implications for housing needs in terms of number and housing type.

In Western, Volta, Brong Ahafo, Northern, Upper East and Upper West Regions the inter census period rates of increase in households were higher in 1984-2000 than they were in the period 1970-1980. Northern experienced the fastest rate of growth of households. Though the current rates of increase of households among regions are higher in Western, Ashanti and Brong Ahafo than during the earlier inter census periods, the rates of population growth in these regions were much higher for each region. The result is that the household size in these regions would increase on average in 2000. In regions where the rates of increase in households were slower than the previous periods (Central and Greater Accra), the rates of population growth were still higher than the rates of increase in households; the average household size will increase as a result, with consequential demand for housing units to accommodate the changing situation.

The shares of households of household sizes 1,2 and 10+ have decreased during the inter-census period (1984-2000) at the national level, whereas an increase is noted for all other household sizes. The most significant change occurred in the share of one-person households, which was 19.0 per cent in 1984 and declined to 12.6 per cent in 2000. Only marginal increases occurred in the share of households of 2-9 persons over the period 1984 and 2000.

The inter regional analysis of the household size distribution shows that the structure is similar for Western, Central, Greater Accra, Volta, Eastern, Ashanti and Brong Ahafo. Higher proportions of households in these regions are made up of small household sizes (1 to 1.6 persons households). The distribution of households in the regions shows that one-person to 5-person households are in double digits for all regions except Northern, Upper West and Upper East. The inter-regional distribution of household sizes in the three northern regions is also identical with household sizes of between 3 and 7 persons constituting the highest per centage of the household sizes within the three regions. Relatively smaller houses are needed in the south compared to medium and large houses in the north in response to the distribution of household sizes.

The share of one-person households in the 2000 census compared to 1984 was substantially lower in all regions except Upper West where it remained the same. The region experiencing the most structural change in household size is the Upper East while the least structural change was observed for Northern. The implication for housing needs is that apart from the increased number of housing units required to accommodate the increased number of households, the sizes of required housing units are also changing and must be factored into the estimation of demand. The share of households of sizes 1 and 2 in urban areas decreased during the inter-census period 1984-2000, while in rural areas the share of households of sizes 1, 2 and 9+ have decreased over the period 1984-2000 and the share of the other household sizes increased. The most drastic decrease in the share of household size is associated with one-person households in both urban and rural areas. The distribution of household sizes between localities shows that higher proportions of household sizes of 5 persons or more are in the rural areas compared with that of the urban areas.

### **Trends in Stock of Houses and Dwelling Unit**

Rapid population growth without corresponding increase in housing stock in the 1970s and 1980s is the major contributory factor to the current acute housing problem. There was a general decline in the increase of housing stock between 1970 and 1984 as a result of the down turn of the economy during the 1970 and early 1980s. Some recovery was experienced from 1984 to 2000. Given the increases in household units from 49.2 per cent in 1984 to 87.2 per cent in 2000, household per house improved from 2.1 for 1984 to 1.7 for 2000. This indicates improvement but must be viewed against the ratio of 1.9 achieved for the 1970 census. The number of households per house is expected to improve further with improved economic conditions.

Generally, growth in stock of houses in the ten regional capitals has been greater than for the whole nation except in selected regions in the south. It is also observed that the average annual rate of increase in housing stock for regional capitals of Western, Central, Volta, Eastern, Ashanti, Brong Ahafo and Upper East were higher than for the respective regions. That means, selectively, more houses were built in the regional capitals than in other towns and villages in these regions. For Greater Accra, Northern and Upper West, more houses were built elsewhere in the regions than in their respective regional capitals. The other interesting result is that while the rural housing stock increased by 53.1 per cent between 1984 and 2000, urban housing stock increased by 159.4 per cent. The combined effect is that the increase in stock of houses (77.5 per cent) was generally higher than the increase in population (53.9 per cent) and households (49.2 per cent), which imply improvement in housing development.

The distribution of population and housing stock is not uniform across the country. As such, the number of persons per house varied across regions and localities. Higher numbers of persons per house are observed in the regional capitals than elsewhere in the regions and lower in rural areas than urban areas. This should inform the supply of housing in the various locations. The number of households per house has generally declined in all regions between 1960 and 1970, increased slightly between 1970 and 1984, except in selected regions and again declined between 1984 and 2000. In 2000, the average number of households per house in Greater Accra and Ashanti was higher than the national average implying some degree of over-crowding in these regions. The two cities with the largest populations in the country are located in these regions.

### **House Construction Requirements**

The issuance of building permit is the sole responsibility of the District Planning Authority as specified in the Local Government Act 462 (1993) and the National Building Regulation. There are nine steps for acquiring a building permit. If an applicant is not informed of the grant or refusal of his or her application within three months of receipt by the Town and Country Planning or the Works Department, the application is considered to be approved and the applicant may start work provided no queries are raised about the application.

At eleven subsequent stages of the building project the applicant must contact the Works Department for inspection before proceeding further. The District Planning Authority has power to have the building demolished. While the maximum period for processing a development permit is ninety days, the average processing time is six months. In fact, delays

could be up to five years. Response is not timely and has contributed to the chaotic development in, for example, Accra Metropolitan Area (AMA).

### **Material for Building Houses**

The type of building material used by individuals and institutions depends on cost and availability of building materials and people's ability to pay for these materials. The two main materials for outer wall construction are mud bricks/earth and cement/concrete. Majority of households in rural areas use earth/mud bricks, which has shorter life span but relatively cheaper while in urban areas, cement is increasingly used. The floors of houses are mainly made of cement and the roofing is mainly made of corrugated metal sheet.

### **House Ownership Structure, Household Occupancy and Tenureship Arrangement**

Most houses (60 per cent) occupied in Ghana are owned by their occupants. At the regional level, the highest owner-occupied houses (over 80 per cent) are in the three northern regions. It is only in Greater Accra and Ashanti where less than 50 per cent of houses are owner-occupied. Public owned houses account for not more than 3.5 per cent of houses in all regions. It is only in three regions, Greater Accra, Western and Northern, that government buildings account for more than 2.0 per cent of all houses. While about 72.0 per cent of houses in the rural areas are owner-occupied, only about 41.0 per cent of houses in urban areas are owner-occupied. House rental accounts for about 22.0 per cent of tenureship arrangement. House renting can be described as more of an urban phenomenon for while about 36.0 per cent of households in urban areas rent their houses, only about 10.0 per cent of households in rural areas rent houses.

### **Types of Dwelling, Rooms and Sleeping Rooms**

There are three major types of dwellings in Ghana: separate/detached (25.3 per cent), semi-detached (15.3 per cent) and rooms in compound houses (44.5 per cent). There are higher proportions of compound houses in regions in the northern half of the country compared to regions in the south, while there are generally a higher proportion of separate/detached houses in the southern half of the country than the north. There is a higher proportion of compound houses in urban areas (51.6 per cent) compared to rural areas (38.4 per cent) while there is a higher proportion of separate/detached houses in rural areas (33.2 per cent) compared with urban area (16.0 per cent).

One and two-room units dominate the housing sector, except in the three northern regions where a higher proportion of houses have between 4 and 6 rooms. There are higher proportions of one and two-room housing units in urban areas than in rural areas. Housing units of more than 2 rooms are more prevalent in rural than urban areas. The number of sleeping rooms available to households is generally the same in both urban and rural areas. The pattern observed for total rooms is generally applicable to number of sleeping rooms.

### **Source of Lighting**

The two main sources of lighting for homes are electricity (43.7 per cent) and kerosene lamps (54.9 per cent). Electricity is used more in the south of Ghana as compared to the northern part, while kerosene lamp is used more in the northern part of the country compared to the

south. The observed dichotomy also exists between rural and urban areas. While 74.6 per cent of households in the urban areas use electricity only 16.1 per cent in rural areas use electricity. On the other hand, 82.5 per cent of households in the rural areas use kerosene lamps compared with 24.0 per cent in urban areas.

Developers complain that delays in supplying electricity service are inordinate and that the capital costs are high. A bottleneck that developers highlighted was the site visit needed to prepare an estimate of the capital contribution for new service. The number of Electricity Company of Ghana (ECG) officials assigned to do this job was likely inadequate, and in any event there was probably little management control of their performance. Because the service of estimating the capital contribution is in short supply, it is common to make extra-legal payments to public officials to get them to do their jobs more timely.

While it is relatively easy to suggest improvements to some of the work procedures and the communications strategy of ECG, there is a larger challenge underlying some of the delays in providing service that is beyond the control of ECG. As both ECG officials and investors point out, the Accra Metropolitan Area is growing haphazardly, often without reference to any land use plan. As a consequence, ECG is sometimes called upon to supply service to customers who have development projects placed in an area distant from any planned expansion of its distribution network. High costs and delays are associated with such problems.

### **Source of Water**

At the national level, only 39.9 per cent of households have access to pipe borne water supply. An additional 2 per cent get a supply from tanker service that may come from borehole or pipe borne water source. Three other sources of water for households are boreholes, wells and river/streams each accounting for about 16 per cent. The rest of the water sources were spring/rain water (4.4 per cent), dugout (4.0 per cent) and others (0.3 per cent). Thus, a large proportion of households (42 per cent) do not have access to good and safe drinking water.

In the regional capitals, high proportions of households have access to treated water that is “inside” or “outside” occupied premises. Over 80 per cent of all households in the regional capitals have access to pipe borne or treated drinking water, except for Wa and Bolgatanga with percentages not exceeding 70 per cent.

A major characteristic of Ghana's potable water supply is the geographical disparity across regions and between urban and rural areas. Both population and household coverage data show that rural areas are about half as well served as urban areas. The GLSS/CWIQ data show that the proportion of rural households with access to safe water was 52 per cent in 1997, while 92 per cent of urban households had access to potable water. To address the situation, the Government adopted a new strategy to accelerate especially rural water supply by requiring communities to own and manage their water supply systems through contributing 5-7 per cent of capital cost and taking full responsibility for operation and maintenance, including the costs. To this end, communities have the choice of technology to install small piped systems, boreholes and wells.

## **Sanitation**

### **Solid and Liquid Waste Disposal**

The main means of solid waste disposal is dumping at public dumps (57.6 per cent). An additional 25.0 per cent of households dump waste elsewhere which is unsatisfactory. The means used in the ten regions vary widely. While higher proportions of households use the public dump relative to dumping elsewhere in the southern part of Ghana, higher proportions of households in the north dump elsewhere compared with using public dumpsites. Waste disposal is most unsatisfactory in the three northern regions. The waste disposal situation is better in the regional capitals than in the regions as a whole. This implies that generally the waste disposal situation is better in urban areas compared with rural areas, where there may be no public dumps.

Wastewater disposal is generally not satisfactory. Less than 4.0 per cent of households dispose of their wastewater into a sewerage system except in the Greater Accra. With the development of improved methods of disposal, one would have expected that most households would discharge liquid waste into a properly constructed sewerage system but this is not the case. The situation is only slightly better in the regional capitals in the south and extremely poor in the rural areas where drainage systems hardly exist.

### **Bathroom and Toilet Facilities**

High proportions of households have access to bathroom facilities all over the country. Significant variations are observed across the regions. Unfortunately, there are households in every region that do not have access to bathroom facilities and therefore use open spaces around the house, rivers, lakes and other facilities. The proportions of households using these inadequate bath facilities increases as one moves from the south to the north of the country. Generally, bathroom facility situation is better in the urban areas than the rural areas.

Higher proportions of households in the southern part of the country have access to more hygienic toilet facilities than those in the north. Public toilets are mostly in the south of the country. Bucket or pan toilets are still found in all regions with higher proportions found in the south. In the three northern regions, more than 70.0 per cent of households do not have access to toilet facilities and resort to the use of the bushes. Access to toilet facilities by households in the country is only slightly better in the regional capital. Generally, access to toilets by households is better in the urban areas than for the rural areas.

### **Kitchen Facilities and Energy for Cooking**

Majority of households in the country do not have access to a properly designated kitchen facility. The results suggest that the kitchen is not an important consideration in the construction of houses. The type of fuel used by household also relate to the type and quality of building occupied by households.

Two main sources of fuel used for cooking are firewood (55.8 per cent) and charcoal (30.0 per cent). The use of liquefied petroleum gas is gaining popularity and is used by 6.2 per cent. In Greater Accra, 57.3 per cent of households use charcoal and 21.8 per cent use gas for cooking. In other regions, firewood is the dominant fuel used, followed by charcoal. In regional capitals in the south of the country, charcoal and gas are the two main types of fuel used. In the four northernmost regions, the two main types of fuel used are charcoal and firewood. The main fuel used in rural areas is firewood. Less than 9.0 per cent of households in the rural area in 2000 used charcoal.

### **Housing Financing**

Housing financing has been identified to be a major problem facing the housing sector. Though the private sector has been allowed to participate in providing funds for individual housing, the funding scheme provided by the Home Finance Company is beyond the incomes of many households. The Government must establish long-term financing scheme at the district levels to finance mortgage schemes that will meet the capability of low and medium income households. There is also the need to develop an alternate housing financing investment for long-term mortgage loans. To strengthen the private sector to contribute to housing the people, Government must help real estate developers to access long-term loans at concessional interest rates.

### **Regulatory and Institutional Constraints**

Investors and agency officials agree that it takes too long to issue development permit and building permits. While the stipulated maximum period for processing a development permit is 90 days, according to the Town and Country Planning Department, average processing time for development is six months. Applicants normally hope the Town and Country Planning Department would not respond in a timely fashion, since in the absence of a timely response, as a matter of law, the application is deemed approved. Considering that this principle applies also to applications for building permits, it is not difficult to explain the haphazard nature of housing development in the AMA, Ga and Tema districts in Greater Accra.

Staff of the Town and Country Planning Department indicate that the human and material resources available to them are inadequate to meet the demand for their services. Because land use maps, supposed to be produced by the Survey Department, are out-dated, Town and Country Planning staff have to make frequent site visits to determine how a given area has developed in order to analyze the appropriateness of a proposed development project. This requirement stretches further the already limited staff. Shortage of vehicles to get to the field only compounds delays.

In respect of building permits issued by the Works Department of the Accra Metropolitan Assembly, the perception of the public and the position of the institution tend to be in conflict. While the Head of the Works Department reports an average processing time for building permits of 30 days, developers in Accra often wait much longer for building permits and inspections. Most persons interviewed agreed that less than half the building construction in Accra probably have building permits. These perceptions are not entirely exaggerated and without foundation, knowing that a building under construction must be inspected at 11 different points in the process. While the initial issuance of building permits

may be relatively quick, much time may be lost while waiting for the subsequent mandatory inspections. This allows corruption to thrive.

### **Projected Population, Household and House Stock (2000-2025)**

Based on the age structure observed in the 2000 Census and trends in population dynamics in Ghana, it is projected that about 12 million more people will live in Ghana in 2025 than were in 2000. Currently, there is an increase of population in the 15-64 age group, such that between 2000 and 2025 this population will increase by 8,524,886 (80.7 per cent). The other significant feature of the population trend is that while the male population over 25 years increases by 53.7 per cent, the female population of the same age group will increase by 52.3 per cent.

On balance, Ghana will continue to experience an ageing of the population. The population in the over 64 years age group will increase by 808,943 (71.0 per cent) between 2000 and 2025. The proportion of people over the age of 64 years is high and given the resources demands often associated with very elderly people, these are significant figures.

The estimates of household formation from 2000 to 2025 show that household numbers will increase by 2,320,188, which is a 51.1 per cent increase. The household increase over the 2000-2025 period is slightly smaller than the increase in population. There is likely to be large increases in single person households through elderly people living longer, separation and divorce and young people forming single person households. With increasing single person households, per capita resource demand will increase.

The projection indicates that from 3.7 million households in 2000, the number of households in 2025 will be about 6.0 million, growing at about 1.97 per cent per annum, which is only slightly less than the rate at which the population itself would grow. The implication is that there would be expected growth in one-person and two-person households. Given an assumed dilapidation rate of 3 per cent per annum for the existing houses, the actual number of dwelling units needed to take care of the new households and at the same time replace the dilapidated ones will be around 4 million or an average of 160,779 additional units per year. With an estimated average annual increase in population of about 495,974 during the 25-year interval, the number of additional dwelling units per 1,000 populations per year comes to 324 housing units. This is a huge requirement and will not necessarily take care of the existing poor living conditions.

### **Implication of Households and House Stock Projections**

Using the current cost of a two-bedroom detached house built by the State Housing Company, which is the lowest priced housing unit available, the amount required to provide the estimated 160,779 housing units annually would be about ₵22,509 billion (about US \$ 2.5 billion). Compared to the total budget of Ghana in 2004 of ₵24,858 billion, the task of housing the population is a huge one.

Of the projected 4,019,274 housing units, 2,107,863 will be replacement for dilapidated units. Since the latter will be constructed “in situ”, new housing units, which will require

additional land are 1,911,613. It is estimated that this will require about 346,767 hectares of land over the 25-year period. This estimated land requirement makes no provision for roads, space for social amenities and cemeteries.

Current housing development is the horizontal growth of settlements rather than vertical growth. Where large quantities of houses are required as estimated earlier, there is the danger of competition between arable land and building land as is already being observed in the bigger towns and cities. Continuing with the horizontal building of detached and semi-detached houses with large compound, and the high housing needs, most towns will expand uncontrollably and put pressure on the utility services delivery. The result will be that most new houses will be without these essential utility services.

Another implication of the estimated housing needs is the increased demand for services from utility companies and other service providers. Given that the current situation overstretches the capacity of electricity, water and telephone companies to meet demand, good planning and implementation is required to cope with the expected increased demand. Associated with residential housing is the requirement for amenities such as schools, social centres, roads and clinics which must be planned for, based on the estimates.

The provision of 4,019,476 housing units within the 25 years period requires substantial material resources. The problem assumes wider dimensions if the demands are on a weak economy such as ours, where other sectors are also competing for attention and budgetary support. Budgetary allocations to the housing sector have been low relatively, though proper and adequate housing is recognised. Private sector involvement in housing development is low but has been increasing since the early 1990s. This has been attributed to the relatively slow returns from investment in housing. Most estate developments have been in the area of residential accommodation for outright sale, commercial housing units and office accommodation, which have higher returns, while housing for household accommodation is left to private individuals. Ghana is noted to have a net low propensity to save and invest (GoG, 2002). The net effect is the relatively low capital formation and investment in the housing sector, which is unlikely to improve in the near future.

The other notable problem confronting capital formation in the housing sector is the general low incomes of the workforce and the higher and increasing prices of building materials and therefore the high cost of house delivery. It has been estimated that about 60-70 per cent of the population are in the low-income group and cannot afford to build a standard house under the present conditions. Based on salaries, senior civil/public servants are not able to access the mortgage scheme of the Home Finance Company because most of them cannot service the mortgage with 40 per cent of their monthly incomes. As such, many households will continue to build sub-standard houses, using inferior materials and lacking all essential amenities.

Another consequence of the high cost of building materials and low incomes relative to increasing demand for houses are congestion, overcrowding and pressure on existing amenities, accelerated deterioration of existing stock, and consequential higher maintenance and replacement rate. Failure to maintain or replace housing units will lead people to live in houses that are a threat to their own lives. The higher rate of housing deterioration without

corresponding replacement implies that the household per house rate will increase in the future.

## **Recommendations**

### **Housing Demand Estimation**

Past experience in government housing delivery calls for a new approach to housing policy planning in Ghana. There is a need for a study to help identify target groups for different housing programmes based on population variables (size, growth rate, population mobility and age structure), household size (average and distribution), household income (levels and classification), housing cost (price and rent levels by type of housing and location), housing stock (total stock, status of units into good, fair and poor, and rate of deterioration to indicate required replacement), land for housing (number of residential plots, and cost of leasing plots), housing finance (interest rates, amortization period and mortgage payments), and cost of labour (rates for hiring various types of labour). Such data will make housing delivery more targeted to specific needs and groups.

### **Population Control Measures**

Another area of focus is the control of the population growth, which has a desirable long-term effect on the entire economy. It is estimated that a one per cent growth in population requires about 3-4 per cent growth in the economy to maintain the present standard of living. This implies that with the present population growth rate of about 2.7 per cent, the economy needs to grow by 8-11 per cent to maintain the present living conditions. The current sluggish performance of the economy suggests that the high population growth rate implies potentially worsening situation. The acute housing problem of the country is also an issue of unregulated population growth, which has out-paced the economic growth rate of the nation. High population and urban drift are major contributors to the housing problems observed in urban areas. Family planning programmes must be intensified as well as creation of job opportunities in the rural areas to retain the rural population.

### **Housing Rules and Regulations Enforcement**

To improve housing and housing conditions in Ghana and also alleviate the hardship faced by population with regard to dwelling place, it is recommended that government deepen the process of decentralization to ensure equity in development across the country. Government must support research efforts of the Building and Road Research Institute of the CSIR to develop appropriate and relatively cheaper but durable local materials for the construction of houses so as to reduce the costs involved in housing. Government must also review tariffs downwards on imported and not manufactured locally building materials to make them relatively affordable and therefore reducing housing costs.

There is a need to review existing legislations relating to housing. Rent control regulations must also be reviewed and rent determination left in the hands of the housing sector. Government should focus attention on formulating new building laws to promote vertical instead of lateral/horizontal buildings in Ghanaian cities. The low cost housing schemes introduced in years past to provide shelter for people displaced for one reason or the other must be reconsidered and implementation improved, using private sector estate developers.

## 1.1 Introduction and Concepts

### **Introduction**

Provision of adequate housing enhances productivity of all individuals. Conversely, the lack of basic housing requirement induces stress and affects productivity. Provision of housing is so linked with national economic development that the rate of house construction is directly related to economic performance. It is therefore important for the state to facilitate the provision of adequate housing units to meet the need of all people or create conducive environment for individuals and institutions to provide the needed housing units.

In Ghana, like many developing countries, high cost of land (especially in urban areas), land litigation/disputes, over reliance on imported materials, inadequate conceptualisation of the dynamics of the population growth including urban population among others are traditionally considered the underlining causes of housing problems being experienced. This report analyses population trends, housing and housing conditions in Ghana and their policy implication. The measures would help reduce existing and expected growth in the gap between housing demand and supply into the future.

### **Concepts and Definitions**

**House:** The UN recommended definition of a house or a compound was consistently used in the censuses of 2000, 1984, 1970 and 1960 to mean a structurally separate and independent place of abode such that a person or group of persons can isolate themselves from the hazards of climate such as storms and the sun. Also treated as a house or compound is any shelter used as living quarters at the time of the census, such as a hut or group of huts enclosed as a compound, kiosks, containers, and tents.

The essential features are separateness and independence. An enclosure may be considered as separate if it is surrounded by walls, fences, such that a person or group of persons can isolate themselves from other persons in the community for the purposes of sleeping, preparing and taking their meals or protecting themselves from the hazards of climate such as storms and the sun.

A compound need not be surrounded by a wall, fence or a hedge. For example, a house, kitchen and toilet may constitute one compound whether or not they are surrounded by a wall. A housing unit is a single room or group of rooms (or other structure) arranged for human habitation and occupied or intended for occupancy as separate and independent living quarters by a person living alone or persons living together.

When housing is viewed as shelter or living space only, dwellings tend to be built without regard for the environment or services needed to support their inhabitants. Housing is a package of services (land, public facilities and access to jobs) as well as the structure itself. Some of these useful parameters relating to housing have not been included in the earlier censuses (1960, 1970 and 1984). Such basic statistics include ownership, type of housing units, size of house including space occupied by house and number and dimension of rooms, composition of houses including the type of building materials used in construction of wall and floor and type of roofing. Not included in the data are the state and/or quality of building including age, and attrition or maintenance rate of building, construction, demolition and

conversion of houses and housing amenities, facilities and services. Data on the various uses to which a house is put (for instance, store, supermarket, manufacturing) was not captured in 1960, 1970 and 1984. Data on the main sources of water supply, health and educational facilities available in each locality in the enumeration area were collected. In addition, information on housing characteristics such as the total number of occupied and unoccupied structures in every locality was collected.

In the 2000 Population and Housing Census (2000 Census), improvements were introduced. Data collected covered type of dwelling, outer wall, floor, roof, tenure/holding arrangement, rooms, sleeping rooms, lighting, water supply, toilet facilities, cooking fuel, cooking space (kitchen), bathing facilities, solid waste disposal, and liquid waste disposal. As a result, limited comparisons between the results of previous censuses and the 2000 Census could be made. Similarly, it may be difficult to make projections based on only the 2000 census data. Ghana has conducted four living standards surveys (1987/1988, 1988/1989, 1991/1992 and 1998/1999) that provide some trend data to allow for projections to be made in combination with the results obtained from the 2000 Census.

**Dwelling unit:** The place where the household lives (living quarters) i.e. the space occupied by the household at the time of the census.

**Household:** The household is defined as ‘a person or group of persons who live together in the same house or compound, share the same house-keeping arrangements and are catered for as one unit’. It is important to note that members of a household are not necessarily related (by blood or marriage) because house helps may form part of a household. On the other hand, not all those living in the same house or compound are necessarily members of the same household. Two brothers who live in the same house with their wives and children may or may not form separate households depending on their catering arrangements. The same can be true of a father and his married children. Thus in many cases, a house or compound may be broken into separate households. The emphasis is on living in the same place and having common provision for food and necessities for living, irrespective of size and relationship.

**Housing Needs:** refers to the total requirement for shelter, without consideration of whether or not families or individual households can pay for it. It simply refers to the quantity of houses that are required to adequately house an entire population; it is a factor of population size and household size.

**Methodology:** Data used in this report are mostly based on the 2000 Census and secondary data and analysis of previous three censuses (1960, 1970, and 1984). Literature on housing in Ghana was reviewed and relevant sections captured in the report. Simple growth models were used to estimate growth rates and percentages used for distribution of both population and housing.

**Structure of Report:** The report is organized into seven sections. The introduction section covers concepts, definitions and methodology used. Section two discusses population dynamics, distribution and housing stock. Population growth and household formation are

discussed in section three, while section four discusses house construction requirements, materials, ownership and tenureship arrangements. Types of dwelling, access to utilities, sanitation and household facilities are discussed in section five. Presented in section six are projections on household and housing needs in Ghana over the 2000-2025 period and their implication for resource demand and policy. The final section contains the recommendations for meeting the housing needs into the future.

## 1.2 Population Dynamics and Age Distribution

### Trends in Population Structure and Movement

The population of Ghana as captured by the 2000 Population and Housing Census is 18,912,079. In 1984 the population of Ghana was 12,205,574, yielding an annual inter-census average growth rate of 2.7 per cent for 1984-2000, compared to the inter census population growth rates of 2.4 per cent in 1960-1970 and 2.6 per cent in 1970-1984 (Table 1.1).

The inter-census annual growth rate for 1960-1970 was highest in Greater Accra followed by Northern. Between 1970 and 1984, the fastest growing region was Northern followed by Greater Accra. Greater Accra has been the fastest growing region throughout the 40-year period. Annual population growth rates have been highest generally after the 1984 census. It was also observed that annual population growth rates have remained positive for all regions till the 1984 census. The trend in annual population growth rate is that Ghana has been growing since 1960 and at an increasing rate. This increasing growth trend is likely to slow down due to, among others, the HIV/AIDS epidemic, the tendency of the growing elite class to have fewer children and delayed marriage.

**Table 1.1: Trends in Population Growth Rate 1960-2000**

Region	Population				Rate of Growth Per Annum		
	1960	1970	1984	2000	1960-1970	1970-1984	1984-2000
All Region	6,726,800	8,559,313	12,205,574	18,912,079	2.4	2.6	2.7
Western	626,200	770,087	1,116,930	1,924,577	2.1	2.7	3.5
Central	751,400	890,135	1,145,520	1,593,823	1.7	1.8	2.1
Greater Accra	541,900	903,447	1,420,066	2,905,726	5.2	3.3	4.6
Volta	777,300	947,268	1,201,095	1,635,421	2.0	1.7	1.9
Eastern	1,044,100	1,209,828	1,679,483	2,106,696	1.5	2.4	1.4
Ashanti	1,109,100	1,481,698	2,089,683	3,612,950	2.9	2.5	3.5
Brong Ahafo	587,900	766,509	1,179,407	1,815,408	2.7	3.1	2.7
Northern	531,600	727,618	1,162,645	1,820,806	3.2	3.4	2.8
Upper East	468,600	542,858	771,584	920,089	1.5	2.5	1.1
Upper West	288,700	319,865	439,161	576,583	1.0	2.3	1.7

Source: Ghana Statistical Service (1995) Analysis of demographic data. Preliminary analysis reports. Vol. I  
Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results.

In terms of population distribution, Western, Greater Accra, Ashanti and Northern have increased their share of the total population. In fact, the proportion of the population living in Greater Accra almost doubled in every decade (Table 1. 2). On the other hand, Central, Volta, Eastern, Upper West and Upper East consistently experienced a decline in their share of the population throughout the 40-year period (1960-2000). The reasons for this observation are not fully known but may include issues relating to seeking education, out-

migration, income earning opportunities and the degradation of the natural resource base of the region that supported family livelihood.

**Table 1.2: Proportional Share of Population by Region 1960-2000**

Region	Population				Regional Share			
	1960	1970	1984	2000	1960	1970	1984	2000
All region	6,726,800	8,559,313	12,205,574	18,912,079	100.0	100.0	100.0	100.0
Western	626,200	770,087	1,116,930	1,924,577	9.3	9.0	9.2	10.2
Central	751,400	890,135	1,145,520	1,593,823	11.2	10.4	9.4	8.4
Greater Accra	541,900	903,447	1,420,066	2,905,726	8.1	10.6	11.6	15.4
Volta	777,300	947,268	1,201,095	1,635,421	11.6	11.1	9.8	8.6
Eastern	1,044,100	1,209,828	1,679,483	2,106,696	15.5	14.1	13.8	11.1
Ashanti	1,109,100	1,481,698	2,089,683	3,612,950	16.5	17.3	17.1	19.1
Brong Ahafo	587,900	766,509	1,179,407	1,815,408	8.7	9.0	9.7	9.6
Northern	531,600	727,618	1,162,645	1,820,806	7.9	8.5	9.5	9.6
Upper East	468,600	542,858	771,584	920,089	7.0	6.3	6.3	4.9
Upper West	288,700	319,865	439,161	576,583	4.3	3.7	3.6	3.0

Source: Ghana Statistical Service (1995) *Analysis of demographic data. Preliminary analysis reports. Vol. I*  
Ghana Statistical Service (2002) *2000 population & Housing Census. Summary report of final results*

### **Age Distribution of the Population by Sex**

Generally, the population of Ghana can be said to be undergoing an ageing process. The proportion of the population over 64 years has increased for both male and female (from 3.3 per cent in 1960 to 5.3 per cent in 2000 for males and from 3.0 per cent to 5.2 per cent for females). In the case of the economically active population (15-64 years) their share of the population has just increased marginally over the 1960 levels (Table 1.3). Significant changes have occurred in the population and sex structure over the years due mainly to macroeconomic conditions in the country and migration to neighbouring countries. As such, reasonable trends can only be built on the 1960 and 2000 data. The data also indicate an increasing trend in life expectancy possibly due to improved living standards (nutrition, medical care and increasing educated population).

**Table 1.3: Population by Age and Sex, 1960 – 2000**

Age	1960			1970			1984			2000		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
<5	19.3	18.9	19.7	18.3	18.3	18.2	16.5	16.7	16.3	14.6	14.8	14.5
5-9	15.1	15.2	15.1	16.9	17.1	16.7	16.3	16.7	15.9	14.7	14.9	14.5
10-14	10.1	10.5	9.7	11.7	12.1	11.3	12.2	12.8	11.7	12.0	12.3	11.6
15-24	16.8	16.0	17.7	17.0	16.6	17.5	18.7	18.5	19.0	18.4	18.4	18.4
25-44	26.2	26.0	26.4	23.2	22.3	23.9	22.3	21.3	23.3	24.4	23.5	25.3
45-64	9.3	10.0	8.4	9.3	9.8	8.7	9.9	10.0	9.8	10.7	10.9	10.4
>64	3.2	3.3	3.0	3.6	3.7	3.6	4.0	4.0	4.0	5.2	5.3	5.2

Sources: Census office (1964) *Demographic Characteristics, 1960 Population Census of Ghana. Vol. III. Accra.*  
Census office (1964) *Economic Characteristics, 1960 Population Census of Ghana. Vol. III. Accra.*  
Census office (1975) *Demographic Characteristics, 1970 Population Census of Ghana. Vol. III. Accra.*  
Census office (1975) *Economic Characteristics, 1970 Population Census of Ghana. Vol. III. Accra.*  
Ghana statistical Service, (2002) *Summary Report of Final Results.*

Table 1.4 shows that the rural population is younger than the urban population, for the proportion of population younger than 15 years is 36.9 per cent for urban and 44.7 per cent for rural (the national figure is 41.3 per cent). The largest proportion of the population in both urban (58.3 per cent) and rural (49.6 per cent) is in the active age group (15-64). This structure may be explained by the fact that the active age group may migrate to the urban areas for educational purposes or in search of employment opportunities. After retirement from active work at 60 years, some move back to their hometowns and villages, reducing the urban share of the population in that age group and swelling that of the rural areas. This age

structure of the population between urban and rural areas has implication for housing needs. Given that the housing needs of the various age groups vary, any housing planning scheme should consider this movement in population dynamics in housing planning.

**Table 1.4: Population by Age and Locality of Residence**

Age Groups	Urban	Rural	Ghana
All Ages	100.0	100.0	100.0
Under 5	12.5	16.3	14.6
5 - 9	12.7	16.2	14.7
10 - 14	11.7	12.2	12.0
15 - 24	21.2	16.3	18.4
25 - 44	26.8	22.5	24.4
45 - 64	10.3	10.8	10.7
65+	4.7	5.7	5.2

*Source: Ghana Statistical Service (2002) 2000 Population & Housing Census. Summary report of final results*

### 1.3 Population Growth, Household Formation and Housing

Housing market activity is strongly influenced by demographic and socio-economic trends in a country or locality. Both the growth of the population and its characteristics influence the rate of household formation, which in turn, is a key driver of housing demand. While a rapidly growing population tends to generate more housing demand than slow growing populations, housing needs and preferences are also shaped by the characteristics of the individuals in the population, particularly by their age and family status. Demographic changes are not the whole story; for instance, for in order to act on preferences, people must have sufficient financial resources, either income or wealth or a combination of the two. Under economic difficulties, individuals or families who would have preferred to live independently may share living space. In better times, when employment and incomes are growing, they have more options open to them.

The fundamental unit for determining housing demand is the rate of household formation. Projected future numbers of households may be calculated as the sum of population change and the change in headship rate. There are five basic components to change in the number and composition of households, which are relevant to the evaluation of housing needs:

- Population growth
- The age distribution of the population arising from births, deaths and aging of the population;
- Family units such as marriage, divorce and child bearing patterns;
- The number and composition of households arising from migration, particularly due to employment opportunities in the area and as a result of the numerous wars in the West African sub-region;
- The probabilities that family units form a separate household, particularly in response to changes in incomes in the labour market area, cost of housing and social trends.

Thus, the projected demand for housing in a particular area or country requires data on the projected number of households by income, household size and age of the head of household.

A total of 3,701,241 households were enumerated during Census 2000. The annual rate of increase of households was 2.5 per cent in 1984-2000 compared with the rate of increase of 1.6 per cent in 1960-1970 and 2.3 per cent in 1970-1984 (Table 1.5). Generally, population

grew faster than the annual increase in household formation during all the inter census periods between 1960 and 2000, so that the average household size continued to increase over the period (from 4.3 in 1960 through 4.7 in 1970 and 5.0 in 1984 to 5.1 in 2000). It is observed that the difference between the population growth and increases in household formation continued to decline, resulting in the household average size increasing at a declining rate. The increasing population and the changing structure of households have implications for housing demand.

Another important demographic variable influencing housing demand is the household growth by age group. Disaggregated data on household formation by age are not readily available to demonstrate which age group is forming household most rapidly and which is not growing.

The annual rate of increase of households at the regional level for the period 1984-2000 ranged between 1.3 per cent for Central and 3.9 per cent for Northern (Table 1.5). Compared to the previous inter census period rate of increase of households, there were faster increases in Western, Volta, Ashanti, Brong Ahafo, Northern and Upper between 1984 and 2000 than were the cases between 1970 and 1984. The region with the fastest rate of growth of households is Northern with a growth rate of 3.9 per cent (56 per cent above national average).

**Table 1.5: Trends in Population Growth and Rate of Increase of Household Formation 1960 - 2000**

Region	Annual Pop. Growth Rate			Annual Rate of Increase of Household		
	1960-1970	1970-1984	1984-2000	1960-1970	1970-1984	1984-2000
Ghana	2.4	2.6	2.7	1.6	2.3	2.5
Western	2.1	2.7	3.5	1.0	2.4	2.8
Central	1.7	1.8	2.1	-	2.7	1.3
Greater Accra	5.2	3.3	4.6	4.6	3.7	3.5
Volta	2.0	1.7	1.9	1.0	2.0	2.1
Eastern	1.5	3.4	1.4	1.0	2.1	1.8
Ashanti	2.9	2.5	3.5	1.8	2.0	2.8
Brong Ahafo	2.7	3.1	2.7	1.8	2.3	2.4
Northern	3.2	3.4	2.8	2.0	1.9	3.9
Upper East	1.5	2.5	1.1	*	1.4	2.2
Upper West	1.0	2.3	1.7	*	+	+

Source: Derived from GSS (1995) Analysis of Demographic Data, Table 3.1 and GSS (2002) 2000 population & Housing Census, summary Report of Final Results, Table 14.

Note: \* included as Northern Region

+ included with Upper East as Upper Region

- includes as Western

Though the rates of increase of households are faster in Western, Ashanti and Brong Ahafo than during the previous inter census period, the rates of population growth in these regions are much faster than the rate of increase of households. The implication is that the household sizes in these regions would increase on average in 2000. In the regions where the rate of increase in households is slower (Central and Greater Accra) and yet the rate of population growth is faster, the average household size increased substantially, with implications for increased demand for housing units to respond to the changing situation.

## Household Sizes

Table 1.6 shows the distribution of households by household size for the last two censuses. The shares of households of 1, 2 and 10+ persons have decreased during the inter-census period (1984-2000) at the national level, whereas an increase is noted for all the other household sizes. For instance, the share of one-person households which was 19.9 per cent in 1984 declined to 12.6 per cent in 2000. Marginal declines are also observed for two-person and ten or more person households between 1984 and 2000. The share of two-person to nine-person households increased over the period 1984 and 2000 (Table 1.6).

**Table 1.6: Trend in Household Size by Locality**

Household Size	1984			2000		
	National	Urban	Rural	National	Urban	Rural
All Sizes	2,480,368	894,138	1,586,230	3,701,241	1,746,986	1,954,255
1 Person	19.9	24.1	17.5	12.6	14.6	10.8
2 Persons	12.0	13.7	11.0	11.4	13.1	10.0
3 Persons	11.9	12.7	11.4	12.4	13.4	11.5
4 Persons	11.4	11.7	11.3	12.7	13.1	12.4
5 Persons	10.3	10.0	10.5	12.0	11.8	12.1
6 Persons	8.7	8.0	9.1	10.3	9.6	10.8
7 Persons	6.8	5.9	7.3	8.0	7.3	8.7
8 Persons	5.1	4.2	5.6	6.1	5.3	6.8
9 Persons	3.6	2.8	4.1	4.7	4.0	5.3
10 Persons or More	10.3	6.9	12.2	9.9	7.8	11.7

Source: Ghana (Statistical Service) 1984 Population Census of Ghana, Demographic and Economic characteristics Report, Vol. I, Accra, 1987.  
Ghana Statistical Service (2002) 2000 Population and Housing Census, Summary report of Final Results, March 2002.

Higher proportions of households living in the regions are made up of small households (1 to 6 person households) except Northern, Upper West and Upper East (Table 1.7). This observation confirms that the three northern regions contribute relatively higher proportions of larger households to the national household numbers. The predominance of large households in the three northern regions is partly due to the living arrangements in the north dictated by cultural and social practices. In many cases, sons marry and continue to stay in their fathers' compounds by constructing an extension to the house. What this means is that the housing needs presented by the structure is different for the different regions or geographical locations in Ghana.

**Table 1.7: Households by Household size and Region in 2000**

Household Size	Ghana	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
All Sizes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1 Person	12.6	14.3	17.2	13.1	14.0	15.3	11.5	11.4	6.2	5.2	4.9
2 Persons	11.4	12.2	13.8	13.7	12.6	12.9	10.3	10.4	5.8	7.2	5.8
3 Persons	12.4	13.1	13.9	14.4	13.5	13.3	11.1	11.9	7.7	10.0	7.9
4 Persons	12.7	13.4	13.3	14.0	13.4	13.2	12.0	12.4	8.9	12.6	9.3
5 Persons	12.0	12.3	11.9	12.4	12.2	12.1	11.8	12.1	9.8	13.0	10.5
6 Persons	10.3	10.3	9.7	9.8	10.0	10.0	10.7	10.7	9.6	12.1	10.6
7 Persons	8.0	8.0	7.1	7.1	7.4	7.5	9.0	8.7	8.8	9.7	10.0
8 Persons	6.1	5.7	4.7	4.9	5.3	5.3	7.4	6.6	7.9	7.4	8.6
9 Persons	4.7	4.2	3.1	3.7	3.9	3.7	6.2	5.1	7.1	5.9	7.6
10 Persons or More	9.9	6.5	5.3	6.8	7.6	6.7	0.0	10.8	28.3	16.9	24.8

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

The analysis has shown that more housing units are needed in the south than in the north. However, relatively much smaller houses are needed in the south of the country compared to medium and large houses in response to the distribution of household sizes. In the northern parts of the country, relatively more medium to larger housing units are needed. It is difficult to emphatically state the degree of housing adequacy within the regions without further data and analysis.

The proportionate share of one-person households in the 2000 Census compared to 1984 is substantially lower in all regions except Upper West where it remains approximately the same as that for 1984. The highest per centage reduction in the share of one-person households is observed in Central (14.8 per cent) and the lowest (0.3 per cent) in Upper West. The region experiencing the most structural change in the household size is Upper East and the least structural change is observed for Northern. The implication for housing needs is that apart from the increase in the number of housing units required to accommodate the increased number of households, the sizes of housing units required are also changing. Generally, there is a decrease in the share of one-person, two-person, and more than nine-person household sizes in the regions, but the absolute number of houses needed is larger in 2000 than for 1984.

The shares of household sizes of between 2 and 9 persons have generally increased in 2000 over the 1984 levels both in per centage share and in absolute terms. The implication is that apart from the increase in general housing needs, higher numbers of housing units are needed mainly for small size households. There are differences between the regions and this must be reflected in the final needs estimates.

Major increases in the per centage share of households in household sizes between the ten regions over the period 1984-2000 occurred in Western, Greater Accra, Northern and Ashanti. Marginal increases are also observed for Upper West, while the rest of the regions experienced some decline in the per centage share in the four or more household sizes. Central is the only region that experienced decline in the per centage share of households in all household size categories.

Apart from Central and Greater Accra, the share of one-person households increased between 1984 and 2000 while that of the two regions declined. These results also emphasize the changes in household structure and distribution in the country overtime that should inform the estimation and trends in housing needs. A cross tabulation of household size distribution

at national and regional levels with the number of sleeping rooms will give some partial indication of the adequacy or otherwise of the housing situation. It is noted that sex and age distribution, housing conditions and the environment are also important variables in determining housing adequacy.

**Table 1.8: Households by Household Size and Region in 1984**

Household Size	Western	Central	Greater Accra	Eastern	Volta	Ashanti	Brong Ahafo	Northern	Upper East	Upper. West
All Sizes	262,617	298,817	358,885	342,710	250,078	438,451	236,292	133,081	107,549	51,888
1 Person	20.8	32.0	26.9	18.9	16.9	18.2	16.8	7.9	5.8	5.2
2 Persons	13.0	14.2	14.1	11.7	12.6	12.4	11.3	5.7	6.9	5.1
3 Persons	13.3	11.1	12.9	11.9	13.1	12.6	12.2	7.1	9.1	7.2
4 Persons	12.3	10.2	11.8	11.6	12.6	12.0	11.7	8.4	10.9	8.6
5 Persons	10.8	8.7	9.9	10.6	11.0	10.8	10.7	8.8	11.4	9.8
6 Persons	8.6	7.0	7.7	9.0	9.1	9.2	9.3	8.7	10.8	9.7
7 Persons	6.6	5.1	5.5	7.2	7.0	7.3	7.5	7.7	9.1	9.0
8 Persons	4.7	3.6	3.8	5.5	5.1	5.4	5.7	6.8	7.3	7.7
9 Persons	3.2	2.5	2.5	3.9	3.6	3.8	4.0	5.6	5.9	6.6
10 Persons or More	6.7	5.5	5.1	9.7	9.0	8.4	10.8	33.3	22.9	31.0

Source: Ghana (Statistical Service) 1984 Population Census of Ghana, Demographic and Economic characteristics Report, Vol. I, Accra, 1987.

### **Rural and Urban Localities**

The share of households of sizes 1 and 2 decreased during the 1984-2000 inter-census period in urban areas, while in rural areas the share of the households of sizes 1, 2 and 10+ have decreased over the 1984-2000 period and the share of the other household sizes increased. The most substantial decrease in the share of household size is associated with one-person households between 1984 and 2000 observed at both urban and rural areas.

For household sizes of between one and four persons, higher proportions are observed for urban areas compared with that in rural areas. One interesting observation is that the share of one-person households in 2000 is much lower than observed in 1984 and 1970. There is a general decline in the share of one-person households (national and urban) from 1970 to 2000. The generally large average sized households observed in rural areas compared to urban areas may be due to the more communal life style. In rural areas, grown up children may continue to stay with their parents together with their own children and may be reflected in the larger household sizes.

Household distribution by locality of residence shows a similar pattern (Table 1.9). A critical examination however indicates that higher proportions of larger households (6 to 10 persons) are observed for the rural areas than for urban areas. This structure of household distribution in the country should inform the authorities about the housing needs and their distribution throughout the country. The availability or otherwise of appropriate housing units to meet the needs will reveal the gap to be filled in terms of numbers and adequacy of rooms and facilities.

**Table 1.9: Households by Size and Locality: 2000**

Household Size	Accra	Other		Urban	Rural	Ghana
		Urban	Rural			
All Sizes	100.0	100.0	100.0	100.0	100.0	100.0
1 Person	13.2	15.0	14.6	10.8	12.6	
2 Persons	14.2	12.8	13.1	10.0	11.4	
3 Persons	14.8	13.0	13.4	11.5	12.4	
4 Persons	14.2	12.8	13.1	12.4	12.7	
5 Persons	12.5	11.7	11.8	12.1	12.0	
6 Persons	9.7	9.6	9.6	10.8	10.3	
7 Persons	6.9	7.4	7.3	8.7	8.0	
8 Persons	4.7	5.4	5.3	6.8	6.1	
9 Persons	3.6	4.1	4.0	5.3	4.7	
10 Persons or More	6.1	8.2	7.8	11.7	9.9	

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

### **Trend in Stock of Houses and Dwelling Units**

The need to provide adequate, suitable and equitable housing has remained a major priority in every government's programme. The problem of housing is complex and pressing the world over. Yet, no nation has been able to provide adequate housing of acceptable standard for all citizens. It is worth noting that the minimum housing standard differs from one country to another, depending on geographic and economic conditions. The United Nations recognizing the housing problem, declared 1987 as the International Year of Shelter for the homeless. This is in recognition of the fact that there are no signs that the housing problem for the world's population will be solved soon.

In the early 1970s with an annual demand of 70,000 housing units and an accumulated deficit of 250,000 units, the low-cost housing programme was started in 1977 by the government, mostly in urban areas to mitigate the housing problem. This crash programme yielded only 6,000 housing units in 2 years. Unfortunately, the cost of these houses became so high they were beyond the pocket of the average worker. Rapid population growth without a corresponding increase in the housing stock in the 1970s and 1980s is admittedly a major contributory factor to the current acute housing problem.

It is observed from Table 1.10 that the average annual rate of increase of house stock was highest between 1960 and 1970 (4.9 per cent) and least between 1970 and 1984 (1.7 per cent). This result observed for 1970-84 was due to the down turn of the economy during the 1970s and early 1980s requiring the implementation of the Economic Recovery Programme/Structural Adjustment Programme (ERP/SAP) and other reform measures. Some recovery was experienced in 1984-2000 (3.8 per cent) but Ghana is yet to achieve the annual growth rates in the stock of houses in the 1960s. Given that the national average population growth rate per annum is estimated at 2.7 per cent, average annual national rate of increase in housing stock of 3.8 per cent over the 1984-2000 period housing supply was growing faster and therefore persons per house should be declining, improving housing conditions.

Between 1984 and 2000 the stock of houses increased annually more in 7 of the 10 regions than the national average (Table 1.10). Upper East experienced the least rate of increase (1.4 per cent). This may probably be due partly to the Bawku conflict, which resulted in many

houses being burnt down. The region that experienced the fastest rate of increase in stock of houses is Greater Accra (5.8 per cent), more than one and half times the national average.

**Table 1.10: Stock of Houses and Annual Rate of Increase 1960 – 2000**

Region	Number of Houses				Annual Rate of Increase		
	1960	1970	1984	2000	1960-1970	1970-1984	1984-2000
Ghana	636,189	945,639	1,204,395	2,181,975	4.9	1.7	3.8
Western	61,103	87,061	128,427	259,874	4.2	2.7	4.5
Central	79,196	111,753	129,154	223,239	25.1	1.0	3.5
Greater Accra	36,643	71,189	116,211	287,840	9.4	1.0	5.8
Volta	84,927	141,382	164,513	264,451	6.6	1.0	3.0
Eastern	108,136	159,246	182,690	283,461	4.7	1.0	2.8
Ashanti	94,459	136,428	173,969	328,751	4.4	1.7	4.1
Brong Ahafo	46,749	80,889	115,873	216,275	7.3	2.6	4.0
Northern	50,333	71,808	96,090	177,785	4.3	2.1	3.9
Upper East	58,455	64,801	70,967	88,401	1.1	0.7	1.4
Upper West	16,188	21,082	26,501	51,898	3.0	1.6	4.2

Source: Ghana (Census Office) 1960 Population Census of Ghana, Vol. I, Accra, 1963  
Ghana (Census Office) 1970 Population Census of Ghana, Vol. I, Accra, 1973

Ghana (Statistical Service) 1984 Population Census of Ghana, Demographic and Economic characteristics Report, Vol. I, Accra, 1987.  
Ghana Statistical Service (2002) 2000 Population and Housing Census, Summary report of Final Results, March 2002, Table 14.

Generally increase in stock of houses in the 10 regional capitals has been greater than that for the whole nation except in selected regions in the south of Ghana. Between 1984 and 2000, annual increases in housing stock in the regional capitals show that only Bolgatanga, Tamale and Cape Coast grew by less than 5 per cent (Table 1.11). In fact, housing stock increased by 10 per cent in Sekondi/Takoradi and 8.6 per cent in Kumasi. Annual increases for 1970-1984 compared with that of 1960-1970 show a negative trend.

**Table 1.11: Stock of Houses and Annual Increase by Regional Capitals f(1960-2000)**

Regional Capital	Number of House				Annual Per centage Increase			
	1960	1970	1984	2000	1960-1970	1970-1984	1984-2000	1960-2000
Sekondi/Takoradi	4,210	4,651	5,056	24,817	1.0	0.6	10.0	4.5
Cape Coast	2,194	3,037	3,636	6,847	3.3	1.3	4.0	2.9
Accra	18,239	35,835	57,250	131,355	7.0	3.4	5.3	5.1
Ho	1,218	1,871	2,859	6,853	4.4	3.1	5.6	4.4
Koforidua	1,628	2,332	3,421	7,318	3.7	2.8	4.9	3.8
Kumasi	8,475	11,775	17,933	67,434	3.3	3.1	8.6	5.3
Sunyani	591	1,114	2,304	5,611	6.5	5.3	5.7	5.8
Tamale	2,643	6,933	9,728	15,873	10.0	2.4	3.1	4.6
Bolgatanga	371	1,557	2,514	3,932	15.4	3.5	2.8	11.8
Wa	766	1,212	2,102	5,539	4.7	4.0	6.2	5.1

Source: Ghana (Census Office) 1960 Population Census of Ghana, Vol. I, Accra, 1963

Ghana (Census Office) 1970 Population Census of Ghana, Vol. I, Accra, 1973

Ghana (Statistical Service) 1984 Population Census of Ghana, Demographic and Economic characteristics Report, Vol. I, Accra.

Ghana Statistical Service, (2002) 2000 Population and Housing Census, Special Report on Urban Localities, March 2002.

For the period 1984-2000, annual increase was greater for each of the regional capitals than the previous period except for Bolgatanga and Tamale. It is also observed that the average annual increase in housing stock for regional capitals of Western, Central, Volta, Eastern, Ashanti, Brong Ahafo and Upper East were higher than for the respective regions. That means relatively more houses were built in the regional capitals of the named regions than in other towns and villages. On the other hand, relatively more houses were built elsewhere in Greater Accra, Northern and Upper West than in their regional capitals.

### **Urban and Rural Localities**

Data for stock of houses by locality are available for only 2000 and not for the other years and show (Table 1.12) that 66 per cent of the total housing stock is in the rural areas with 34 per cent in urban areas (Accra accounts for 6 per cent). Informed projections are that the trend in urbanization and build up of the urban areas will possibly accelerate into the future. It is estimated that by 2020, the urban population in Ghana will be 60 per cent and the rural population 40 per cent.

**Table 1.12: Stock of Houses and Average Increase by Locality (2000)**

Locality	Total House	Per centage	Person/House
<u>Urban</u>			
All Urban	741,795	34.0	11.2
Accra	131,355	6.0	12.6
Kumasi	67,434	3.1	17.4
Other Urban	543,006	24.9	10.8
<u>Rural</u>	1,440,180	66.0	7.4
<u>Total</u>	2,181,975	100.0	8.7

Source: Ghana Statistical Service (2002) 2000 Population & Housing Census. Summary report of final results

While the rural housing stock increased by 53.1 per cent from 1984, urban stock increased by 159.4 per cent over the same period. In the 2000 Census 3,606 group living quarters were counted. The stock of houses represents an increase of 77.5 per cent over that recorded in 1984, much more than the increase in population (53.9 per cent) over the same period.

### **Analysis of Population and Housing Stock**

Table 1.13 shows a comparison between the inter census increases in population and housing stock. Over the 40 years (1960-2000) period, housing stock had increased faster than population in all census years except 1984. The economic conditions at the time may explain this observation for 1970-1984. With the implementation of the reform measures, economic and political situations have improved to restore confidence, encouraging Ghanaians (both living in Ghana and abroad) and even foreigners to invest in housing. Private estate developers have responded to the improving socio-economic and political situation by establishing estate development companies and are putting up residential and office accommodation for outright sales and also lease respectively. As a result, the number of person per house on average in Ghana had declined to 8.7 in 2000 from 10.0 in 1984, which was similar to the average in 1960. This implies that with improvement in economic and political conditions, the person per house situation is likely to improve further.

**Table 1.13: Population and Housing Delivery**

Year	Population	Per cent Increase	Stock of Houses	Per cent Increase	Person Per House
1960	6,726,815	-	636,198	-	10.6
1970	8,559,313	27.2	945,639	48.6	9.1
1984	12,205,574	42.6	1,204,395	27.4	10.0
2000	18,912,079	53.8	2,181,975	81.2	8.7

Source: Ghana (Census Office) 1960 Population Census of Ghana, Vol. I, Accra, 1963

Ghana (Census Office) 1970 Population Census of Ghana, Vol. I, Accra, 1973

Ghana (Statistical Service) 1984 Population Census of Ghana, Demographic and Economic characteristics Report, Vol. I, Accra, 1987.

Ghana Statistical Service, (2002) 2000 Population and Housing Census, Special Report on Urban Localities, March 2002, Table 14.

A more rapid increase in housing stock is observed after 1984 compared with population increases. As observed for the national level, there were marginal decreases in the population per house ratio in all regions (Table 1.14). Regional population per house in 1984 is higher in six regions, namely, Greater Accra, Ashanti, Brong Ahafo, Northern, Upper West

and Upper East than the national average, while the rest of the regions have averages lower than the national average. In 2000, five regions, Greater Accra, Ashanti, Northern, Upper West, and Upper East have higher average population per house than the national average. The average of Brong Ahafo dropped below the national average. This is because while the annual increases in housing stock between 1984 and 2000 averaged 4 per cent, the population of Brong Ahafo grew by 2.7 per cent per annum during the same period.

**Table 1.14: Population per House Ratio by Region: 1960, 1970, 1984 and 2000**

Region	Population				Number of houses				Population per houses			
	1960	1970	1984	2000	1960	1970	1984	2000	1960	1970	1984	2000
All Regions	6,726,815	8,559,313	12,296,081	18,912,079	636,189	945,639	1,204,395	2,181,975	10.6	9.0	10.2	8.7
Western	626,155	770,087	1,157,807	1,924,577	61,103	87,061	128,427	259,874	10.2	8.8	9.0	7.4
Central	751,392	890,135	1,142,335	1,593,823	79,196	111,753	129,154	223,239	9.5	8.0	8.8	7.1
Greater Accra	491,817	851,614	1,431,099	2,905,726	36,643	71,189	116,211	287,840	13.4	12.0	12.3	10.1
Volta	777,285	947,268	1,211,907	1,635,421	84,927	141,382	164,513	264,451	9.2	6.7	7.4	6.2
Eastern	1,094,196	1,261,661	1,680,890	2,106,696	108,136	159,246	182,690	283,461	10.1	7.9	9.2	7.4
Ashanti	1,109,133	1,481,698	2,090,100	3,612,950	94,459	136,428	173,969	328,751	11.7	10.9	12.1	11.0
Brong Ahafo	587,920	766,509	1,206,608	1,815,408	46,749	80,889	115,873	216,275	12.6	9.5	10.4	8.4
Northern	531,573	727,618	1,164,583	1,820,806	50,333	71,808	96,090	177,785	10.6	10.1	12.1	10.2
Upper East	468,638	542,858	772,744	920,089	58,455	64,801	70,967	88,401	8.5	8.4	10.9	10.4
Upper West	288,706	319,865	438,008	576,583	16,188	21,082	26,501	51,898	16.0	15.2	16.5	11.1

Sources: Ghana (Census Office) 1960 Population Census of Ghana, Vol. I, Accra, 1963

Ghana (Census Office) 1970 Population Census of Ghana, Vol. I, Accra, 1973

Ghana (Statistical Service) 1984 Population Census of Ghana, Demographic and Economic characteristics Report, Vol. I, Accra, 1987.

Ghana Statistical Service (2002) 2000 Population and Housing Census, Special Report on Urban Localities, March 2002, Table 14.

The population per house in all the regional capitals is higher compared with the national and regional averages (Tables 1.14 and 1.15). The implication is that many more people were migrating to the urban areas without the corresponding increases in housing stock. The trends in population per house for the regional capitals show a general decline over the period 1960-2000. This implies that the rate of growth of population is slower than the rate of increase in housing stock.

**Table 1.15: Population Per House in the Regional Capitals**

Regional Capital	1960	1970	1984	2000
Ghana	10.6	9.0	10.2	8.7
Sekondi/Takoradi	16.3	26.0	25.7	11.7
Cape Coast	18.3	17.0	15.7	12.0
Accra	15.5	15.8	15.2	12.6
Ho	11.9	12.9	13.2	9.0
Kofirdua	21.4	19.8	17.2	11.9
Kumasi	21.3	22.1	20.9	17.4
Sunyani	20.6	21.3	16.9	11.1
Tamale	15.3	12.1	14.0	12.7
Bolgatanga	18.7	17.6	17.2	12.2
Wa	14.8	12.1	12.9	12.0

Source: Ghana Statistical Service (1995) Analysis of demographic data. Preliminary analysis reports. Vol. I

Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

### **Rural and Urban Locality**

What can be considered an ideal population per house depends on the circumstance of the environment being considered and the level of development. Factors including space, sanitary facilities, number of rooms, material used for construction, may determine adequacy or otherwise. From the Census 2000 it is estimated that the average population per house is 7.4 in rural areas and 11.2 for urban areas. When Accra (with person per house ratio of 12.6) is excluded from the urban areas, the average population per house in the rest of the urban areas is 10.8. This, however, does not imply that housing conditions in rural areas are more

adequate than it is in urban areas. This trend in persons per house observed for urban and rural areas is likely to improve with time.

One possible explanation for the observation is migration from rural to urban areas. As people migrate from rural to urban areas, the population per house in the rural areas declined. Though available national data show that housing stock increased faster than population over the period 1960-2000, except in 1984, where population and housing stock are not uniformly distributed. It is noted that even within the various localities, the housing situation cannot be considered uniform.

### **Analysis of Household Formation, Household Size and House Occupancy**

Shelter continues to be one basic need of man. The quality of housing partly determines how the population lives and its state of well-being. Table 1.16 shows a comparison between the inter census increases in household formation and house stock. Over the 40-year (1960-2000) period, housing stock increased faster than household formation except in 1984 when the increase in household formation was slightly higher than that of housing stock.

**Table 1.16: Trend in Household Formation and Stock of Houses**

Year	Households	Per cent Increase	Stock of Houses	Per cent Increase	Households per House	Average Household Size
1960	1,525,060	-	636,198	-	2.4	4.3
1970	1,793,580	17.6	945,639	48.6	1.9	4.7
1984	2,480,360	38.3	1,204,395	27.4	2.1	5.0
2000	3,701,241	49.2	2,181,979	81.2	1.7	5.1

Source: 1. GSS (1995), *Analysis of Demographic Data, Preliminary Analysis Reports, Volume I*,  
2. GSS (2002), *2000 Population and Housing Census*

It is observed that there are increases in the number of households from 1960 to 2000. Similarly, the average household size has increased over time. On the other hand, households per house have shown a steady decline from 1960 to 2000 except in 1984 (Table 1.16). Available data show that both the number of households per house and number of persons per house are falling, resulting in household size increasing. Since adequacy of houses is not established in terms of space, utilities and facilities, larger household size will require bigger size houses. The smaller numbers of households per house imply improvement in terms of supply of houses or stagnation in the formation of households.

At the regional level, increases in housing stock were higher in all regions than household formation between 1960 and 1970. Between 1970 and 1984, six regions experienced faster rates of increase in the number of households than in housing stock. For Volta, the rate of increase in households was more than double that in housing stock. Greater Accra recorded both the highest rate of increase in households and housing stock. Between 1984 and 2000, the rate of increase in housing stock was much higher in all regions than that in households. In Central, the rate of increase in housing stock was 3.2 times the increase in that of households. Greater Accra also recorded the highest rate of increases in both housing stock and households, with the increase in housing stock being more than twice that in household numbers (Table 1.17). Other regions experienced significant increases in housing stock over households except the three northern regions. With the more rapid increases in housing stock than households in the regions, house per household will improve though not much can be said about the housing conditions.

**Table 1.17: Changes in Regional Household Formation and Stock of Houses**

Region	Household			Houses		
	1960-1970	1970-1984	1984-2000	1960-1970	1970-1984	1984-2000
Western	4.0 <sup>1</sup>	39.7	56.2	41.7 <sup>1</sup>	47.5	102.4
Central	-	46.0	22.4	-	15.6	72.9
Greater Accra	57.0	66.9	74.6	94.3	63.8	156.8
Volta	10.6	33.4	38.3	67.0	16.0	60.1
Eastern	(16.8)	10.0	32.2	67.3	14.7	55.2
Ashanti	19.0	31.1	55.7	44.4	27.3	89.3
Brong Ahafo	10.9	38.3	45.1	73.0	43.3	86.7
Northern	21.9 <sup>2</sup>	30.2	84.6	28.6 <sup>2</sup>	28.5	85.0
Upper East	-	20.7 <sup>3</sup>	41.1 <sup>3</sup>	-	13.5 <sup>3</sup>	43.9 <sup>3</sup>
Upper West	-	-	-	-	-	-

Source: *Derived from GSS (1995) and GSS (2000)*

Notes: - 1:- includes Central;

2:- includes Upper East and Upper West; and

3:- includes Upper West

If the observed trend continuous at the regional level, household per house will fall more rapidly in the Central, Greater Accra and Western than they would in the other regions. In fact, in the three northern regions, marginal improvement can only be expected if the housing stock and household trends as observed between 1984 and 2000 remain into the future.

Further analysis shows a marked difference in the distribution of household sizes between the southern and northern parts of the country (Table 1.17). Ashanti followed by Greater Accra contain the largest proportion of households in Ghana. Greater Accra however has the highest proportion of households with between one and four persons. For households with between 5 and 10 persons per household, the highest proportion of households is in Ashanti. Generally, regions in the northern part of the country have larger households than regions in the southern part of the country while regions in the southern part of the country have much smaller households than regions in the northern part of the country.

This could be explained in terms of the differences in urbanization, family living, socialisation and cultural practices. The implication of regional household analysis is that though absolute houses needed are greatest in Ashanti followed by Greater Accra, more of the larger housing units are needed in the northern part of the country than in the south.

Table 1.18 shows that households per house have generally declined in all regions between 1960 and 1970, increased slightly between 1970 and 1984, except in Western, Brong Ahafo and the three northern regions, and again declined between 1984 and 2000. In 2000 Greater Accra and Ashanti had higher average households per house than the national average, implying some degree of over crowding in these regions.

The emerging trend (between 1960 and 2000) can be partly explained by the economic and political conditions in Ghana at the various times. In the late 1970s and early 1980s, the economy of Ghana was in crisis, characterized by high cost of goods and services, weak economy, high inflation, overvaluation of the currency, low export earning, low productivity, low productive resource capacity utilization, poor salaries/incomes, and high unemployment and underemployment. This resulted in the decline in the construction of houses and almost all other activities.

**Table 1.18: Households per House by Region, 1960-2000**

Region	Households Per House			
	1960	1970	1984	2000
National	2.4	1.9	2.1	1.7
Western	2.5 <sup>1</sup>	2.2	2.0	1.6
Central		1.8	2.3	1.6
Greater Accra	3.7	3.0	3.1	2.2
Volta	2.0	1.3	1.5	1.3
Eastern	2.2	1.6	1.9	1.6
Ashanti	3.0	2.4	2.5	2.1
Brong Ahafo	3.3	2.1	2.0	1.6
Northern	1.5 <sup>2</sup>	1.4	1.4	1.4
Upper East		1.5 <sup>3</sup>	1.6 <sup>3</sup>	1.6
Upper West				1.6

Source: GSS (1995), *Analysis of Demographic Data, preliminary Analysis Reports Vol. 1*  
GSS (2002), *2000 Population & Housing Census, Summary Report of Final Results, March 2002*,

Notes: 1. includes Central

2. includes Upper East and Upper West

3. includes Upper East

With the implementation of the Economic Recovery Programme/Structural Adjustment Programme and other reform measures coupled with the political pluralism that started in 1992, economic conditions improved, paving the way for both economic and political refugees to return and invest in housing projects. A number of private real estate companies have in the last 10 years started business, building houses for the general public, particularly in urban areas and especially targeting Ghanaians living outside the country. The Home Finance Company also started operation some 10 years ago and has provided limited financing for high-income salary workers who wish to own houses. Following the unfriendly treatment received from landlords in the cities and other urban areas, most private individuals were encouraged and continue to be motivated to invest in housing. It is observed that quality and standards are not always important in the type of houses and this has contributed to development of slum areas. These events may have led to the households per house ratio declining in 2000.

### **Rural and Urban Localities**

In 2000 it was estimated that 52.8 per cent of the households lived in rural areas and 47.2 per cent lived in urban areas. Of the urban dwellers, 9.9 per cent lived in Accra the capital alone with 37.3 per cent living in other urban areas. Similarly, it has been estimated that 34 per cent of house stock was in the urban areas and 66 per cent in the rural areas; Accra had 6 per cent of the house stock and the rest of the urban areas had 28 per cent.

Previous studies have observed serious housing problems facing urban dwellers (and Accra especially). In fact, an individual in Accra is twice as worse off as one in the rural areas in terms of housing. Domfeh (1996) has observed that the shortage of houses, especially in the urban areas, has given rise to very high occupancy levels, exorbitant rents, unstable tenancies and poor living conditions. These factors, combined with issues of land litigation, high cost of urban residential land, multiple sale of urban land, high cost of building materials, shortage of infrastructure and services, underline the seriousness of the problem facing housing delivery especially in metropolitan areas.

A number of studies have revealed that the shortfall in housing investment due to rising costs, irregular supply of inputs and difficulties in the design and implementation of settlement and housing schemes have resulted in overcrowding and congestion in the available housing stock (Addo, 1973; Banahene, 1979). It was estimated from the 1960 and 1970 censuses that the average number of persons in a house in Accra in 1960 was 13.4; by 1970 the average had risen to 15.1, with a person per room ratio of 3 persons per room. In some suburbs of Accra namely Nima/Maamobi and James Town, the average number of persons per room was even higher; it was 4 compared with the UN occupancy rates of 2.5 persons per room. Similar congestions were reported in other urban centres including Kumasi, where the Ministry of Works and Housing (1977) reported 3.4 persons per room for the suburb of Anloga and 4.5 persons per room for Moshi Zongo.

#### **1.4 House Construction Requirements, Materials, Ownership and Tenureship Arrangements.**

##### **House Construction Requirements**

Under the terms of the Local Government Act 462 (1993) and the National Building Regulations, the issuance of building permits is the sole responsibility of the District Planning Authority. In Accra, that responsibility is carried out by the Works Department of the Accra Metropolitan Assembly (AMA).

Steps for acquiring a building permit include the following:

- At the time he/she applies for a development permit, the applicant (through his agents, the architect or building technician) also purchases and completes a building permit application and submits to the Town and Country Planning Department;
- Town and Country Planning presents two copies of the corresponding development permit to the District Assembly Works Department, along with the building permit application;
- Technical Officer minutes the application to the Engineer;
- Engineer checks structural arrangements and drawings for conformity with requirements and determines whether a site visit is necessary (more likely when neither a structural report nor a geodetic report is attached);
- After it has been determined that the application is conforming and no site visit is needed (or, if needed, is carried out), the Engineer minutes the application to the Quantity Surveyor;
- The Quantity Surveyor calculates the building permit fee, prepares the bill and sends it to the Technical Officer;
- Concurrently with the work of the Quantity Surveyor, the Engineer copies the application to the Project Manager, who formally recommends that the Director of Works sign the building permit;
- Director of Works signs the building permit and returns it to the Technical Officer; and

- Technical Officer records the permit, contacts the applicant to pay the bill and pick up the permit, and tenders the permit to the applicant.

In Ghanaian practice, in respect of both development permits and building permits, if an applicant is not informed of the grant or refusal of his or her application within three months of its receipt by Town and Country Planning or the AMA's Works Department, as the case may be, the application is deemed to have been approved and the applicant may start work; this rule of tacit consent only applies if neither Town and Country Planning nor the Works Department, as the case may be, raises queries about the application (for example, seeking additional information) in the interim.

It is noted that at eleven (11) subsequent stages of the building project, the applicant must contact the Works Department to request an inspection before proceeding further. No construction work may be covered until it has been inspected and approved by the District Planning Authority. And if the procedures in the regulations are not properly followed, the District Planning Authority may order the owner to pull down as much of the building as is deemed necessary in order to determine conformity to regulations and, in the event the owner refuses, obtain a court order for the purpose. A non-conforming building may be demolished (National Building Regulations, (LI.1630) 1996, Article 10).

Investors in housing and agency officials agree that it commonly takes too long to issue development permit and building permits. While the maximum period in law for processing a development permit is 90 days, according to the Town and Country Planning Department, the average processing time is six months. The Town and Country Planning avers, however, that if an application for commercial development is accompanied at the outset by such relevant documents as an environmental permit, fire report, hydro report, soil test report and traffic impact report, there is no reason why approval cannot be granted within three months. As an official noted, applicants commonly hope that Town and Country Planning would not respond in a timely fashion, since in the absence of a timely response, as a matter of law, the application is deemed to have received tacit approval. This has contributed to the chaotic development of the Accra Metropolitan Area.

Staff of the Town and Country Planning Department, in particular, report that human and material resources are inadequate to meet the demand for their services. Because land use maps, supposed to be produced by the Survey Department are out dated, Town and Country Planning staff have to make more frequent site visits in order to determine how a given area has developed, in order to analyze the appropriateness of a proposed development. This requirement stretches the already limited staff. Shortage of vehicles to get to the field only compounds delays.

In respect of building permits issued by the Works Department of the Accra Metropolitan Assembly, the impressions of the public and the institution tend to diverge. While the Works Department reports an average processing time for building permits of 30 days, developers in Accra reported that they often wait a long time (up to 5 years) for building permits and inspections. Indeed, all persons interviewed for this study agreed that it is likely that less than fifty per cent of the building projects in Accra have building permits. These impressions are not entirely inconsistent when one considers that, as noted earlier, a building under construction must be inspected at eleven different points in the process. So, while the initial

issuance of building permits may be relatively quick, time may be lost waiting for the subsequent mandatory inspections. It is no surprise then that owners of building projects reportedly often bribe inspectors not to inspect buildings or build without reference to the authorities concerned resulting in slum creation.

These problems suggest a number of remedies. First, Town and Country Planning need more resources to cope with the work available. In respect of human resources recruitment, if because of the general ban on hiring into the Civil Service, Town and Country Planning cannot recruit staff, it may be able to outsource some of the work to skilled temporary workers. With respect of material resources, especially until updated land use maps are available, the provision of a few more vehicles, or of a budget for car hire, could help make Town and Country Planning more productive. More people (whether permanent or temporary) and more transportation would also be useful for the Works Department.

Even with more resources, there will be limits to the improvements Town and Country Planning and the Works Department can make without improved work practices. Foremost among these is the merger of the development permit and the building permit into a single document, issued at the end of a single, integrated process. With two institutions as closely related in purpose as these, both applying the National Building Regulations, there is no apparent reason for the processes of approving the development, as a whole, and of the details of the buildings that compose it, not to run concurrently. At present representatives of the Works Department already sit on the interagency subcommittee that considers development applications; therefore it can carry out its role in respect of buildings as well as consider other aspects of development.

To the extent that Town and Country Planning at the municipal level seems to be moving from the Ministry of Science and the Environment to the Ministry of Local Government and Rural Development, which oversees the municipal governments, it seems both plausible and desirable to physically co-locate the local office of Town and Country Planning with that of the Works Departments of the relevant District Assemblies. It is also important to undertake a general review of the work practices of Town and Country Planning, which in itself is a hindrance to housing construction. The Town & Country Planning Ordinance of 1945, which determines the agency's forms and procedures, is outdated.

It also seems desirable that the number of points in the construction process at which inspection is required be cut down drastically. As matters now stand, the inadequate staffing and detailed regulations combine to breed corruption and compromise public safety. It is envisaged that fewer inspections, timely performed, would result in fewer delays for developers, less corruption and a net increase in public safety. This would, of course, require some amendments to the National Building Regulations, but this would be required anyway as part of a larger effort to merge at least some of the licensing activities of Town and Country Planning and the Works Department.

If rational, planned development is to regain some currency, greater effort will have to be made to enforce land use planning policy. This will require both law enforcement action, in appropriate contexts, and a significant measure of public education. Swift action must be taken when, for example, people encroach on road provisions. This is because the harm to the public good and to the value of adjacent properties is too great to tolerate such conduct.

Enforcement, however, should be preceded by education, so that the public understands why police action is sometimes necessary. Obviously, this will require a big draught of political courage, both for the agencies involved and for political authorities in the District Assemblies.

### **House Construction Materials**

The type of building material used by individuals and institutions depend on cost and availability of building material and people's ability to pay for these materials. The two main materials for the construction of the outer walls of a house in Ghana are mud brick/earth and cement/concrete, which together account for 89.1 per cent of wall materials of dwelling units (GSS, 2000). The earth/mud brick constitutes 50.0 per cent while concrete is used in 39.1 per cent of the cases. The use of timber in building main walls of houses account for 4.0 per cent and is probably because of cost, fire hazard and the follow up on maintenance costs. The floor of houses in Ghana as shown in Table 1.19 are mainly made of cement (72 per cent) and mud/earth (24 per cent). The use of terrazzo for floors accounts for 1.4 per cent of houses mostly in the urban areas. Three main materials are used in Ghana for roofing houses: corrugated metal sheets (60.3 per cent), thatch/palm leaf (18.6 per cent), and slate/asbestos (12.9 per cent).

In terms of the regional picture regarding material used for wall construction, significant variations are observed. In Greater Accra, about 74 per cent of outer walls are constructed with cement block/concrete and only 9 per cent made of mud/mud brick/earth. Greater Accra is the only region where more than 50 per cent of outer walls are built with cement probably because it is mostly urban (Table 1.19). In the three northern regions, less than 15 per cent of all outer walls are of cement. The three northern regions used mud/earth to build more than 82 per cent of all outer walls. Only in Greater Accra and Ashanti are less than 40 per cent of outer walls made of mud/earth. The use of wood is most prominent in Greater Accra (10 per cent). Cement/concrete is relatively more costly than earth/mud bricks for construction. There is also a significant difference between cement built houses and earth/mud houses in terms of quality and comfort. Cement houses are more comfortable, more durable and require minimal repair and maintenance over an extended period. It is the aspiration of every household to own a cement built house. As such whenever a household's financial position improves, they move from owning a mud house to a cement house; the reverse is hardly observed.

In Greater Accra, the two main materials used for roofing are corrugated metal sheets (40.6 per cent) and slate/asbestos sheets (48.3 per cent). Another material gradually gaining popularity is the baked earth tiles. In the northern part of the country, thatch/palm leaf and mud are more used for roofing than in the south. Socio-economic and cultural conditions dictate the use of these materials. Southern Ghana households depend more on corrugated metal sheets for roofing (Table 1.19). A third material for roofing, slate/asbestos, is gaining prominence in Western, Central, Greater Accra and Volta. It must be recognized that wood is usually used to support all the major types of materials for roofing houses. Recently, some buildings in the major cities are using metal traces instead of wood for supporting roofing materials.

Among the regions, there are more cement concrete floors in Western, Central, Greater Accra, Volta, Eastern, Ashanti, Brong Ahafo and Northern than earth and mud floor. There

are more earth/mud floor houses in Upper West and Upper East than cement concrete floor houses. Terrazzo and wood floor houses, which are more comfortable but more expensive, are gaining prominence in Greater Accra.

Table 1.19: Main Construction Materials Used for Walls, Roof and Floor by Region (2000).

Housing Condition	Ghana	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
<b>Floor: Main Materials.</b>											
Earth or Mud brick	23.8	22.1	15.5	4.7	27.6	23.9	20.5	34.2	46.4	56.7	57.7
Cement or Concrete	72	73.8	82.4	84.8	71.2	73.8	74.7	64.1	51.9	39.1	40.3
Stone	0.6	0.4	0.4	0.7	0.3	0.6	0.9	0.5	0.6	1.1	0.7
Burnt bricks	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.1	0.2	0.2
Wood	1	0.8	0.7	2.6	0.2	0.6	0.9	0.6	0.1	0.1	0.2
Vinyl tiles	0.4	0.3	0.3	1.3	0.1	0.3	0.3	0.1	0.2	0.2	0.1
Ceramic/marble tiles	0.3	0.1	0.1	0.9	0.1	0.1	0.3	0.1	0.1	0.2	0.1
Terrazzo	1.4	0.6	0.4	4.6	0.2	0.4	2.1	0.2	0.2	0.2	0.2
Other	0.5	1.8	0.1	0.3	0.1	0.2	0.1	0.1	0.5	2.2	0.5
All Floor Materials	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Walls: Main Materials.</b>											
Mud/Mud brick/Earth	50.0	56.8	56.1	9.1	60.1	56.2	39.2	63.7	82.6	87.7	83.3
Wood	4.0	4.8	3.0	9.8	1.3	2.9	3.4	3.1	1.0	1.2	0.8
Metal Sheet/Slate	0.5	0.3	0.3	1.5	0.4	0.4	0.5	0.3	0.2	0.2	0.2
Stone	0.2	0.2	0.1	0.4	0.2	0.2	0.3	0.2	0.2	0.2	0.2
Burnt Bricks	1.5	1.6	1.0	1.9	1.1	1.3	2.6	1.2	0.4	1.0	1.2
Cement block/Concrete	39.1	29.6	35.4	74.2	32.9	33.5	48.9	25.6	10.8	8.8	13.0
Sandcrete/landcrete	2.8	2.2	3.4	0.9	1.5	4.7	3.4	5.2	2.8	0.4	0.5
Packing cases/Bamboo	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Palm leaf/Thatch	0.8	2.1	0.3	0.3	2.0	0.4	0.3	0.5	1.6	0.3	0.5
Others	0.8	2.1	0.2	1.5	0.2	0.3	1.2	0.2	0.2	0.2	0.2
All Outer Wall Materials	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Roof: Main Material</b>											
Thatch/palm leaf	18.6	22.4	10.7	3.7	31.0	12.6	7.9	25.3	60.3	43.0	16.1
Bamboo	2.1	8.1	3.4	0.2	0.4	1.4	2.4	1.7	0.4	0.5	0.4
Mud/Mud Bricks	1.9	0.2	0.3	0.3	0.2	0.2	0.3	0.3	4.6	17.9	30.9
Wood	0.9	0.8	0.3	0.7	0.2	0.3	1.4	0.9	0.7	2.7	3.6
Corrugated Metal Sheets	60.3	50.6	60.9	40.6	59.8	82.1	82.4	70.1	31.7	31.5	47.0
Slate/Asbestos	12.9	11.6	21.1	48.3	7.3	2.1	1.9	0.7	0.8	0.8	0.4
Cement/Concrete	2.4	5.4	2.4	4.4	0.7	0.8	3.1	0.7	0.3	0.4	0.4
Roofing Tiles	0.5	0.3	0.2	1.5	0.2	0.2	0.3	0.1	0.5	0.3	0.3
Others	0.5	0.6	0.6	0.4	0.2	0.2	0.3	0.0	0.7	2.8	1.0
All Roofing Materials	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

### **Rural and Urban Localities**

Striking differences exist between the materials used for housing construction (wall, floor and roof) in the urban and rural areas in Ghana (Table 1.20). The main materials used for wall construction are mud, cement, and sandcrete. The 50 per cent of households that use mud for walls consist of 40.1 per cent in rural areas and only 9.9 per cent in urban areas. On the other hand, the 39.1 per cent that use cement is made up of 30.2 per cent urban and only 8.9 per cent rural. The third material used is sandcrete. Only about 2.8 per cent of households use this material nationwide and is evenly divided between urban and rural areas.

Similarly, the main materials for floor construction are cement and mud. It is of interest to note that though 50 per cent of the houses are made of mud walls, only 23.8 per cent have mud floor. The bulk of the mud floor houses (20.3 per cent) are found in the rural areas (Table 1.20). The 72.0 per cent houses with cement floor consist of 40.0 per cent in urban and 31.6 per cent in rural areas. The implication is that some houses with mud walls have

cement floors. People find cement a more durable and safe material for constructing floor. The limited use of cement for walls especially in rural areas may be due to the higher cost involved, though durable.

**Table 1.20: Main Construction Materials Used for Wall, Floor, and Roof by Locality**

Materials	All Localities	Urban	Rural
<b>Wall</b>			
All Wall Materials	100.0	100.0	100.0
Mud/Mud brick/Earth	50.0	21.5	74.5
Wood	4.0	5.4	2.7
Metal sheet/Slate	0.5	0.9	0.3
Stone	0.2	0.3	0.2
Burnt Bricks	1.5	2.0	1.1
Cement blocks/Concrete	39.1	65.3	16.6
Sandcrete/Landcrete	2.8	2.9	2.6
Packing cases/Bamboo	0.2	0.2	0.2
Palm leaf/Thatch	0.8	0.4	1.1
Other	0.8	1.0	0.7
<b>Floor</b>			
All Floor Materials	100.0	100.0	100.0
Earth/Mud brick	23.8	7.7	38.2
Cement/Concrete	72.0	85.6	59.8
Stone	0.6	0.7	0.5
Burnt Bricks	0.1	0.1	0.1
Wood	1.0	1.6	0.4
Vinyl Tiles	0.4	0.7	0.1
Ceramic Tiles	0.3	0.5	0.1
Terrazo	1.4	2.7	0.2
Other	0.5	0.3	0.6
<b>Roof</b>			
All Roofing Materials	100	100.0	100.0
Thatch/Palm Leaf	18.6	3.8	31.3
Bamboo	2.1	0.6	3.4
Mud/Mud Bricks	1.9	0.4	3.2
Wood	0.9	0.8	0.9
Corrugated Metal	60.3	65.2	56.0
Slate/Asbestos	12.9	23.4	3.9
Cement/Concrete	2.4	4.6	0.5
Roofing Tiles	0.5	0.7	0.3
Other	0.5	0.5	0.5

Three main materials, namely thatch, corrugated metal sheet, and asbestos sheets, are used for roofing in Ghana. Other minor materials are also used (Table 1.20). The per centage variations in the use of these materials in the rural and urban areas are similar to those observed for the floor material used. In general, 18.6 per cent houses are roofed with thatch, with 16.8 per cent in rural areas. Houses roofed with corrugated sheets are found in equal proportion in rural and urban areas. On the other hand, the use of asbestos for roofing is mainly in urban areas. The use of mud/mud brick, bamboo and wood for roofing is mainly in rural areas while the use of cement and roofing tiles is mainly in urban areas.

### **House Ownership Structure and Household Occupancy**

Nearly 60 per cent of all housing unit in Ghana are owned and occupied by their owners, 19.3 per cent owned by other private individuals, 12.5 per cent owned by relatives who are not household members and the rest (10.7 per cent) owned by others including government agencies and private employers (Table 1.21). Whereas less than 60 per cent of owner-occupied housing units are in the south of Ghana which is more urbanized, over 80 per cent owner-occupied housing units are in the northern part of Ghana, which is more rural (Table 1.21). Thus, the more urbanised a country becomes the more rental housing units increase.

Table 1.21: House Ownership Type by Region

Ownership Type	All Region	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
All Ownership Types	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Owner-occupied	57.4	57.2	58.3	40.5	64.1	58.2	47.6	61.7	85.4	86.7	80.7
Being purchased	1.1	1.2	0.7	2.3	0.9	0.6	1.3	0.8	0.5	0.4	0.5
Relative Outside Household	12.5	10.5	20.2	9.1	12.4	12.8	16.6	17.0	4.5	1.2	2.3
Other private individual	19.3	18.5	16.3	31.5	13.0	19.1	24.7	15.8	6.0	4.5	6.9
Private Employer	4.1	5.6	1.8	5.2	4.2	5.2	5.3	2.1	0.7	3.0	3.9
Other Private Agency	0.4	0.5	0.4	0.6	0.2	0.5	0.4	0.4	0.2	0.2	0.2
Public or Gov't Owner	2.0	2.6	1.6	3.4	1.2	1.5	1.6	1.6	2.2	1.6	1.5
Other	3.1	3.9	0.7	7.4	4.0	2.1	2.5	0.7	0.6	2.4	4.1

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

Table 1.21 shows that the great majority of houses are owned by private individuals in each region. Apart from Greater Accra and Ashanti all other regions have over 57 per cent of all houses occupied by their owners. It is generally observed that houses occupied by relatives who are not household members of the owners are higher in the south of Ghana compared with the north. Similarly, the percentages of houses rented from private individuals in the south of Ghana are higher than the percentages in the north. It is worth noting that the highest proportions of private rented houses are in Greater Accra (31.5 per cent) and Ashanti (24.7 per cent) compared with the other regions in the country. In the three northern regions, over 80 per cent of the houses are owner-occupied.

Public or government owned house account for not more than 3.5 per cent of houses found in all the regions. In fact it is only in Greater Accra (3.4 per cent), Western (2.6 per cent) and Northern (2.2 per cent) that government buildings account for more than 2 per cent of all houses. In all cases, houses owned by private agencies including real estate developers account for less than 1 per cent of all houses in each region.

### **Rural and Urban**

Given the population distribution between the urban and rural areas, it is expected that houses will be shared in a similar ratio. It turns out that 52.8 per cent of the houses are in the rural areas and 47.2 per cent in the urban areas.

The types of housing units observed in Census 2000 for the various localities suggest that more housing units are being built in the urban areas. In Accra the major types of housing units are owner-occupied (38.2 per cent), owned by other private individuals (33.9 per cent) and owned by relatives who are not household members (10.2 per cent) as shown in Table 1.22. The highest proportion of government houses (3.7 per cent) is in Accra compared with 3.3 per cent in other urban areas and only 0.8 per cent in rural areas. The highest proportion of owner-occupied houses is in rural areas (71.7 per cent), followed by the other urban areas (42.3 per cent) and Accra (38.2 per cent). On the other hand, the proportion of houses being

purchased, belonging to private other individuals, private employers and others within each locality are higher for Accra than for other urban areas and rural areas. Given the higher person per house ratio estimated for the urban areas and Accra, there is increasing need of housing units to achieve the rural area average ratio of persons per house of 7.4.

**Table 1.22: House Ownership Type by Locality of Residence**

Ownership	Accra	Other			All Localities
		Urban	Urban	Rural	
Total	100.0	100.0	100.0	100.0	100.0
Owned by household	38.2	42.3	41.4	71.7	57.4
Being Purchased	2.2	1.5	1.6	0.7	1.1
Relative not member	10.2	14.2	13.3	11.7	12.5
Private Individual	33.9	29.0	30.1	9.7	19.3
Private Employer	5.4	5.0	5.1	3.3	4.1
Private Agency	0.5	0.6	0.6	0.2	0.4
Public/Government	3.7	3.3	3.3	0.8	2.0
Other	5.9	4.2	4.6	1.9	3.1

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

### **Tenureship and Holding Arrangements**

The house occupancy status of households as observed in the 2000 Census is shown in Table 1.23. Nearly 60 per cent of the households live in their own houses on average. A further 20 per cent of the houses at the national level are occupied rent-free, 22.1 per cent are rented houses, while 1 per cent is occupied by caretakers.

Similar results are obtained for all the regions. The high owner-occupier level is a result of the desire by families to own their houses to satisfy prevailing socio-cultural value systems. In especially the urban areas where house owners subject tenants to all manner of ill treatment, this has pushed households who can afford to start their own housing projects to do so irrespective of quality, standard or utilities.

The proportion of households renting their living places is higher in the southern segment of the country than in the north. In Greater Accra only about 40 per cent of owners live in the own houses. Greater Accra also has the highest proportion (38 per cent) of rental houses followed by Ashanti (26.2 per cent).

**Table 1.23: Tenureship and Holding Arrangements by Region**

Tenure	Ghana	Western	Central	Greater				Brong		Northern	Upper	
				Accra	Volta	Eastern	Ashanti	Ahafo			East	West
Owning	57.4	57.2	58.3	40.5	64.1	58.2	47.6	61.7		85.4	86.7	80.7
Renting	22.1	22.0	17.2	37.5	16.1	20.9	26.2	15.9		8.7	9.5	13.3
Rent-free	19.5	19.8	23.5	20.5	18.7	20.2	25.1	21.6		5.4	3.4	5.4
Perching	1.0	1.0	0.9	1.5	1.1	0.7	1.1	0.9		0.5	0.4	0.6
Total	100	100.0	100.0	100.0	100.0	100.0	100.0	100.0		100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

### **Rural and Urban Localities**

Within each locality, significant differences are observed in the various tenureship types. In Accra 38.2 per cent of households owned their houses, 40.7 per cent were renting their houses, and 21.1 per cent were living in the houses without paying any rent. Within the other

urban areas, a higher proportion (42.3 per cent) owned the houses, 34.5 per cent were renting and 23.2 per cent were not paying for their houses. In contrast, about 72 per cent of households in rural areas owned their houses, 9.9 per cent were renting and 18.4 per cent were not paying rent. It is estimated that the population of the urban areas will be twice that of the rural areas in 2020. As such increased rental housing unit are expected relative to the other types.

**Table 1.24: Housing Unit by Tenureship Type and Locality of Residence**

Tenure Arrangement	Accra	Other Urban	All Urban	Rural	Ghana
All Types	100.0	100.0	100.0	100.0	100.0
Owning	38.2	42.3	41.4	71.7	57.4
Renting	40.7	34.5	35.8	9.9	22.1
Rent-free	19.9	22.0	21.6	17.6	19.5
Perching	1.2	1.2	1.2	0.8	1.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

## **1.5 Types of Dwelling, Access to Utilities and Household Facilities**

### **Types of Dwelling**

The three major dwelling types in Ghana as recorded by the 2000 Census are room(s) in compound houses (44.5 per cent), separated houses (25.3 per cent) and semi-detached houses (15.3 per cent). Other dwelling types are flat/apartment (4.4 per cent) and several huts/buildings (4.4 per cent) as shown in Tables 1.25). The high proportion of compound houses is partly due to the communal living arrangement and the differential cost of the different housing types.

**Table 1.25: Type of Dwelling Unit by Region, 2000**

Type of Dwelling	Ghana	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
Separate house	25.3	25.5	26.2	18.5	46.4	28.4	21.7	25.8	17.1	18.7	23.4
Semi-detached house	15.3	16.0	17.5	16.2	16.3	16.8	11.0	17.8	15.4	12.4	12.1
Flat/Apartment	4.4	4.7	2.8	8.1	1.3	2.8	8.0	1.8	1.1	0.9	2.7
Rooms (compound)	44.5	41.8	46.1	42.1	26.1	43.1	50.5	46.7	53.8	55.9	50.5
Several Huts/Buildings	4.4	4.6	3.5	2.7	3.5	4.3	4.0	4.4	9.2	8.8	5.1
Hotel/Hostel	0.4	0.6	0.3	0.4	0.2	0.3	0.7	0.4	0.3	0.5	0.3
Tent	0.1	0.2	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1
Kiosk/Container	1.4	1.0	1.2	3.9	0.5	0.9	1.3	0.9	0.3	0.2	0.4
Attached to Shop	0.4	0.5	0.3	0.8	0.3	0.3	0.4	0.3	0.2	0.2	0.3
Others	3.8	5.2	2.0	7.1	5.2	3.0	2.2	1.9	2.5	2.5	5.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Similar to the dwelling types at the national level, room(s) in compound houses constitute the largest proportion of dwelling types in all regions except Volta, where separate house is predominant. For the other regions, the proportion ranges from 41.8 per cent in Western to 55.9 per cent in Upper East. The next major type of dwelling places in the regions is separate house. Another observation relates to the high proportion of households in Greater Accra living in flats/apartments and other types of dwelling.

The high proportion of people in makeshift dwellings in Greater Accra is a reflection of the housing needs in the capital and other major towns. It is also observed that 3.9 per cent of households in Greater Accra live in kiosks/containers, which is three times what is observed in Ashanti (1.3 per cent). Similarly, while 0.8 per cent of households live in accommodations attached to shops in the Greater Accra, only half that live in similar accommodation in Ashanti. The relatively high proportion of households living in less than desirable accommodation in Greater Accra is evidence that the housing problem is more acute in Greater Accra than elsewhere.

### **Rural and Urban Localities**

There are more dwelling places in the rural areas (53.8 per cent) than in the urban areas (46.2 per cent). This divide follows the household distribution between the rural and urban areas. The three most popular dwelling types, compound houses, separate houses and semi-detached houses, are found both in urban and rural areas.

Similar to the national trend, the most predominant dwelling type in urban and rural areas is room(s) in compound houses (Table 1.26), though the proportion is higher in urban (51.6 per cent) than rural areas (38.4 per cent). On the other hand, while the proportion of separate houses nationally is 25.3 per cent, it is 33.2 per cent in rural areas and only 16 per cent in urban areas. In the case of the semi-detached houses, approximately the same proportion (about 15 per cent) is in each of the localities. The proportion of flats in the urban areas (7.2 per cent) is about three and half times that found in the rural areas (2 per cent).

**Table 1.26: Types of Dwelling Unit by Locality of Residence, 2000**

Dwelling Types	Accra	Other Urban	All Urban	Rural	Ghana
Separate House	12.1	17.0	16.0	33.2	25.3
Semi-detached Hs	14.8	14.9	14.9	15.7	15.3
Flat/Apartment	8.7	6.8	7.2	2.0	4.4
Rooms (Compound)	50.1	52.0	51.6	38.4	44.5
Several Huts/Bui	2.5	2.5	2.5	6.0	4.4
Hotel/Hostel	0.5	0.5	0.5	0.4	0.4
Tents	0.2	0.1	0.1	0.1	0.1
Kiosk/Container	4.0	1.9	2.4	0.5	1.4
Attached to shop	0.9	0.5	0.6	0.2	0.4
Other	6.1	3.8	4.3	3.3	3.8
Total	100	100	100	100	100

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

### **Rooms Occupied**

The number of rooms occupied by households range from one to more than nine rooms. The 2000 Census data show that 38.0 per cent of the households occupied one room, 23.8 per cent occupied two rooms, and 12.3 per cent occupied three rooms. Thus, those occupying three rooms or fewer are almost 75 per cent of the households (Table 1.27). The proportion of households declines with increases in the number of rooms available to the households.

Table 1.27 shows marked differences between the three northern regions and other regions in the proportion of households occupying specific numbers of rooms. The proportion of households occupying various numbers of rooms is more evenly distributed in the three northern regions than elsewhere. Higher proportions of households live in one or two rooms in the southern regions than in the northern regions. On the other hand, the three northern regions have higher proportions of households living in bigger houses (three or more rooms) than is found in the south. In fact the proportion of households occupying one, two or three rooms are higher than 80 per cent for Western, Central, Greater Accra, and Ashanti; more than 72 per cent for Volta, Eastern, and Brong Ahafo and less than 45 per cent for Northern, Upper West and Upper East. The results show that there are higher proportions of larger room houses in the three northern regions than the rest of the country.

**Table 1.27: Housing Unit by Number of Rooms Occupied by Region**

Rooms Occupied	Ghana	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
One room	38	44.8	49.4	42.2	22.3	36.1	52.7	36.9	11.2	9.4	9.9
Two rooms	23.8	26.2	23.4	29.5	31.8	27.2	18.7	21.6	13.7	15.0	15.5
Three rooms	12.3	11.8	10.1	8.8	18.1	13.4	9.6	14.0	14.6	18.7	17.4
Four rooms	8.1	6.3	5.6	6.8	10.3	8.1	6.0	8.5	12.7	16.0	15.1
Five rooms	5.6	3.6	3.4	5.1	6.4	5.3	4.1	5.5	11.1	11.3	12.7
Six room	3.7	2.0	2.5	2.8	4.0	3.3	2.7	3.8	9.0	8.5	9.7
Seven rooms	2.4	1.1	1.6	1.6	2.3	2.0	1.7	2.6	7.0	5.7	5.9
Eight rooms	1.8	0.8	1.2	1.1	1.7	1.5	1.3	2.0	5.4	4.2	4.4
Nine rooms or more	4.4	3.2	2.8	2.1	3.2	3.2	3.1	5.0	15.3	11.1	9.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

Within the various localities, the occupied rooms of the households are skewed towards the one or two rooms. The skewness is sharper in urban areas than the rural areas. There are higher proportions of larger room sizes (3 to 9 or more) in rural areas than in urban areas.

This may be explained by the more communal living practices among the same ethnic groups in almost all the rural areas.

**Table 1.28: Housing Units by Number of Rooms Occupied and Locality of Residence**

Number of Rooms	Accra	Other Urban	All Urban	Rural	Ghana
One room	45.2	48.0	47.5	29.5	38.0
Two rooms	33.2	21.5	24.0	23.7	23.8
Three rooms	6.7	9.4	8.9	15.4	12.3
Four rooms	5.5	6.2	6.0	9.9	8.1
Five rooms	4.0	4.4	4.3	6.7	5.6
Six rooms	1.9	2.9	2.7	4.6	3.7
Seven rooms	1.1	1.9	1.7	3.0	2.4
Eight rooms	0.8	1.4	1.3	2.2	1.8
Nine or more rooms	1.6	4.2	3.6	5.0	4.4
Total	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

### **Sleeping Rooms**

The number of sleeping rooms available for households range from one to more than nine. However, the proportion of households sleeping in any given number of rooms is usually higher than the proportion reporting the number of rooms available to such households. This is because every dwelling unit is expected to have one sleeping room at least. The rest of the rooms may be serving as kitchen, living room or store. Table 1.29 shows that 49.9 per cent of households sleep in one room, 21.4 per cent in two rooms, 11.2 per cent in three rooms and the rest (17.5 per cent) in four rooms or more.

In all regions except the three northern regions, the pattern of sleeping rooms is similar to that of the country. The proportion of sleeping rooms is inversely related to the number of sleeping rooms available to households. In the three northern regions (Northern, Upper East and Upper West) there are higher proportions of dwelling units of two or more sleeping rooms (Table 1.29). This confirms an earlier observation about the communal living culture of the people in the north. Thus, any attempt to increase the supply of housing units should take this cultural factor into consideration.

**Table 1.29: Housing Unit by Number of Sleeping Rooms by Region**

Sleeping Rooms	Ghana	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper West	Upper East
One room	49.9	56.9	59.9	62.9	39.1	48.6	60.8	44.6	15.7	14.8	16.8
Two rooms	21.4	23.1	20.5	18.1	29.0	23.8	17.7	22.5	20.5	24.0	24.5
Three rooms	11.2	9.5	8.0	7.7	14.9	11.5	8.6	12.5	18.7	21.7	21.5
Four rooms	6.6	4.5	4.3	5.2	7.5	6.2	4.5	6.9	13.8	14.8	14.4
Five rooms	3.7	2.2	2.3	2.4	3.5	3.4	2.8	4.0	9.6	8.5	8.3
Six rooms	2.4	1.3	1.6	1.4	2.4	2.2	1.8	2.8	6.5	5.6	5.5
Seven rooms	1.4	0.9	1.0	0.7	1.2	1.3	1.1	1.9	4.2	3.1	2.7
Eight rooms	1.0	0.6	0.7	0.5	0.9	1.0	0.8	1.4	3.0	2.1	2.0
Nine or more room	2.4	1.0	1.7	1.1	1.5	2.0	1.9	3.4	8.0	5.3	4.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

### **Rural and Urban Locality**

To assess the adequacy of available housing units for accommodating the households occupying them, the sex and age structure of the households and the space available per households must be available. These details are not available and must be considered in the next census/surveys. Table 1.30 shows that 61.9 per cent of households in urban and 39.1 per cent in rural areas sleep in one room. On the other hand, there are higher proportions of all the other room sizes in the rural than urban areas.

**Table 1.30: Housing Unit by Number of Sleeping Rooms by Locality of Residence**

	All		
Sleeping Room	Urban	Rural	Ghana
One room	61.9	39.1	49.9
Two rooms	17.5	25.0	21.4
Three rooms	7.6	14.5	11.2
Four rooms	4.6	8.3	6.6
Five rooms	2.6	4.6	3.7
Six rooms	1.7	3.1	2.4
Seven rooms	1.0	1.8	1.4
Eight rooms	0.8	1.2	1.0
Nine or more rooms	2.3	2.4	2.4
Average/ Total	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

### **Access to Utilities**

#### **Source of Light**

The two main sources of lighting in Ghanaian homes are electricity (43.7 per cent) and kerosene lamp (54.9 per cent). All the other sources including gas lamp, solar energy and others account for less than one per cent (Tables 1.31 & 1.32). Virtually all households have some form of energy for lighting. According to the 2000 Census data, an insignificant proportion (1 per cent) of households do not have any source of lighting or use other forms.

Ministry of Energy sources indicate that about 47 per cent of electricity generated is sold by distribution utilities to residential consumers. It also estimates that 77 per cent of urban households have access to electricity. This appears to have support from the 2000 Census, which shows that on average 82.1 per cent of households in regional capitals use electricity for lighting. Kerosene lamp ranks a distant second in use (Tables 1.31 & 1.32). Even though electricity rather than kerosene is the main source of energy for lighting for regional capitals, significantly lower proportions of households in the capitals of Volta (76.3 per cent), Northern (73.7 per cent), Upper East (67.9 per cent) and Upper West (65.4 per cent) use electricity (Tables 1.31 & 1.32). It is worth noting that the proportion of households in regional capitals using electricity is substantially higher than the average for the regions. This suggests that electricity use is predominant in urban areas and kerosene use predominant in rural areas.

**Table 1.31: Households by Regional Capitals and Source of Lighting**

Types	Tako-radi	Cape Coast	Accra	Ho	Kofo-ridua	Kumasi	Sunyani	Tamale	Bolga-tanga	Wa
Electricity	91.3	93.0	89.7	76.3	87.6	88.4	88.0	73.7	67.9	65.4
Kerosene Lamp	7.4	5.7	8.5	22.0	11.6	9.6	10.8	25.0	30.8	32.8
Gas Lamp	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.4	0.2	0.2
Solar Energy	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.0	0.1	0.1
No Light	1.0	1.0	1.2	1.1	0.5	1.1	0.7	0.5	0.6	0.9
Other	0.2	0.3	0.4	0.3	0.3	0.5	0.3	0.5	0.4	0.6

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

The two most important sources of lighting at the regional level, as with the national, are kerosene lamp and electricity (Table 1.33). All the other sources for lighting are negligible for all regions. Some households indicated they do not use light at all. It is in only Greater Accra (76.4 per cent) and Ashanti (52.5 per cent) that the majority of households use electricity. Less than a third of households in Volta (26.5 per cent), Northern (22.0 per cent), Upper East (15.3 per cent) and Upper West (12.4 per cent) use electricity. The irony of the situation is that the Black Volta river, which has been dammed to generate electricity, runs through 3 of the 4 regions.

**Table 1.32: Household Access to Lighting Facilities by Region.**

Source of Lighting	Western	Greater Central	Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West	Ghana
Electricity	43.1	40.1	76.4	26.5	34.8	52.5	35.5	22.0	12.4	15.3	43.7
Kerosene lamp	55.7	58.9	21.8	72.5	64.3	46.1	63.6	76.5	84.6	80.5	54.9
Gas lamp	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.5	0.7	0.3
Solar energy	0.2	0.0	0.1	0.2	0.2	0.1	0.0	0.1	0.1	0.2	0.1
Other source	0.3	0.2	0.4	0.2	0.2	0.3	0.2	0.4	0.4	2.0	0.3
No Light	0.5	0.5	1.1	0.2	0.3	0.7	0.4	0.6	2.1	1.3	0.7
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

### **Rural and Urban Localities**

Information available from the 2000 Census shows that close to 75 per cent of households in all urban areas use electricity as a source for lighting as compared to 16 per cent in rural households (Table 1.34). The low use of electricity in rural areas raises concern and the need to intensify the national electrification project to rural areas. Since much of agricultural production is in rural areas, efforts at agro processing cannot succeed when electricity is absent.

Kerosene lamp is predominant in rural areas because even where communities are connected to the national grid, affordability may make it difficult for households to connect to their houses. The relative cost could therefore explain why close to 83 per cent of rural households use kerosene lamps as compared to an average of 24 per cent in urban areas. Creating awareness is necessary to popularise the use of gas and solar energy since they are relatively cheaper in the long run compared to electricity.

**Table 1.34: Source of Lighting by Locality for Occupied Residence**

Source of Lighting	Accra	Other Urban	All Urban	Rural	Ghana
Electricity	89.7	70.5	74.6	16.1	43.7
Kerosene Lamp	8.5	28.1	24.0	82.5	54.9
Gas Lamp	0.1	0.2	0.2	0.4	0.3
Solar Energy	0.1	0.1	0.1	0.1	0.1
No Light	1.2	0.7	0.8	0.5	0.7
Other	0.4	0.3	0.3	0.3	0.3
Total	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

The Electricity Company of Ghana (ECG) is the primary national distributor of electricity. In the Volta River basin area, the Volta River Authority, which generates much of the electricity in Ghana, also distributes electricity. These operate under the provisions of the Electricity Company of Ghana Act (Act 461, 1993), the Public Utilities Regulatory Commission Act (Act 538, 1997) and the Energy Commission Act (Act 541, 1997).

The steps for obtaining electricity service from Electricity Company of Ghana are as follows:

- Applicant either completes a standard request for service form or writes a letter to Electricity Company of Ghana including load and voltage requirements.
- Electricity Company of Ghana official makes a site visit.
- Electricity Company of Ghana official prepares an estimate of the capital contribution required in order to supply service.
- Applicant has three options:
  - Electricity Company of Ghana provides and installs all materials;
  - Applicant purchases materials and Electricity Company Of Ghana installs them, or
  - Applicant purchases materials and installs them himself.
- Applicant pays its capital contribution (depending on the option chosen) plus a further 5 per cent of such capital contribution in the event the applicant is elected to purchase and install the materials.
- Electricity Company of Ghana supplies meter.
- Service begins.

Outside Accra, there is an additional step to be performed: the Regional Office of Electricity Company of Ghana must obtain the approval of the Head Office. The time it takes to obtain approval depends on the urgency and extent of the applicant's needs, such as whether any engineering design work needs to be done, or capacity expanded more generally in order to meet the investor's needs. Generally, there are delays in the supply of electricity service.

### **Water**

Water is an important requirement in all spheres of human endeavour. It is a scientific fact that 70 per cent of the human body consists of water. The 2003 World Environmental Day was commemorated under the theme "Water: Vital Resource For Life", indicating that the importance of water is widely acknowledged. It is important therefore that the distribution of

water is undertaken in such a way that people are not denied water. Historically, most towns and villages were established at the banks of rivers and lakes such that access to water was uninhibited.

An adequate supply of easily accessible potable water is a necessary condition for households to attain good quality of life. In fact, improvements in hygiene and sanitation are contingent on water availability. Although the major cities of Ghana such as Accra and Tema are better endowed in terms of potable water supply than other areas, not all residents have access to the same quality and/or service. As at 1992, when a total of 130 million cubic metres of water were being produced annually in the whole country, the Accra Metropolitan Assembly alone consumes 90 million cubic metres (Songsore, 1992).

At the national level, it is observed that only 39.9 per cent of households have access to pipe borne water supply. An additional 2 per cent get supply from tanker supply that may come from any source including pipe borne water source. Three other sources of water supply with about 16 per cent of households each are wells, boreholes and rivers/streams. Thus the majority of Ghanaian households (58 per cent) have access to good and safe drinking water (defined as pipe borne water, tanker supply and borehole).

Data available indicate that apart from Greater Accra and Ashanti less than 10 per cent of households living in the region have pipe borne water inside their houses. Wells and boreholes provide drinking water for about 32 per cent of households in each region except Greater Accra. Rivers, streams, ponds and lakes provide drinking water for a significant percentage of households living in the Western, Volta, Eastern, Brong Ahafo and Northern.

In the regional capitals the majority of households have access to treated water that are “inside” or “outside” occupied premises. Table 1.35 revealed that over 80 per cent of households in regional capitals have access to pipe borne or treated drinking water except for Wa (53.4 per cent) and Bolgatanga (69.8 per cent) where it is less than 70 per cent. The use of tanker water supply, which could be either from the treated or natural source, is most significant in Accra (3.1 per cent), Tamale (5.3 per cent) and Wa (2.1 per cent). Households in Wa, Koforidua, Ho, Kumasi and Bolgatanga recorded over 10 per cent usage of water from well for drinking. Boreholes as a source of drinking water is important only in Bolgatanga (11.4 per cent) and Wa (16.1 per cent).

**Table 1.35: Households Access to Drinking Water by source by Regional Capitals**

Sources	Tako- radi	Cape Coast	Accra	Ho	Kofo- ridua	Kumasi	Sunyanui	Tamale	Bolga	Wa
Pipe-borne inside	32.8	51.1	43.6	35.1	51.2	48.8	46.3	41.5	30.7	16.0
Pipe-borne outside	57.8	46.9	47.0	46.8	30.9	33.7	39.6	46.9	39.1	37.4
Tanker supply	0.8	0.2	3.1	0.7	0.7	0.8	0.3	5.3	0.8	2.1
Well	6.3	0.8	4.4	11.9	12.8	11.5	7.2	2.0	10.5	21.2
Bore-hole	0.3	0.3	0.2	0.7	0.8	1.8	1.5	0.6	11.4	16.1
Spring/rain water	1.1	0.4	1.0	1.5	2.0	1.0	1.8	0.1	5.6	4.5
River/stream	0.3	0.0	0.1	1.1	0.9	1.5	2.6	0.3	0.7	1.4
Dugout	0.3	0.1	0.3	0.8	0.5	0.5	0.4	2.6	0.5	1.1
Other	0.4	0.2	0.3	1.4	0.2	0.3	0.3	0.8	0.7	0.2

Source: Ghana Statistical Service, 2000 Population & Housing Census.

### **Rural and Urban Localities**

A major feature of potable water supply is the disparity across regions and between urban and rural areas. Both population and household coverage data show that rural areas are about half as well served as urban areas. GLSS and CWIQ data show that the share of rural household with access to safe water was 52 per cent in 1997, while 92 per cent of urban households had access to potable water. To curb some of the problems, Government adopted a new strategy to accelerate rural water supply. The new strategy requires communities to own and manage their water supply systems, contribute 5-7 per cent of capital cost and be fully responsible for operation and maintenance, including the costs. To this end, communities have the choice of technology to install small piped systems, boreholes or wells. The GLSS 4 (1998/1999) survey, provides the distribution of the drinking water sources for the various localities (Table 1.36) and shows that safe water is mostly in urban areas than rural area.

**Table 1.36: Households by Source of Drinking Water and Locality of Residence**

Source of Drinking Water	Urban			Rural	Ghana
	Accra	Other Urban	All Urban		
Pipe Borne	93.6	72.8	80.3	18.8	41.6
Indoor Plumbing	9.8	5.0	6.4	1.1	3.1
Inside Standpipe	38.7	21.0	26.0	1.8	10.7
Water Vendor	15.6	4.4	7.5	1.2	3.5
Tanker	0.3	0.1	0.1	0.8	0.6
Neighbour	22.3	8.0	12.1	1.1	5.1
Private Outside Standpipe	13.1	14.9	14.4	2.6	7.0
Public Tap	0.2	19.3	13.9	10.2	11.6
Well	5.0	15.1	10.8	47.2	33.9
With Pump	-	2.8	2.0	31.6	20.8
Without Pump	-	12.3	8.8	15.6	13.1
Natural Source	1.4	12.2	8.8	33.9	24.6
River/Spring	-	11.8	8.5	33.6	24.4
Rain	-	0.4	0.3	0.2	0.2
Other	-	-	-	0.1	0.0
Total	100.0	100.0	100.0	100.0	100.0
N	620	1579	2199	3799	5998

Source: Ghana Statistical Service (2000), GLSS 4

In Accra, as revealed by the 2000 Census in Table 1.37, over 91 per cent of households have access to pipe-borne water with 43.6 per cent having pipe-borne inside their houses and the remaining using pipe-borne water outside (public pipes). Access to pipe-borne water, as a source of drinking water for urban areas is 67.8 per cent in comparison with 14.9 per cent in rural areas. This could be due to the high cost associated with piping into homes and/or the non-availability of the main pipeline running through the rural areas.

**Table 1.37: Households Access to Drinking Water by Source by Locality of Residence**

Source of Water Supply	Accra	Other Urban		Rural	Ghana
		Urban	All Urban		
Pipe Borne Inside	43.6	23.6	27.8	2.3	14.3
Pipe borne Outside	47.1	38.2	40.0	12.6	25.6
Tanker Supply	3.1	3.4	3.4	1.2	2.2
Well	4.4	19.3	16.2	16.9	16.6
Borehole	0.3	5.5	4.4	27.2	16.4
Spring/Rain Water	1.0	2.4	2.1	6.4	4.4
River/Stream	0.1	5.8	4.6	26.6	16.2
Dugout	0.3	1.5	1.2	6.6	4.0
Other	0.3	0.4	0.3	0.2	0.3
Total	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service, 2000 Population & Housing Census.

The use of tankers as an alternative source of drinking water supply is well patronised by households in fast developing urban suburbs. As indicated in the census data, tanker service provides water for 3.1 per cent of households in Accra and 3.4 per cent in urban areas generally as against 1.2 per cent for rural areas and 2.2 per cent nationally. Wells are fairly used in relative terms in both urban (16.2 per cent) and rural (16.9 per cent) areas. In Accra, however, drinking from wells is not widespread (4.4 per cent) because of the availability of safer alternative sources. Boreholes, which are an improved form of wells, are largely used in rural areas (27.2 per cent) compared with 4.4 per cent in urban areas and 0.3 per cent in Accra. Natural sources of drinking water such as spring/rain, river/stream are not very reliable because of their seasonal nature and therefore the implication for the nearly 40 per cent of rural households that use natural sources of water must not be lost on the local administration. The water supply situation needs serious attention in order to arrest the incidence of water borne diseases, especially in rural areas.

The Ghana Water Company Ltd. (Ghana Water) is the national distributor of water in Ghana. It operates under the terms of the Water Charges Regulation (L.I. 1597, 1995) and the Public Utilities Regulatory Commission Act (Act 538, 1997). In addition to slow and expensive installation procedures, Ghana Water reports that there is simply not enough supply to meet customer demand, or public funds to invest in the expansion of the network. As such Ghana Water Company does not serve many houses especially in the newly developing urban areas and most rural communities. This situation is not likely to change in the near future. This is why private sector capital injection is necessary and must be encouraged.

## **Sanitation**

### **Solid Waste**

Sewerage disposal has been a problem in the country, with inadequate dumping sites as a contributing factor. At all levels of waste management, inadequate logistics and lack of adequate education on proper waste disposal prevail. This problem has a chain reaction, for improper and indiscriminate waste disposal pollutes water bodies and poses several health problems, which in turn, result in high mortality rates at all ages. The labour force and productivity suffer in the long run.

The main means of solid waste disposal is dumping at public dumps (57.6 per cent). An additional 25 per cent of households dump waste elsewhere, which is unsatisfactory. Less than 5 per cent of households pay for their solid waste to be collected, while 7.8 per cent of households burn and 3.9 per cent bury solid waste. This disposal structure provides a great challenge for effectively management of solid waste in Ghana.

Looking at the picture from a regional perspective, the highest proportion of households dump their solid waste at public dumps except the three northern regions, where the majority of households dump solid waste elsewhere. An interesting observation is that the proportion of households in the three northern regions that get their solid waste collected is slightly higher than in other regions except Greater Accra (Table 1.38). It is necessary for regional and district authorities to embark on education to help reduce or eliminate potential waste-related health hazards.

**Table 1.38: Solid Waste by Households and by Region**

Disposal Method	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
Collected	2.2	0.8	19.5	2.4	2.2	1.3	0.9	2.1	3.3	2.3
Burned by household	4.5	6.4	12.2	12.0	10.0	3.3	3.4	9.4	16.4	4.6
Public dump	59.6	69.3	51.4	47.0	56.5	78.9	70.3	30.4	13.2	21.1
Dumped elsewhere	28.6	19.9	11.5	31.6	25.2	13.4	22.6	55.3	55.2	65.7
Buried by household	4.0	2.6	4.6	6.1	5.2	2.6	2.4	2.5	5.7	6.0
Others	1.1	0.9	0.7	0.8	0.9	0.4	0.4	0.3	6.2	0.3
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

Public dump is also the most common method available to the majority of households in regional capitals to dispose of solid waste. Over 60 per cent of households in all regional capitals except Bolgatanga (40.7 per cent) and Wa (51.8 per cent) dispose of solid waste at public dumping site (Table 1.39). Dumping of waste elsewhere is the next most commonly used method for disposal, with a regional capital average of close to 13 per cent for households using this means. This poses a big threat to the environment and might create serious health hazards. Table 1.39 further depicts that burning as a means of solid waste disposal is very common in Bolgatanga, Tamale, Ho, Koforidua and Wa.

**Table 1.39: Solid Waste Disposal by Method by Regional Capital**

Disposal Method	Tako- radi	Cape Coast	Accra	Ho	Kofo- ridua	Kumasi	Sunyani	Tamale	Bolga- tanga	Wa
Collected	4.7	1.6	20.9	3.0	2.9	2.2	1.5	2.0	3.9	4.1
Burned by Household	5.9	9.7	6.9	17.4	10.8	3.6	7.5	16.8	22.0	10.0
Public Dump	77.8	82.5	62.7	65.5	73.7	81.1	77.9	62.5	40.7	51.8
Dumped elsewhere	7.7	4.0	5.8	8.6	7.3	10.1	10.5	16.3	27.5	29.2
Buried by Household	2.9	2.0	3.1	4.8	5.2	2.4	2.4	2.4	5.7	4.8
Others	0.9	0.2	0.7	0.7	0.1	0.6	0.2	0.2	0.2	0.2

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

Collection of solid waste by waste management companies as a method of disposal has not caught on well with most households. Accra being the national capital and a focal point for modernization has 20.9 per cent of occupied houses having their solid waste collected from the house. This situation needs improvement through education and legislation. In the rest of the regional capitals, collection as a means of solid waste disposal is used by less than 5 per cent of households. Issues relating to cost, logistics and willingness to pay for services may explain the high proportion of households that dispose of solid waste in an unsafe manner. Removing public dumping sites however will not only expose the regional capitals to filth but also pose health hazards.

### **Rural and Urban Localities**

Information from the 2000 Census shows that in urban areas 67 per cent of households dispose of solid waste at public dumping sites compared to 49.2 per cent in rural areas (Table 1.40).

**Table 1.40: Household Solid Waste Disposal by Methods and Locality of Residence**

Method of Disposal	Ghana		Other	All	
	Accra		Urban	Urban	Rural
Collected	4.8	20.9	5.0	8.4	1.5
Burned	7.8	6.9	8.6	8.2	7.5
Public Dump	57.6	62.7	68.1	67.0	49.2
Dumped elsewhere	25.0	5.8	13.6	12.0	36.6
Buried	3.9	3.1	3.9	3.7	4.1
Other	0.9	0.7	0.7	0.7	1.1
Total	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

Solid waste materials can be biodegradable or non-biodegradable. Those that are biodegradable decompose but have some health hazard in the short run. The accompanying stench attracts flies, which spread diseases. The non-biodegradable ones, such as batteries and bottles/glasses, could be sorted for recycling. Because solid waste is not properly sorted however, recycling becomes a problem and expensive. For example, the Teshie/Nungua recycling plant operates below capacity while the waste piles up due to sorting problem. There is the need for adequate education on proper waste (solid) disposal. Sorting of the solid waste needs to be done at both collection and dumping points. At the collection point, properly labelled skips should be provided to collect different kinds of solid waste and properly disposed of or recycled. Also at the public dumping sites, there should be a clear demonstration of how solid waste of different kinds should be disposed of. Sorting of the solid waste is also needed at the household level for easy recycling; this will require households' involvement in waste management. The onus is on Local Government to provide sufficient logistics to enhance prompt and effective solid waste collection and treatment.

### Liquid Waste

Sullage or grey water is the liquid waste discharged from domestic premises and consists of effluent from kitchens, bathrooms and laundries. Sullage is normally discharged into street drains or suck-away. The bulk of household used water becomes sullage. Even in households with flush toilets, it is estimated that, sullage amounts to 60 per cent of total water used (Tahal, 1981). In high and medium class resourced areas, concrete channels and pipes draw the waste water into road side ditches which eventually convey the sullage to one of its water courses to the sea. Stagnant pools of water are therefore rare in these well developed residential areas. On the contrary, in most low income areas sullage normally flows on to the ground outside the house and finds its own way to the roadside ditches which are most of the time not in existence or choked, or finds its own pool or channel. In the face of the unplanned nature of most communities, coupled with poor drainage and inadequate toilet facilities, much of the sewage/sullage is faecal bearing. Ineffective sullage disposal and poor drainage systems give rise to water logging and stagnant pools, which poses a threat to the health of community members. At the national level, about a fifth of households dispose of liquid waste into constructed gutters. Most of these gutters however are not properly covered, infrequently desilted or cleaned and therefore become choked with solid waste and other materials, causing flooding during the rainy season.

Statistics from 2000 Census show that regional capitals have a problem of liquid waste disposal. The three most commonly used methods of liquid waste disposal involve throwing onto the street/outside, throwing into gutters, and throwing onto compounds. In Brong Ahafo

and the three northern regions, the proportion of households throwing liquid waste into gutter is less than a tenth probably because there are very few gutters and this probably explains why throwing onto the street/outside is the method used by the majority of households (Table 1.41).

**Table 1.41: Household Liquid Waste Disposal by Method and Region**

Disposal Method	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
Sewerage system	3.2	2.0	14.4	1.3	2.0	3.8	1.3	2.0	4.1	2.3
Onto the street/ outside	34.7	41.0	19.3	41.4	31.6	39.5	54.6	62.7	52.5	67.4
Into gutter	23.7	20.4	38.9	9.6	17.8	28.4	7.3	8.5	6.1	4.8
Onto compound	36.6	35.5	26.7	46.7	48.2	28.0	36.5	26.3	35.6	25.0
Other	1.9	1.1	0.7	1.0	0.5	0.4	0.3	0.5	1.7	0.5
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

In half of the country's regional capitals (Accra, Cape Coast, Sekondi-Takoradi, Kumasi and Koforidua), the majority of households dispose of liquid waste into gutters instead of the sewerage system (Table 1.42). This could be due to the fact that most of the roads have drains along them.

**Table 1.42: Household and Liquid Waste Disposal by Method and Regional Capital**

Disposal Method	Takoradi	Cape Coast	Accra	Koforidua	Kumasi	Sunyani	Tamale	Bolgatanga	Wa
Sewerage system	12.1	12.1	13.0	11.2	9.0	8.8	5.6	6.2	9.8
Street/Outside	9.8	9.7	16.7	31.8	17.1	14.2	34.7	45.4	58.2
Gutter	63.4	68.4	53.2	28.7	54.3	58.7	34.5	31.7	18.9
Compound	13.4	9.4	16.6	27.0	19.2	18.0	25.0	16.5	13.0
Other	1.3	0.4	0.6	1.3	0.4	0.3	0.1	0.2	0.2

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

### **Rural and Urban Localities**

Liquid waste disposal shows a similar pattern as that of solid waste. In Accra 53.2 per cent of households dispose of liquid waste in drains close to their homes while other urban (32.8 per cent) and rural areas (6.9 per cent) households use this method to a much less extent (Table 1.43).

**Table 1.43: Liquid Waste Disposal by Method and Locality of Residence**

Means of Disposal	Accra	Other Urban	All Urban	Rural	Ghana
Sewerage system	13.0	6.9	8.1	1.3	4.5
Street/Outside	16.7	33.5	29.9	47.0	39.0
Gutter	53.2	32.8	37.1	6.9	21.1
Compound	16.6	26.2	24.2	43.9	34.6
Other	0.6	0.7	0.7	0.9	0.8
Total	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

Nationally, only 4.5 per cent of households dispose of liquid waste through a sewerage system clustered in few urban areas as against disposing through the use of gutter (21.1 per cent), compound (34.6 per cent) or streets (39.8 per cent) which are more harmful methods of disposal for it invariably becomes stagnant and serves as breeding grounds for mosquitoes and other communicable disease-causing agents. Responsibility lies with local government

and policy makers to ensure that existing drains are well-covered and adequate education given to households on proper liquid waste disposal. Cleaning of gutters should be outsourced to private companies who must also police the facility. The relevant authorities need to ensure that households properly dislodge liquid waste in a properly constructed sewerage system if the country is to attract investment in the tourism sector and eradicate malaria.

### **Bathroom Facilities**

Bathroom facility is one of the major needs in every home. The commonest bathroom facility at the national level is shared bathroom (32 per cent) in the home followed by bathroom for exclusive use of household (23.5 per cent). Open cubicles (shared and private) contribute 28.1 per cent of bathroom facilities at the disposal of households at the national level (Table 1.44). This means that the overwhelming majority of households (83.6 per cent) have a bathroom facility within the house. The other bath facilities contributed less than 10 per cent each. The high proportion of shared facilities (50.0 per cent) reflects the compound living arrangement for most households which involves a level of inadequacy and must be addressed through enforcement of building regulations.

**Table 1.44: Bathroom Facilities by Type and Region**

Bathing Facilities	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West	Ghana
Own bathroom exclusive	23.1	19.3	28.0	26.8	24.6	20.3	20.6	22.6	24.6	28.2	23.5
Separate bathroom, shared	31.5	31.2	25.7	23.2	31.7	45.8	37.7	26.2	20.7	24.4	32.0
Open cubicle, exclusive	9.9	8.6	5.7	15.0	11.8	7.0	8.8	14.6	23.7	16.6	10.1
Open cubicle, shared	16.7	21.0	27.0	19.8	18.0	11.8	11.7	19.4	13.8	14.4	18.0
Public bath house	3.0	3.6	4.5	0.8	0.8	1.0	0.7	2.0	0.9	1.3	2.1
Bathroom in another house	6.0	8.0	2.3	4.1	4.0	4.5	7.2	1.1	0.3	1.2	4.3
Open space around the house	7.1	7.2	5.4	8.8	8.3	7.7	12.7	13.1	15.5	13.2	8.6
In a river	1.9	0.5	0.6	0.2	0.3	0.6	0.1	0.2	0.2	0.2	0.6
In lake or pond	0.3	0.1	0.4	0.1	0.1	0.7	0.0	0.1	0.1	0.1	0.3
Others	0.5	0.6	0.4	1.2	0.5	0.6	0.5	0.7	0.2	0.4	0.6
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

Access and type of bathing facility at the regional level is not too different from the national. Though the proportion of households using different bathroom facilities varies across regions, the same four or five major types apply to all regions (Table 1.45).

**Table 1.45: Bathing Facilities by Type by Regional Capital**

Sources	Tako- radi	Cape Coast	Accra	Ho	Kofo- ridua	Kumasi	Sunyani	Tamale	Bolga tanga	Wa
Own bathroom exclusive	19.9	20.6	25.4	25.0	20.2	21.3	24.5	31.7	21.6	22.9
Shared bathroom	43.3	48.3	28.8	25.8	58.0	53.3	51.3	36.0	43.0	35.0
Open cubicle	4.5	2.4	3.7	6.1	3.2	3.2	3.9	5.4	10.4	4.8
Shared open cubicle	20.3	19.3	30.4	7.7	14.2	10.9	13.7	15.6	18.1	24.5
Public bath house	5.1	5.6	5.1	2.4	0.7	1.6	0.6	5.2	2.5	0.8
Bathroom in another house	2.5	2.1	1.5	1.6	1.0	1.4	2.0	1.0	0.5	0.9
Open space	3.1	1.6	3.4	3.7	2.6	5.7	3.5	4.4	3.4	10.7
River	0.4	-	0.7	0.0	0.0	1.0	0.0	0.0	0.1	0.0
Lake/Pond	0.5	0.1	0.5	0.0	0.0	0.9	0.1	0.0	0.1	0.0
Other	0.4	0.2	0.4	0.4	0.1	0.8	0.5	0.6	0.2	0.2

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

Ideally, each household must have a bathing facility exclusive for its use. With 4.4 per cent of households sharing rooms in compound houses this is impossible in Ghana. The most common facility available to households in the regional capital is the shared bathrooms, as most households live in rented compound houses which do not have exclusive bathing facility for each household. Apart from Accra and Ho, more than a third of households in regional capitals use shared bathroom. In fact, the proportion of households sharing bathroom facilities exceeds 50 per cent in Koforidua (58.0 per cent), Kumasi (53.3 per cent) and Sunyani (51.3 per cent). An additional one-fifth of households share on open cubicle for bathing. Own bathroom for exclusive use is a privilege enjoyed by between 20 and 25 per cent of households in regional capitals.

### **Rural and Urban Localities**

The commonest used bathroom facility (30.4 per cent) in Accra is the shared open cubicle (Table 1.46). In other urban areas, close to 18 per cent of the households use this facility as compared with about 16 per cent in rural areas. In other urban areas, shared bathroom accounts for a little over 40 per cent in comparison with 38 per cent in rural areas and about 29 per cent in Accra. About 25 per cent of households in Accra have bathroom for exclusive household use. In both rural and other urban areas about 23 per cent of households have access to exclusive bathroom facilities. Local authorities and all concerned should ensure that this situation is improved upon. Queuing to have a bath whether in the house or public house is a common feature and may affect punctuality to work and therefore productivity in the long run. Households in rural areas have greater use of exclusive bathing facilities.

**Table 1.46: Households Access to Bathroom Facilities by Type and Locality of Residence**

Bathroom Facility	Accra	Other	All	Rural	Ghana
		Urban	Urban		
Own bathroom, exclusive	25.4	22.8	23.4	23.6	23.5
Shared bathroom	28.8	40.5	38.0	26.7	32.0
Open cubicle, exclusive	3.7	6.1	5.6	14.1	10.1
Shared open cubicle	30.4	17.6	20.3	15.9	18.0
Public bath house	5.1	2.7	3.2	1.0	2.1
Bathroom in another house	1.5	2.9	2.6	5.8	4.3
Open space	3.4	6.0	5.4	11.4	8.6
River	0.7	0.4	0.5	0.7	0.6
Lake/Pond	0.5	0.3	0.3	0.2	0.3
Other	0.4	0.5	0.5	0.6	0.6
Total	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

Only 33.6 per cent of households nationally have bathroom facilities that are for exclusive use of the household, which is less than inadequate by all standards and efforts must be made through the enforcement of bye laws and regulations to improve it. Unless there is a shift to the provision of affordable flats or self-contained facilities even in homes, the situation is likely to remain for a long time because it will not be practicable to provide every household in a compound house with an exclusive bathing facility.

## **Toilet Facility**

At the national level, the toilet facility mostly in use is public toilet (of all kinds) accounting for 31.4 per cent; followed by pit latrine (22.0 per cent); water closets usage constitutes 8.5 per cent. One fifth of all households have access to no toilet facilities at all (Table 1.47) and instead use the bush/beach and open fields. Review of other studies have shown significant increases in households access to facilities for excreta disposal from 59 per cent of households in 1987 to 73 per cent in 1997 (GDHS, 1998) and to 80 per cent in 2000.

**Table 1.47: Household Access to Toilet Facilities by Type and Region**

Types of Latrine	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
W.C	7.2	4.9	22.1	2.5	4.0	11.6	3.0	2.5	2.5	2.5
Pit latrine	30.4	25.1	11.2	28.6	37.5	20.5	31.8	1.9	1.5	2.5
KVIP	5.7	7.0	10.1	6.1	7.0	7.7	7.7	2.3	1.6	4.3
Bucket or pan	2.7	2.8	9.1	4.8	5.5	2.8	1.0	1.6	1.4	1.9
Toilet , another house	7.5	4.4	8.7	11.1	10.6	5.5	2.3	1.0	8.3	9.1
Public toilet	34.2	37.6	27.0	21.9	29.8	46.3	39.7	14.5	6.3	10.1
No facilities (bush, beach)	12.3	18.2	11.8	25.0	5.5	5.7	14.5	76.1	78.5	69.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

The pattern of access to various types of toilet facilities is one of difference in magnitude among regions and between localities. It is observed for instance that the proportion of households using WC, pit latrine and KVIP are higher for regions in the south than for those in the north (Table 1.47). Similarly, higher proportions of households have access to public toilets in the south than the three northern regions. The overwhelming majority (about 70 per cent) of households in the three northern on the other hand do not have access to any conventional toilet facility. The inference is that a substantial proportion of houses do not have toilet facilities and tenants are forced to use public facilities. It is expected that the strict enforcement of building regulations will help improve the situation. In addition, effective public education campaign must be put in place by the District Assemblies to improve compliance with building regulations.

In the past, most houses were built with no toilet facilities, neither is adequate provision made for such facilities to be built later. This accounts for many households in even regional capitals using public toilets. Inadequate privately owned toilet facilities in houses put enormous pressure on public toilets meant for emergency purposes. The high usage of public facilities in the regional capital (32-54 per cent) therefore, raises health concerns as well as concern for the image of the regional capitals. It is the responsibility of Town and Country Planners to ensure that new structures have toilet facility in the house plan before building permits are given. This should subsequently be monitored during construction and possibly prosecute house owners who fail to provide adequate toilet facilities. A relatively lower proportion of households use the water closet (WC) facility. Though the technology for this modern facility has existed in Ghana for so many years, it is still concentrated in the southern sector of the country (Table 1.48). Toilet facilities in the regional capitals are however relatively better and improved compared with the rest of the region and even other urban areas in the same region. It is worth noting that in the three northern regional capitals (Tamale, Bolgatanga and Wa), a large proportion of households are without toilet facilities.

**Table 1.48: Household Access to Toilet Facilities by Type and Regional Capitals**

Toilet Facility	Tako-radi	Cape Coast	Accra	Ho	Kofo-ridua	Kumasi	Sunyani	Tamale	Bolga tanga	Wa
WC	28.2	33.4	23.2	22.9	22.3	27.8	26.5	8.5	15.2	9.0
Pit Latrine	6.3	3.5	6.1	11.6	11.3	12.0	13.4	1.6	2.4	4.6
KVIP	4.8	5.0	11.7	9.1	6.4	9.3	7.2	6.3	2.7	8.4
Bucket/Pan	2.7	7.5	12.7	5.2	18.6	5.3	1.6	8.4	2.9	2.5
Facility, another house	5.9	2.6	9.3	7.0	3.2	5.6	1.5	1.8	4.5	8.0
Public Toilet (WC, etc)	46.0	46.5	32.7	38.6	36.9	36.8	48.3	54.0	32.2	39.3
No Facility	6.0	1.5	4.1	5.4	1.1	2.9	1.5	19.3	39.8	28.0
Other	0.1	0.0	0.2	0.2	0.1	0.2	0.1	0.2	0.3	0.4

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

### **Rural and Urban Localities**

The 2000 Census shows that even in Accra about 5 per cent of households do not have any proper toilet facilities. In other urban settlements, 12.7 per cent of households have no toilet facility or use other means while in rural areas a higher proportion of households do not have a toilet facility (28.5 per cent). The use of public toilet facilities is fairly widespread. In Accra 32.7 per cent of households use public toilets. This is not good for an urban settlement and for that matter the capital city.

Despite the ban on the use of bucket/pan latrines in 1998, 12.7 per cent of households in Accra still use this facility. This facility type was used by 20 per cent of households in Accra in 1998 while 27 per cent used the pit latrine (GDHS, 1999), so the 12.7 per cent for the bucket/pan and 6.1 per cent for pit latrine would appear as an improvement. For a national capital, however, nothing but complete discard of these types is deserving of that status.

Less than 10 per cent of all households in Ghana (both urban and rural) use KVIP toilet facilities popularised in the 1980s and 1990s. The use of pit latrine is very typical among rural households. Modernization is a key factor for such differences between rural and urban centres. Water closets require regular water supply and piped into the house where the facility is sited and that is why the facility is more in urban centres (16.2 per cent) than rural areas (1.6 per cent).

**Table 1.49: Toilet Facilities by Type and Locality of Residence**

Types of Facilities	Accra	Other	All	Urban	Rural	Ghana
		Urban	Urban			
WC	23.2	14.3	16.2	1.6	8.5	
Pit Latrine	6.1	13.7	12.1	30.9	22.0	
KVIP	11.7	9.0	9.6	4.5	6.9	
Bucket/Pan	12.7	5.3	6.9	1.5	4.0	
Facility in another house	9.3	6.6	7.1	6.7	6.9	
Public Toilet (WC, Pan etc)	32.7	38.4	37.2	26.3	31.4	
No Facility	4.1	12.5	10.7	28.3	20.0	
Other	0.2	0.2	0.2	0.2	0.2	
Total	100.0	100.0	100.0	100.0	100.0	

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

## Kitchen Facilities and Sources of Energy

### Kitchen Facilities

The 2000 Census indicates that 6.5 per cent of households in Ghana do not have cooking space. Among those who have a designated space, 32.2 per cent have a separate room exclusive for their use, 21.6 per cent use open space in the compound, 14.3 per cent use separate room but shared with other households and 11.5 per cent use the veranda (Table 1.50).

**Table 1.50: Households Access to Cooking Spaces by Type and Region**

Cooking Space	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West	Ghana
No cooking space	7.3	7.2	8.5	6.3	6.0	6.3	6.2	4.1	2.5	2.9	6.5
Separate room, exclusive	47.0	34.8	25.6	35.5	37.9	26.5	29.7	19.1	36.3	43.1	32.2
Separate room, shared	15.1	13.8	4.8	6.3	14.7	28.6	21.4	5.3	5.1	8.4	14.3
Enclosure without roof	1.4	2.0	2.4	2.7	2.4	2.0	1.7	5.9	26.8	3.6	3.3
Structure with roof, no walls	4.2	7.2	3.0	19.2	12.1	6.4	8.6	3.9	2.3	1.5	7.3
Bedroom, hall, living room	2.8	1.8	3.0	5.9	3.3	1.4	1.9	2.0	2.6	2.2	2.7
Veranda	11.9	10.7	21.6	3.8	9.8	13.5	7.5	5.6	5.2	7.3	11.5
Open space in compound	9.8	21.7	30.5	19.9	13.2	14.5	22.2	53.7	18.8	30.5	21.6
Others	0.5	0.7	0.7	0.4	0.6	0.8	0.6	0.3	0.4	0.6	0.6
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

Regional variations exist (Table 1.50) but it follows no particular pattern. In Upper East 26.8 per cent of households use enclosures without roof as cooking space, but the proportion of households using enclosures without roof in other regions is less than 6 per cent. The highest proportion of households using open space in compounds for kitchen is Northern (53.7 per cent), with Western (9.8 per cent) having the lowest. In all regions except Northern and Greater Accra, the exclusive use of a separate room as kitchen constitute the single most important kitchen facility in each region. The provision of kitchen facilities nevertheless is inadequate because of cost of building materials and weak enforcement of laws and regulations regarding building.

### Sources of Fuel for Cooking

According to the Energy Commission (News Bulletin, November - December 2002), wood fuel accounts for 64 per cent of the primary energy used in Ghanaian homes and provides income generating opportunity to a substantial number of households in the rural communities. It is estimated that in the year 2000, the country consumed 16,000,000 tons of wood fuel and some 9,000,000 tons was used for the production of charcoal.

The 2000 Census appears to confirm the Energy Commission statement in that wood (55.8 per cent) and charcoal (30 per cent) are recorded as the main sources of fuel for cooking in Ghana (Table 1.51). Another important energy source for households cooking is the use of gas (6.2 per cent). To improve the use of gas for cooking would require changes in construction of houses, provision of kitchen, and policy measures to make the gas available, accessible and affordable. With the current policy of total cost recovery and market determined pricing of petroleum products, the shift is not likely to happen soon. As such, the

environment will continue to be degraded through harvesting of firewood and the production of charcoal for urban dwellers. A national programme of afforestation is necessary to counteract this.

**Table 1.51: Households Use of Cooking Fuel by Type and Region**

Fuel used in cooking	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West	Ghana
None, no cooking	3.3	3.7	4.8	1.4	3.2	5.1	3.5	1.4	0.7	0.9	3.5
Wood	62.9	60.9	8.8	72.3	68.8	49.9	75.6	83.7	66.5	79.8	55.8
Coconut husk	1.0	0.4	0.2	0.9	0.1	0.2	0.1	0.2	0.1	0.1	0.4
Gas	4.1	3.1	21.8	1.9	3.3	4.8	1.5	1.0	0.9	0.7	6.2
Electricity	1.3	0.7	2.2	0.3	0.7	1.6	0.6	0.7	0.3	0.4	1.1
Kerosene	1.5	1.7	4.3	1.5	1.6	1.7	1.1	1.3	1.9	1.3	2.0
Charcoal	25.1	29.2	57.3	21.5	22.0	36.2	17.3	11.7	11.6	16.5	30.0
Other fuel	0.7	0.2	0.8	0.2	0.2	0.6	0.3	0.1	18.0	0.3	1.1
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

Firewood is the main fuel source in all regions except Greater Accra (Table 1.51). Charcoal is the second most important fuel for cooking by households in all regions except Greater Accra and Upper East. In fact, charcoal is the main source of cooking fuel of the majority (57.3 per cent) of households in Greater Accra while gas is the second most important (21.8 per cent) cooking fuel. To arrest the level of environmental degradation taking place as a result of firewood harvesting for direct use and also for charcoal production, the tariffs on the environmentally friendly fuel alternatives must be subsidised to encourage their use. This recommendation is expected to put a strain on the national budget but possibly the West African Gas Pipeline project may contribute to tariff reduction for domestic users.

In all the regional capitals, the proportion of households that depend on charcoal as the source of fuel for cooking is well over 60 per cent, except in Sunyani and Tamale. The proportion of households using wood as fuel for cooking in Tamale is quiet high (32.4 per cent) compared with an average of 11.6 per cent in other regional capitals (Table 1.52).

**Table 1.52: Households By Regional Capitals and Fuel Used in Cooking**

Sources	Takoradi	Cape Coast	Accra	Ho	Koforidua	Kumasi	Sunyani	Tamale	Bolgatanga	Wa
None, no cooking	5.7	5.3	5.7	3.9	7.7	8.4	8.0	4.7	3.4	2.6
Wood	7.5	3.2	1.4	12.0	9.3	3.9	17.9	32.4	12.5	14.8
Coconut husk	0.1	0.2	0.2	0.1	0.1	0.3	0.1	0.3	0.2	0.1
Gas	14.0	16.8	22.4	15.4	15.3	10.8	14.6	5.3	6.0	3.0
Electricity	3.2	2.3	2.9	1.7	1.0	2.6	1.6	1.7	1.7	1.5
Kerosene	2.4	2.3	5.1	3.1	3.1	2.1	1.4	1.2	2.2	1.0
Charcoal	66.1	69.9	61.6	63.5	63.1	70.9	55.7	53.9	68.8	76.0
Other	10.0	0.2	0.9	0.4	0.4	1.0	0.6	0.4	5.2	1.0

Source: Ghana Statistical Service (2002) 2000 population & Housing Census. Summary report of final results

The use of gas as fuel for cooking is quiet moderate. The highest proportion of use is in Accra (22.4 per cent) with other regional capitals recording between 10 and 17 per cent of households using gas. Households in Tamale, Bolgatanga and Wa, do not use gas much.

### **Rural and Urban Localities**

There has not been any qualitative improvement in the fuel technology used for cooking in different localities. The 2000 Census indicates that the most important fuel used by household in Accra (61.6 per cent) and other urban areas (52.4 per cent) is charcoal while firewood is predominant in rural areas (85.2 per cent) as shown in Table 1.53. At the national level, firewood is the major source of fuel used for cooking by 55.8 per cent of households. The volume of firewood used for cooking is very alarming and efforts need to be made to curb deforestation. Gas as an alternative source of fuel for cooking, is an urban phenomenon. About 12 per cent of households in urban areas use gas for cooking compared with 1.1 per cent in rural areas. The proportion of households in Accra using gas is 22.4 per cent, more than three times for the country as a whole (6.2 per cent).

Although electricity is a modern and more convenient energy source for cooking in comparison to charcoal and wood, most households in both urban and rural areas do not use this form of energy. This may be due to the relatively high cost of electricity. The over-reliance on charcoal and wood as sources of fuel for cooking raises concerns. If Ghana is to address the issue of deforestation, then massive education is needed to shift to the use of gas. This kind of education will go a long way to sustain the West Africa Gas Pipeline project when completed.

Table 1.53: Fuel for Cooking by Source and Locality of Residence

Fuel Sources	Accra	Other Urban	All Urban	Rural	Ghana
None, no cooking	5.6	5.3	5.4	1.8	3.5
Wood	1.4	28.6	22.9	85.2	55.8
Coconut husk	0.2	0.3	0.3	0.4	0.4
Gas	22.4	9.0	11.8	1.1	6.2
Electricity	2.9	1.8	2.0	0.4	1.1
Kerosene	5.1	2.0	2.6	1.4	2.0
Charcoal	61.6	52.4	54.3	8.2	30.0
Other	0.9	0.6	0.7	1.5	1.1
Total	100.0	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service (2002) 2000 Population & Housing Census. Summary report of final results

## **1.6 Projected Households and Housing in Ghana (2000-2025)**

### **Summary of Trend Results**

The housing situation in Ghana is inadequate though improving. Many households, particularly in the cities and other urban areas, however continue to live in overcrowded and unsanitary conditions. Houses lack basic amenities such as toilets, kitchen, bathroom, and refuse dumps. Most of the cities have lost their original plans because places designed for car parks, schools, clinics/hospitals and other facilities are now occupied with kiosks that are serving as sleeping places. Some people even sleep in offices.

There are rural houses that can be described as sub-standard and dilapidated and are therefore unsafe for occupancy. This is based mainly on material used in the construction and lack of maintenance. Most of these houses lack basic amenities such as water, electricity, toilet and kitchen. As at 1997, annual additional requirement for residential accommodation was put at 95,000 units while the annual supply remained at 45,000, with 92 per cent of the supply

being delivered by the private sector (Ministry of Finance, 1997). Such estimates are often not explicit enough because both the demand and supply are not stated in terms of type of houses and area of location. As such, though aggregate figures may suggest improving housing conditions, the data may mask terrible conditions in specific locations in the county.

So far we have analysed the characteristics and trends of population, households and housing conditions in Ghana. This section examines the future prospects of housing, especially for the period 2000 to 2025. The implications of these findings are further examined in relation to the socio-economic conditions in Ghana. From the analysis so far, the following observations are made:

- There is sustained high growth of population throughout the country, with higher growth rate in the regional capitals of Western, Greater Accra, Ashanti, Northern and Upper West than elsewhere.
- Average household size has increased steadily, from 4.2 in 1960 through 4.7 in 1970, 4.9 in 1984 to 5.1 in 2000 and is expected to maintain this trend for some time to come.
- The national average number of households per house has remained high in Ghana but declining. It was observed that the number of households per house was 2.4 in 1960; 1.9 in 1970; 2.1 in 1984 and 1.7 in 2000. This suggests a reduction in the congestion in houses. The problem, however, is slightly worse in urban towns where two or more households per house have been observed in some cases.
- Household distribution by sizes reveals that there are higher proportions of smaller households declining gradually as household size increases. In addition, there is a decline in the proportion of one, two and ten or more households, while the proportion of the other households experienced an increase between 1984 and 2000.
- Increase in the provision of houses is higher than population growth rate, resulting in a decline in the number of persons per house between 1984 (10.2) and 2000 (8.7). In the regional capitals, however, the number of persons per house remains relatively high (9.0 in Ho to 17.4 in Kumasi in 2000).

#### **Assumptions for Projecting Household and Housing**

- Household size for the period is assumed to increase marginally from the 5.1 in 2000 to 5.13 in 2005, 5.16 in 2010, 5.16 in 2015, 5.17 in 2020 and 5.17 in 2025. The observed increase in household size for 1960-1970 is 0.5; 1970-1984 is 0.2 and 1984-2000 it is also 0.2. Assuming a similar trend, an increase of 0.1 for the period 2000-2010 was chosen. From 2010 onwards, no increase in household size is expected till 2025. If anything should happen at all, a decline is envisaged, given the impact of HIV/AIDS on young adults, a tendency of the young elite to have smaller families, and the rising costs of living.
- There is an improvement in the housing stock in 2000. The projection considers additional housing requirements attributable to population increases and anticipated annual dilapidation of houses.
- Annual dilapidation rate of 3 per cent has been assumed for the projection period. Estimated life of rural houses (20 years) is shorter than urban houses (60 years) based on materials used in construction. The estimated dilapidation rate of houses is 5 per cent for rural and 1.2 per cent for urban areas annually.

- A weighted average life of houses in Ghana would thus have a value of 33.6 years, given the 3 per cent dilapidation rate. It is observed that if a straight average is used for the rural sector, the extent of the dilapidation would be exaggerated too much, since 66 per cent of the houses are in rural areas and 34 per cent in urban areas (2000 Census).
- That the 1.7 households per house in 2000 will remain for up to 2010. The households per house will decline to 1.5 in 2015 and remain so until 2025. These projections were made only at the national level. For effective implementation, district level (or even town level) estimations are needed.
- A rate of 1.3 per cent of the population is assumed to be in institutions throughout the projection period (GSS, 1995). The projected population under the medium variant of 2.0 per cent has been used to estimate the future requirements for housing the expected numbers of households.

### **Projected Population, Households and House Stock.**

The projected population is converted into number of households, number of persons per household. Other methods, such as headship rate by age and sex structure of the population could also be used, but these rates are not readily available. In a situation of stable population age structure, it is not necessary to consider only adults in households but the average household size itself can be used to designate future household formation. This is what has been done in projecting the number of households for Ghana into the future.

**Table 1.54: Population Age Band Forecast for Ghana 2000 - 2025**

Age Group	2000	2005	2010	2015	2020	2025	Increase
< 5	2,884,653	3,032,543	3,181,601	3,394,524	3,497,927	3,794,854	910,201
5-9	2,455,447	2,795,783	2,951,326	3,108,789	3,333,234	3,445,314	989,867
10-14	2,145,515	2,423,411	2,763,411	2,921,424	3,083,905	3,310,972	1,165,457
15-24	3,510,743	3,958,348	4,474,150	5,089,535	5,589,228	5,915,411	2,404,668
25-44	4,623,106	5,215,377	5,896,881	6,678,027	7,577,207	8,630,501	4,007,395
45-64	2,434,476	2,731,798	3,082,838	3,982,335	3,984,081	4,547,299	2,112,823
>64	858,139	977,241	1,108,605	1,260,979	1,446,251	1,667,082	808,943
Total	18,912,080	21,134,500	23,458,808	25,950,150	28,511,828	31,311,432	12,399,352
per cent Increase		11.8	11.0	10.6	9.9	9.8	65.6
<b>Male Population Age Band Forecast for Ghana 2000 - 2025</b>							
Age Group	2000	2005	2010	2015	2020	2025	Increase
< 5	1,445,741	1,526,944	1,603,347	1,712,213	1,772,182	1,922,834	477,093
5-9	1,228,646	1,398,945	1,483,845	1,564,628	1,682,575	1,746,323	517,677
10-14	1,072,375	1,211,504	1,381,507	1,467,561	1,552,362	1,671,687	599,312
15-24	1,750,798	1,973,197	2,230,010	2,537,248	2,795,061	2,968,868	1,218,070
25-44	2,285,111	2,579,253	2,975,353	3,305,212	3,754,232	4,278,426	1,993,315
45-64	1,180,923	894,588	1,495,935	1,698,251	1,939,806	2,220,039	1,039,116
>64	393,788	449,177	510,037	581,145	670,433	775,417	381,629
Total	9,357,382	10,463,684	11,622,126	12,866,258	14,166,650	15,583,593	6,226,211
per cent Increase		11.8	11.1	10.7	10.1	10.0	66.5
<b>Female Population Age Band Forecast for Ghana 2000 - 2025</b>							
Age Group	2000	2005	2010	2015	2020	2025	Increase
< 5	1,438,912	1,505,599	1,578,254	1,682,311	1,725,745	1,872,020	433,108
5-9	1,226,801	1,396,838	1,467,481	1,544,161	1,650,659	1,698,992	472,191
10-14	1,073,140	1,211,907	1,381,904	1,453,862	1,531,543	1,639,285	566,145
15-24	1,759,945	1,985,151	2,244,140	2,552,286	2,794,167	2,946,544	1,186,599
25-44	2,337,995	2,636,124	2,979,434	3,372,815	3,822,973	4,352,074	2,014,079
45-64	1,253,553	1,407,134	1,586,903	1,798,625	2,044,275	2,327,262	1,073,709
>64	464,351	528,065	598,568	679,834	775,818	891,666	427,315
Total	9,554,697	10,670,817	11,836,684	13,083,892	14,345,179	15,727,842	6,173,145
per cent Increase		11.7	10.9	10.5	9.6	9.6	64.6

Source: Ghana Statistical Service (2004) Population Data Analysis Reports, Vol.1.

Table 1.54 is based on the age structure observed for the 2000 Census and the population projections for Ghana. There will be a rise in population of Ghana of about 2.0 per cent per annum throughout the forecast period. Around 12,399,352 more people are projected to be in Ghana in 2025 than in 2000. Currently, there is a growth of population in the 15-64 age group, so that between 2000 and 2025 this population will increase by 8,524,886 (80.7 per cent). The other significant feature of the population trend is that while the male population over the 25 years increases by 53.7 per cent, the female population increases by 52.3 per cent.

Another observation is that population growth in the first 5-year band will be highest to be followed by annual decline till 2025 nationally for both male and female. On balance, Ghana's population will continue to undergo the ageing process. Table 1.55 shows that the population in the over 64-year age group increases by 808,943 people in 2025, almost double the figure of 2000. The Table indicates that the aged population will increase at a much faster rate than the general population. Whereas the rate of growth declines with time, that of the aged rather accelerates after an initial dip in 2010. The absolute number of people over the age of 64 years is large and given the resources demands often associated with very elderly people, these are significant figures.

**Table 1.55: Projected Growth of the Elderly Population (65 years and Older), 2000 - 2025**

	2000	2005	2010	2015	2020	2025	Increase
Aged 65 and Older	858,139	977,241	1,108,605	1,260,979	1,446,251	1,667,082	
Increase		119,102	131,364	152,374	185,272	220,831	808,943
Rate of Increase		13.9	13.4	13.7	14.7	15.3	94.3

Source: Ghana Statistical Service (2004) Population Data Analysis Reports, Vol.1

Table 1.56 outlines the household formation in 5-year bands from 2000 to 2025, based on the household size projections for the population over the period 2000-2025. The results show that household numbers will increase by 2,320,188, which is a 62.7 per cent increase. The household increase over the 2000-2025 period is slightly less than the increase in population. There is likely to be large increases in single person households as a result of the elderly living longer and youth delaying age at first marriage.

**Table 1.56: Projected Increase in Household Formation, 2000-2025**

	2000	2005	2010	2015	2020	2025	Increase
Projected. Population	18,912,080	21,134,500	23,458,808	25,950,150	28,511,828	31,311,432	
Households	3,701,241	4,064,327	4,511,309	4,990,413	5,483,044	6,021,429	
Increase in Households		363,086	446,982	479,104	492,630	538,385	2,320,188
Rate of Increase		9.8	11.0	10.6	9.9	9.8	62.7

The projected total number of households serves as the basis for the projection of the required number of houses (dwelling units) needed for the increase in population (Table 1.57). Assumed depletion rate of 3 per cent is used to calculate the increases at each point from the projected households. The sum of the various increases is used further to arrive at the expected annual dwelling units to be built. To arrive at the number of households from the projected population, the population in private houses (obtained from the projected population and an assumed proportion of population in institutional units) is divided by the projected household sizes.

The projection indicates that from 3.7 million households in 2000, the number of households in 2025 will be about 6.0 million. That is the number of households will grow at about 1.97 per cent per annum, which is slightly less than the rate at which the population itself would grow.

This means that there will be about 2.3 million new households in Ghana to be sheltered. Given an assumed dilapidation rate of 3 per cent per annum for the existing houses, the actual number of dwelling units needed to take care of the new households and at the same time replace those that will become dilapidated during the period will be about 3.5 million or an average of 138,035 additional units per year. With an estimated annual increase in population of about 495,974 during the 25-year interval, the number of additional dwelling units per 1,000 populations per year is 278 housing units. This is a huge requirement and will not necessarily take care of the existing poor living conditions.

**Table 1.57: Projected Number of Households and Housing Needs, 2000 to 2025**

Projected Indicators	2000	2005	2010	2015	2020	2025	Increase
Total population	18,912,079	21,134,500	23,458,808	25,950,150	28,511,828	31,311,432	
Household population (0.987P)	18,666,222	20,859,752	23,153,843	25,612,798	28,141,174	30,904,383	
Assumed Household Size	5.1	5.2	5.2	5.2	5.2	5.2	
Projected Housing Need	3,660,044	4,011,491	4,452,662	4,925,538	5,411,764	5,943,151	
Actual houses needed (1.7 household/house)	2,152,967	2,359,700	2,619,213	2,897,375	3,183,390	3,495,971	
Increased New Housing Need		206,733	259,513	278,162	286,015	312,581	1,343,004
Dilapidated House		327,296	353,955	392,882	492,554	541,176	2,107,863
Total additional housing needed		534,029	613,468	671,044	778,569	853,757	3,450,867
Per cent Increase		24.8	26.0	25.6	26.9	26.8	60.3

### ***Implications of the Households and Housing Stock Projections***

The projection in Table 1.57 has shown that in the 25 years from 2000, about 60.3 per cent of the number of households as existed in 2000 would be formed and would need to be provided with housing. Even assuming, that about 1.7 households will share a dwelling unit as existed in 2000 till 2010 and the situation will improve to 1.5 households per house for the rest of the forecast period, about 3,450,867 additional units would have to be provided. The magnitude of the housing needs in the country in the next 25 years is certainly enormous. In addition to the number of houses, there is the need to prevent the development of shanty-towns, slums and ensure an orderly development of settlements.

Based on the current cost of a two-bedroom detached house built by the State Housing Company, which is the lowest priced housing unit available, the amount required to provide the 138,035 housing units annually would be about ₵19,325 billion (about US \$ 2.2 billion). Compared to the total budget of Ghana in 2004 of ₵24,858 billion, the task of housing the population is an uphill one.

Out of the 3,450,867 housing units projected, about 2,107,863 will be due to dilapidation of existing units. Since the latter will be constructed “in situ”, only the new housing units (1,343,004) will require additional land. It is estimated that this will require about 243,620 hectares of land. This estimated land requirement makes no provision for roads, space for social amenities and cemeteries.

Current development in the housing sector, contributed by both private and public agencies, is the horizontal growth of settlements rather than vertical. Where large quantities of houses are required as estimated, there is the danger of competition between arable land and building land as is already being observed in the bigger towns and cities. Continuing with the horizontal building of detached and semi-detached houses with large compound, and the high housing needs, most towns will expand uncontrollably and put pressure on the utility services delivery. The result will be that most new houses will be without these essential utility services.

Another implication of the estimated housing needs is the increased demand for services from utility companies and other service providers. Given that the current situation overstretchers the capacity of electricity, water and telephone companies to meet demand, good planning is required to cope with the expected increases in demand. Associated with residential housing is the requirement for amenities such as schools, social centres, roads and clinics, which need to be planned for on the basis of the estimates.

The provision of 3,450,867 housing units within the 25 years period also requires substantial material resources. The problem assumes wider dimensions if the demands are on a weak economy, where other sectors are also competing for attention and budgetary support. Budgetary allocations to the housing sector have been low though proper and adequate housing is recognised. Private sector involvement in housing development is low but has been increasing since the early 1990s. This has been attributed to the relatively slow returns from investment in housing. Most of the estate development has been in the area of residential accommodation for outright sale, commercial housing units and office accommodation, which have higher returns, while housing for household accommodation is left to private individuals. Ghana is noted to have a net low propensity to save and invest (GoG, 2003). The net effect is the relatively low capital formation and investment in the housing sector, which is unlikely to improve in the near future.

The other notable problem confronting capital formation in the housing sector is the general low incomes of the work force and the higher and increasing prices of building materials and therefore the high cost of house delivery. It has been estimated that about 60-70 per cent of the population are in the low-income group and cannot afford to build a house under the present conditions. For example, lecturers in the Universities do not qualify (based on their salaries) to access the mortgage scheme of the Home Finance Company because most cannot service the mortgage with 40 per cent of their monthly incomes. Currently, a two-bedroom detached house with basic facilities built by the State Housing Corporation costs about ₵140 million. Even middle level income earners such as Senior Civil and Public Servants are not able to save from their incomes to build a house.

Given the high cost of inputs and house delivery compared to incomes, a great majority of the population is eliminated from acquiring decent housing. Individuals in need of houses are compelled to use cheaper building material in the construction of houses. This leads to the creation of slums and unwarranted extension of existing structures resulting in overcrowding. In extreme cases, increases in population per house density as is being observed in urban areas, increases pressure on existing amenities.

Other consequences of the high cost of building materials and low incomes relative to increasing demand for houses are congestion, overcrowding and stress on existing amenities, accelerated deterioration of existing stock, and consequently a higher maintenance and replacement rate. Failure to maintain or replace housing units means that people continue to live in houses that are a threat to their lives.

The fundamental problems relating to the present inadequate state of the housing sector include: inadequate funding; land tenure and cumbersome process of acquiring land; insecurity of tenure arising from difficulties in establishing the true ownership of land; inadequate physical planning control as a result of obsolete ordinances; inadequate resources for planning and ineffective control and monitoring of the planning machinery; high cost of infrastructure development; high cost of building materials; over-reliance on imported building materials; low investment in the development of local alternatives; lack of proper management; inadequate legislation in the housing sector; and lack of co-ordination of delivery efforts among the various housing development sectors and statutory agencies. All these tend to inhibit effective implementation of government policies and housing programmes.

Among these housing constraints, housing finance is the most pressing, while land tenure and acquisition is an additional problem for urban areas due to multiple sales by landowners and problem with land guards. To meet the huge demand for houses, these identified problems need to be carefully examined at the district level in order to evolve systematic, effective and lasting solutions to them within a context that will make housing accessible to all prospective members of the population needing housing.

## **1.7 Recommendations**

### **Introduction**

Since the attainment of independence in 1957, governments have tried to provide for the housing needs of the people, especially the low-income group, yet the gap between intention and achievement grows wide. The inability to match housing supply with demand could be attributed to limited resources and the fact that no serious effort has been made to assess the people's housing need. The provision of houses in the country is correlated to the performance of the economy at any time.

The projection of housing needs reveal that both the population and household formation are likely to increase. The corresponding housing needs to cater for only the increase in the population without any effort at decongestion of the already congested areas, or rehabilitation of existing substandard residential areas between 2000 and year 2025, would require substantial sums of money and other resources which may not be met under the prevailing economic conditions in the country.

Four possible areas for attention to this population-housing crisis in Ghana are presented here.

### **Housing Demand Estimation**

In the past, government's attempt to solve the housing problem was to build estates, which were meant for low-income groups, but these were taken over by middle and upper-income groups due to escalating costs. These experiences call for a new approach to housing policy planning in Ghana. There is a need for a study to enable identification of target groups for different housing programmes based on the following: population (total, growth rate, and classification by age groups); household size (average and distribution); population mobility (migration population); household income (income levels and classification of population by income); house cost (house price and rent levels by type of housing and location); housing stock (total stock, classification of the stock into good, fair and poor houses, rate of housing deterioration to indicate required replacement); land for housing (number of residential plots, and cost of leasing plots); housing finance (interest rates, amortization period, and mortgage payments); and cost of labour (rates for hiring various types of labour).

### **Impact of Population Growth**

Another area of focus is the control of the population growth which appears more plausible and has a desirable long-term effect on the entire economy. It has been estimated that one per cent increase in population requires about 3-4 per cent growth in the economy to maintain the present standard of living. This implies that with the present growth rate of about 2.7 per cent, there is a need for the economy to grow between 8-11 per cent to maintain the present living conditions. In a situation of a sluggish performance of the economy, a sustained high population growth rate implies a potentially worsening situation. The acute housing problem of the country is also an issue of unregulated population growth, which has out-paced the economic growth rate. High population and urban drift are the major causes of the housing problems observed in urban areas. Family planning programmes must be intensified even as efforts at creating job opportunities in the rural areas to help retain the rural population are made.

### **Housing Rules and Regulations**

To improve housing and housing conditions in Ghana and also alleviate the hardship faced by workers with regard to dwelling place, it is recommended that government deepen the process of decentralization to ensure equity in development across the country. Government must support research efforts of the Building and Road Research Institute of the Centre for Scientific and Industrial Research (CSIR) to develop appropriate and relatively cheaper but durable local materials for the construction of houses so as to reduce the costs involved in building. Government must also review downwards tariffs on imported building materials that are not manufactured locally to make them relatively affordable.

There is a need to review existing legislation relating to housing. Rent control regulations must be reviewed and rent determination left in the hands of the housing sector. Government should focus attention on formulating laws to promote vertical instead of lateral/horizontal housing development in cities and large towns. The low cost housing schemes introduced in the past to provide shelter for displaced people must be reconsidered and implementation improved using estate developers.

### **Strengthening Regulatory Institutions**

Town and Country Planning Department is short of needed manpower as a result of the ban in the Civil Service regarding recruiting more functionaries. It should be able to outsource some of the work those functionaries would otherwise perform to skilled temporary workers (consultants) to be paid for by the clients. In respect of material resources, especially until land use maps are updated and made readily available, the provision of a few more vehicles, or of a budget for car hire, could help make the Town and Country Planning more productive. More people (whether permanent or temporary) and more transportation would also be useful for the Works Department of the AMA. Performance contract must be signed to encourage performance of the institutions.

Even with more resources, there will be limits to the improvements the Town and Country Planning and the Works Department can make without improved work practices. Foremost among these is the merger of the development permit and the building permit issuance into a single document, issued at the end of a single integrated process. With two institutions as closely related in purpose as these, both applying the National Building Regulations, there is every reason for the processes of approving the development, as a whole, and of the details of the buildings that compose it, to run concurrently. Currently, representatives of the Works Department already sit on the interagency subcommittee that considers development applications; there is every advantage, for investors, for the interagency subcommittee to carry out its role in respect of buildings at the same time as other aspects of the development are being considered.

The full Statutory Planning Committee need not consider every development project. Development applications for modest projects could be delegated for decision to Sub-Metropolitan Councils. To the extent that the Town and Country Planning at the municipal level seems to be migrating from the Ministry of Science and the Environment to the Ministry of Local Government and Rural Development, which oversees the municipal governments, it is both plausible and desirable physically to co-locate the local office of the Town and Country Planning with that of the Works Departments of the relevant District Assemblies.

It is necessary to undertake a general review of the work practices of Town and Country Planning. The Town and Country Planning Ordinance of 1945 requires urgent review to address current challenges. It also seems desirable that the number of points in the construction process at which inspection by the Works Department is required be cut down radically. This would, require some amendments to the National Building Regulations, but this would be required as part of a larger effort to merge at least some of the licensing activities of the Town and Country Planning and the Works Department.

Finally, if rational, planned development is to regain some currency, greater efforts will have to be made to enforce land use planning policy. This will require both police action, where appropriate, and a significant measure of public education. Swift action must be taken when, for example, people encroach on road provisions. The harm to public good and to the value of adjacent properties is too great to tolerate such conduct. Enforcement should be preceded by education, so that the public understands why police action is sometimes necessary. It might be worth considering a pilot activity of public education in an area identified for infrastructure improvements, so that the link between such public goods and the community's interest in preserving them is made clear. This will require a big political

courage, both for the agencies involved and for political leadership of the District Assemblies.

### **Utility Delivery**

Electricity Company of Ghana (ECG) can address the problem of delay in preparing estimates of the capital contribution for new services by outsourcing the estimates from two or three competing service providers. The incentive for such providers will be to get to the prospective ECG customer as quickly as possible (faster than their competitors). ECG already contracts out many of the tasks associated with service provision; thus, the approach proposed is entirely consistent with current firm practice.

Another simple, low-cost measure ECG could take is in respect of public education and information dissemination. As an official of ECG pointed out, very often investors apply for service quite late in the project development process, and expect ECG simply to hook them up. ECG should prepare brochures directed particularly at investors, explaining the process by which to obtain service and urging investors to apply early for it, so that some of this information gap could be filled. This information can be channeled through the Ghana Real Estate Developers Association (GREDA) and their numerous ECG offices nationwide to private individuals.

In the medium term, the Public Utilities Regulatory Commission may want to consider creating for ECG and other service providers an explicit performance measure that links service delivery with tariff increase, in order to give service providers a clear incentive to outperform in respect of new service provision.

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## **CHAPTER TWO**

### **HEALTH AND ENVIRONMENTAL SANITATION<sup>2</sup>**

#### **Executive Summary**

The health and environmental sanitation of the people are linked to the general state of development in the country. The Government of Ghana seeks to improve the health of all people living in Ghana regardless of age, sex, race, ethnic origin, religious conviction, political affiliation or socio-economic standing. This is to be achieved through improvements in access, quality, efficiency and financing of the health system. The implementation of the objectives are expected to lead to increase in life expectancy from 55 to 60 years, reduce infant mortality rate from 66 to 50 deaths per 1000 live births and reduce under five mortality from 132 to 100 per 1000 live births. In addition, it is to reduce maternal mortality rate from 214 to 100 per 100,000 live births and to reduce adult mortality rate by 30 per cent by the year 2005. These targets could be achieved if environmental conditions are improved to merit healthy living.

The structure of the health system consists of national, regional, district, sub-district and community health system. The health system of the country is built on the Primary Health Care (PHC) strategy, which has the district as the focus. For each district, health care is delivered at three levels on the basis of type of service that is provided to the patient. At the community/village level, trained community members and community health nurses offer basic treatment, health education and health promotion activities. At the sub-district level, trained nurses and sometimes doctors or medical assistants offer treatment and preventive health services at a health centre, while at the district level, there is a hospital which is managed by the District Health Management Team (DHMT), with doctors and nurses managing referred cases.

The health system in Ghana incorporates services provided by many partners, including private health care services, religious bodies health facilities, para-statal/quasi-government health system and clinics/hospitals for private companies. In addition, the traditional herbal and spiritual centers also provide services.

Trends in the demographic characteristics from the 1960 to 2000 census data indicate increase in population and changes in the share of population by the regions. The population has increased to 2.8 times the size in 1960. The proportion of the population aged 65 years and above has increased from 3.3 per cent in 1960 to 5.3 per cent in 2000. Though fertility has declined, the sex ratio indicates more females than males. In 1960 the sex ratio was 102.2 compared to 97.9 in 2000. Ghana still has a huge young population and the population will continue to grow. Policies must be implemented to address these changes.

The available evidence shows that there is a general increase in the number of health facilities in both the public and private sectors. The number of hospital in the public sector increased from 251 in 1991 to 333 in 2001. For Greater Accra, the number of hospitals

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This Chapter is contributed by Prof. R.B. Biritwum and Mr. K.T. Peprah.

almost doubled within the period, while the number of hospitals in Ashanti increased by a third. On the other hand, the number of hospitals in Northern, Central, Volta and Upper East remained almost the same over the period. With regard to health centres, significant increases in the numbers occurred in all regions. In the private sector, Greater Accra has almost a quarter (24.8 per cent) of all private health facilities, with Ashanti following with 20 per cent. Upper East recorded the least, 1.6 per cent of all private health facilities in the country. Although there is a widespread distribution of health facilities in the country, the three northern regions did not record any remarkable increase to take care of the growing population in the regions.

Health manpower levels showed very little increase over the years. In the public sector, in 1996, there were 1,057 doctors, in 1999 there were 1,115 doctors and in 2001 there were 1,339 doctors. For pharmacists (from 192 to 166) and laboratory technicians (from 145 to 28) the health system recorded a reduction in personnel in 2001 compared to 1996. This phenomenon is a threat to the sector and poses a lot of stress on the few remaining personnel.

Health care services provided to the people, both as curative and as preventive services, showed a little increase. The per capita outpatient visits rose from 0.36 in 1996 to 0.49 in 2001. Hospital admission per 1000 population also increase from 25.0 in 1996 to 36.4 in 2001. Coverage of immunization, contraceptive use, supervised delivery, and use of family planning methods have also shown remarkable increase over time. Although improvement in the practice of family planning methods is encouraging, total fertility rate has had significant fall from 6.4 birth per woman in 1988 to 4.6 in 1998, a sign of an impact of small family size and birth spacing education on the population. Thus the health policy in this direction could be said to be in line with needs, however, with total fertility rate at 4.6, there is still a need to provide resources for further improvements.

The pattern of diseases in the population has not shown any significant changes. Malaria still tops the list of diseases managed at the outpatient departments of clinics and hospitals (40 per cent), followed by upper respiratory tract infections (8 per cent), diarrhoeal diseases (4.9 per cent), diseases of the skin (4.6 per cent) and accidents (3.8 per cent). Hypertension, a disease commonly found with adults also, falls within the top 10 causes of outpatient visits in Ghana (2.2 per cent). The high prevalence of hypertensive diseases and other chronic conditions reflects in the observed aging population.

The trends in the prevalence of HIV/AIDS and tuberculosis are alarming and measures must be put in place to address the risks that the population takes by not putting their awareness into practice. It is against this background that other preventive measures, such as the promotion of Voluntary Counseling and Testing (VCT), reduction of mother-to-child transmission and transmission of blood and blood products are put in place. The use of less expensive and/or subsidized drugs to prolong the lives of people living with AIDS also needs to be supported by Government.

The pattern of death shows increasing importance of non-communicable diseases, such as hypertension, strokes and liver diseases, and some attention must be paid to risk factors related to the diseases. Causes of death are age specific. For infants, low birth weight and birth asphyxia are the major causes of death. Malaria, congenital malformation, diarrhoea, anaemia, malnutrition and pneumonia are the leading causes of childhood deaths, while

HIV/AIDS, tuberculosis, accidents and liver diseases are the most important causes of death among the population in the reproductive age. In the population aged 45 years and older, stroke, hypertension, cancers and diabetes as well as kidney failure are the major causes of death.

Regions in the northern part of the country have fewer health facilities and lower coverage in preventive health services, resulting in high hospital admission rates per capita for the people in those regions. It is therefore recommended that more expansion of the health facilities be encouraged to ensure better distribution of health resources to all regions of the country. One major problem concerns the equitable distribution of the limited health resources. Considering equity distribution, government should also look at the rate of growth and distribution of the population in the country in long-term provision of health facilities and health personnel. The movement of population to the south can be addressed if conditions in the losing regions will be improved through the provision of health infrastructure and manpower.

The low utilization of health services in areas with lower health facility per population is an indication of lack of access to health services. The likely explanation could be financial accessibility and this calls for prompt decision on the financing of health care services in Ghana. Whether to keep the cash and carry system or to install effective health insurance scheme in order to achieve the health objective of the country is an issue the authorities need to look at. Government must, for long term planning, consider advances in the management of diseases that call for overseas treatment, such as kidney transplant, cardiovascular emergencies, and cancers to devote research funds for their establishment in Ghana. The success of the Cardio-thoracic Unit at Korle-Bu Teaching Hospital should be a good example to support growth in the delivery of such “expensive” health care services in the country.

Another important area that needs attention is the aspect of environmental sanitation. The environmental sanitation, although not the best, has improved, with more people having flush toilets and about 42.1 per cent having access to potable water. Some notable improvements were made in the provision of potable drinking water. For instance, the proportion of households who have access to piped water improved from 36 per cent in 1993 to 40 per cent in 1998 and 42.1 per cent in 2000. There has been a marginal increase in the proportion of households using flush toilet from 6 per cent to 8.5 per cent between 1987 and 2000. The proportion of households without toilet facilities, on the other hand, changed over the period, reducing gradually from 25.3 per cent in 1987 through 22.6 per cent in 1993 to 20 per cent in 2000. The facilities available for both solid and liquid waste disposal are not the best, as the methods could easily increase health care costs. It is an area, which requires urgent attention, as the implication in the communities is most hazardous. This is because only 4.5 per cent of households dispose liquid waste through the sewerage system. The remaining households liquid waste are either thrown into streets, onto the compound or into gutters; methods, which contribute to sanitary nuisance and vector breeding. Another serious problem is indiscriminate refuse disposal methods (into valleys, pits, bushes, open gutters etc); this account for about 83.4 per cent of solid waste generated by households.

To deal with these problems, policies need to be put in place to effectively control risk factors that expose individuals to the major communicable diseases; reduce the incidence of water-borne diseases and other environmental diseases arising from unsanitary practices and

inadequate housing. It is important to increase access to health services especially in rural areas; to improve the health system for delivery of public health services; and strengthen the overall management of the health system through education and monitoring of the health and environmental sanitation in the country. In addition the supply of potable water must be increased to meet the increasing demand.

## **2.1 Introduction**

### **Objectives**

The objective of the report is to analyze the policy implications of trends in population variables (growth, distribution and characteristics) on health and environmental sanitation in the country, using data from the census and other national health surveys.

### **Methodology**

The report reviews trends in important demographic changes, which have occurred over the period from 1960 to 2000 and the bearing on health and environmental sanitation. An attempt is made at assessing whether the rate of change in the demographic characteristics match efforts that have been made in terms of health and environmental sanitation resources and services. The report also reviews health indicators to assess their impact on population variables.

The broad goal of the Government is to improve the health of all people living in the country. Specifically, the Government seeks to improve the performance of the health system and to foster linkages with other sectors to reduce population growth rate, reduce level of malnutrition, increase female education, increase access to water and sanitation, and to reduce poverty. To achieve these goals, five main objectives have been pursued, these include:

- (i) to ensure greater access to health services by expanding the existing network of health facilities and providing a basic package of health services,
- (ii) to improve quality of care by improving the skills of health care providers, improving working environment, and instituting a process for quality assurance and developing a framework for the monitoring and regulation of services,
- (iii) to improve efficiency by strengthening and decentralizing health management,
- (iv) to foster greater partnership between private and public health service providers,
- (v) to increase the level of financing of health services.

The implementation of these objectives is expected to lead to an increase in life expectancy from 55 to 60 years, a reduction in infant mortality rate from 66 to 50 deaths per 1000 live births, under-five mortality from 132 to 100 per 1000 live births, maternal mortality rate from 214 to 100 per 100,000 live births and adult mortality rate by 30 per cent, all by the year 2005 (MOH, 2001 annual report).

### **Structure of Health System in Ghana**

The health of the people of Ghana is the responsibility of the Ministry of Health and the Ghana Health Service. The Ghana Health Service and Teaching Hospital Act 525, 1996 set up the Ghana Health Service (GHS) as part of the health sector reforms and charged with the implementation of services in government health facilities at regional, district and sub-district

level. The GHS is directly responsible for the health care delivery in the country. Its operations are supervised by a Council that reports directly to the Minister for Health. The health system incorporates services provided by many partners, including the private sector made up of self financing private individuals or groups, the religious bodies' health facilities (Missions), Quasi-Government, Non Governmental Organizations and the Civil Society Organizations. It also incorporates the traditional sector, comprising traditional providers, alternative medicine and faith healers. The Ministry of Health also supports and works with the Centre for Scientific Research into Plant Medicine at Mampong Akwapim, which combines the use of plant medicine and modern medicines in managing diseases in the country. Finally, the Ministry of Health works with other ministries such as education, agriculture, works and housing and local government for efficient delivery of health services as indicated in Figure 2.1.

Figure 2.1: Structural Relationship and Key Functions in the Health Sector



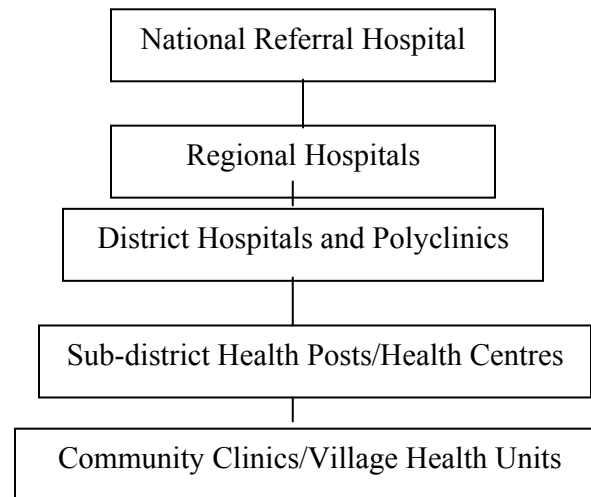
In addition to the direct responsibility for activities of the health sector the Ministry of Health:

- provides overall policy direction for all stakeholders in health delivery system;
- mobilizes and allocate resources to all providers;
- provides relevant and adequate information for coordination and management of health service;
- provides regulatory framework for all providers;
- monitors and evaluate health services in Ghana;
- acts as a strong and effective advocate for multi-sectoral action in health services; and
- procures services and goods for the health sector.

The health system, classified by the level of services that is provided to patients, consists of national, regional, district, sub-district and community health systems. At the apex is the national referral hospital (Korle-Bu Teaching Hospital), followed by regional hospitals in all 10 regional capitals; next are the district hospitals in almost all district capitals, followed by the sub-district health post or health centre and finally the community level health facilities (Fig 2.2). National and regional hospitals are public health facilities; at the district level,

some of the health facilities are private, mission or quasi-government facilities. The health system of the country is built on the primary health care (PHC) system, which has the district as the focus. For each district, health care is delivered at three levels, namely the community/village, sub-district and district levels.

Figure 2.2: Service Delivery Levels in the Health System



A community clinic or village health unit is usually a single room identified by the community for the purposes of treating simple cases and providing health education and health promotion activities. A trained community health nurse or sometimes a traditional birth attendant (TBA) manages it. The sub-district health centre or health post is manned by a medical assistant and is the first referral point for the village level workers. It offers treatment and preventive health services, such as antenatal care, routine immunization, and treatment of illnesses.

District hospitals are headed by medical officers and provide outpatient and in-patient care. The doctors and the nurses also manage referred cases and offer tertiary care. A district hospital is expected to have about 150-200 beds and such units as surgical, medical, obstetric and gynaecological, paediatric, chest and isolation, radio-diagnostic, pathological and dental unit. At present, the average number of beds for district hospitals is 100 and ranges between 80 and 150 beds. In the cities of Accra and Kumasi, there are polyclinics, which offer wider services than the sub-district health facilities.

Regional hospitals are the ultimate referral point for all facilities within a region. A regional hospital should have about 200 - 400 beds and such additional units as orthopaedic, genito-urinary, ophthalmic and otolaryngological. The average number of beds for regional hospitals currently is 200 and ranges between 150 and 250 beds.

A national hospital should have at least 500 beds and such other units as cardio-thoracic, neurological, and radiotherapy. In Ghana, the Korle-Bu Teaching Hospital, established in 1923, is currently the only national referral hospital. It acts as a teaching hospital for the Ghana Medical School and other schools of the College of Health Sciences. Korle-Bu also houses schools for the training of paramedical staff, including clinical nurses, public health nurses, numerous cadres of technicians and technologies. The hospital, with about 1600

beds, admits about 3,600 patients a year and manages about 800,000 outpatient visits per year. The efficacy of these facilities in the country will be much felt if the human resources available is effectively utilized and the necessary measures put in place for conducive working environment.

### **Health Sector Financing**

The health sector has received relatively adequate attention in terms of the share of the national budget and donor support. In the 1999/2000 budget, 5.9 per cent of the budget was allocated to the health sector. This was increased to 9.1 per cent in 2001 and to 10.3 per cent in 2002, with spending on districts and lower levels constituting nearly 41 per cent (Table 2.1). The proportion of the budget spent on staffing has increased from 55 per cent in 1998 to more than 80 per cent in 2002 (Ministry of Health Programme of Work 2002, Report of the External Review Team). The improvements in the health sector did not go into salaries and physical development alone but was also reflected in the exemptions for antenatal services (37.6 per cent), the aged (16.9 per cent), the under five years (43.3 per cent) and the poor (1.6 per cent) for 2002. Obviously, improvement in maternal and child health will reduce the under five and maternal mortality rates in the country and have implications for population growth.

**Table 2.1: Financial Sector-Wide Indicators**

Budget Indicators	MOH Baseline (1999-2000)	MOH Target – 2006	2006	2002 Budget	2002 Actual
per cent GOG budget spent on health system	5.9		9.1	10.3	11.1
per cent GOG recurrent budget spent for health	11.0		10.2	10.5	11.0
per cent GOG recurrent health spending on items 2 & 3			12.9	30.2	17.8
per cent of earmarked/direct donor funds to total donor fund		40.9	63.0		NA
per cent IGF from prepayment schemes			NA		NA
per cent spending on district and below (items 2 & 3)		42	48.5	33.3	40.9 (6 mths)
Total per cent spending on district from DPF & GOG3			41.0		24.6
Total exemptions for regions (based on 6 regions)					14.36
per cent of exemptions spent on ANC					37.6
per cent of exemptions spent on aged					16.9
per cent of exemptions spent on under-5 years					43.3
per cent of exemptions spent on the poor					1.6

Source: Programme of Work, 2002: Regional Annual Reports, 2002;2002 (quarters 1 & 2);  
Ministry of Health Financial Statements 2001 and 2002 (quarters 1 & 2)

The health status and the economic status of the people are linked and it is therefore appropriate to describe the health status of a country as an input to the development process. Health is difficult to quantify as an attribute and is often measured by indicators, which describe absence of physical well being, such as morbidity and mortality rates. The need for quantitative measures of health has been expressed by many scientists, especially for cost benefit analysis. The health status of the people for this report will be inferred from the number, quality and distribution of health facilities, health personnel and health resources as well as the services provided in public and private systems. The trends in the development of health facilities, in morbidity and mortality rates as well as the service delivery outputs provide good indicators of the health status of the nation. The knowledge and attitude of the

people regarding disease causation and use of preventive services act as both input and output of a good health system.

Environmental sanitation, which describes the risk to the health of the people, is another area of interest. The report discusses the promotion and prevention of incidence of diseases and other consequences of ill health, relating to environmental factors. Emphasis in this report is directed at the physical environment and its impact on healthy living. Issues to be discussed therefore will include adequate and safe water supply, proper sewerage and refuse disposal, food hygiene and proper housing. Physical environment issues have direct link with environmental health, particularly those aspects of human health, including quality of life, that are determined by physical, biological, social and psychosocial factors in the environment. Most diseases arise when the body is exposed to some agent or stress in the environment. It is in view of this that attention is given to adequate and safe water supply, food hygiene, proper housing, proper sewerage and proper refuse disposal methods, which are expected to minimize the extent of environmental hazards.

## 2.2 Trends in Demographic Parameters

The important demographic changes relevant to the health and environmental sanitation in Ghana include the population growth in size, population distribution by regions, sex and age structure and migration. Trends in these population characteristics affect the demand for health services both in volume and the type of services, the facilities for prevention and promotion of health such as access to water, housing and the quality of the environment.

**Table 2.2: Relative Share of Population by Region**

Regions	1960	1970	1984	2000
Western	9.3	9.0	9.4	10.2
Central	11.2	10.4	9.3	8.4
Greater Accra	8.1	10.6	11.6	15.4
Volta	11.6	11.1	9.8	8.6
Eastern	15.5	14.1	13.7	11.1
Ashanti	16.4	17.3	17.0	19.1
Brong Ahafo	8.7	9.0	9.8	9.6
Northern	7.9	8.5	9.5	9.6
Upper East	7.0	6.3	6.3	4.6
Upper West	4.3	3.7	3.6	3.0
All Regions	100.0	100.0	100.0	100.0
N	6,726,815	8,559,313	12,296,018	18,912,079

Source: Population Census of Ghana

The population has increased to about 2.8 times the size in 1960. It is therefore expected that health and environmental facilities and services should increase to more than threefold. In 1960 the country had just gained independence and facilities were below the optimum. In 1960, most of the important health facilities were located in urban areas. The share of the population by region has remained fairly constant for most of the regions with exception of Greater Accra, which has virtually doubled its share of the population from 8.1 per cent to 15.4 per cent in 2000 (Table 2.2). This trend will affect population density and demand for services in Greater Accra. Upper East, Upper West and Eastern have declined in terms of their share of population.

The sex ratio (number of males to 100 females) for the country has shown a decline from a high of 102.2 in 1960 to a low of 97.9 in 2000 (Table 2.3). There are now more females than

men and this will justify emphasis on female related, reproductive and child health programmes.

**Table 2.3: Sex Ratio by Region 1960 - 2000**

Region	1960	1970	1984	2000
Western	110.2	104.7	102.6	103.4
Central	95.0	93.8	95.9	91.2
Greater Accra	112.0	104.9	96.0	97.7
Volta	95.2	92.5	93.9	93.6
Eastern	102.2	98.3	98.7	96.8
Ashanti	104.9	99.1	97.0	101.3
Brong Ahafo	111.2	104.5	103.5	100.8
Northern	104.0	102.1	98.1	99.3
Upper East	93.2	90.8	91.0	92.6
Upper West	92.0	89.2	90.2	92.1
All Regions	102.2	98.5	97.3	97.9

Source: Population Census of Ghana

### ***Trends in the age and sex distribution***

The proportion of population under 15 years in 2000 (41.4 per cent) is a significant decline from the figure of 45 per cent in 1984; though it is high, it is a reflection of declining fertility. The proportion of the elderly at 5.3 per cent, a substantial increase from 4.0 in 1984, is also a reflection of improvement in health and life expectancy. The ratio of the elderly to the children also increased from 4.0 in 1984 to 12.8 in 2000, a further indication of the ageing of the population. The fact that the population is aging is also shown by the median age, which has increased from 18.1 years in 1984 to 19.4 in 2000. This is more pronounced among females.

**Table 2.4: Population by Broad Age Group and Sex**

Age group	Both Sexes				Male				Female			
	1960	1970	1984	2000	1960	1970	1984	2000	1960	1970	1984	2000
0 - 14	44.5	46.9	45.0	41.4	44.4	47.6	46.2	41.9	44.7	46.3	43.8	40.7
15 - 64	52.3	49.5	51.0	53.5	52.3	48.7	49.8	52.8	52.3	50.2	52.2	54.1
65 and over	3.2	3.6	4.0	5.3	3.3	3.7	4.0	5.3	3.0	3.5	4.0	5.2
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The age and sex indicates that the population is young; the population under 15 years of age has remained practically stable between 41 and 46 per cent. This, combined with a population growth rate of 2.6 per cent per annum, means that there is a built-in momentum that will make the population continue to grow; this will exert more pressure on economic and health resources. The increasing proportion of the older population will call for attention to diseases of chronic nature which will affect the expenditure on drugs and services for the aged particularly with exemptions for the aged. The dependency ratio will be high and with a low employment situation, the general health situation is bound to worsen if additional resources are not shifted to the health and social sectors.

## **2.3 Provision of Health Facilities**

Generally, there have been gains in the number of public health facilities between 1991 and 2001 especially in the number of clinics and health centers (Table 2.5). Though distribution of facilities appears skewed in favour of regions in the southern part of the country, the population per facility ratio shows fairly equitable allocation. Greater Accra and Volta have the lowest population per facility, while Central, Eastern and Northern have the highest rates.

This demonstrates the effect of population size on pressure on health facilities. Eastern shares borders with Volta and Greater Accra, which have relatively large numbers of health facilities, and also has a good transportation system in place; it therefore has additional access to facilities in the neighbouring regions. Part of Central could also access health facilities in Greater Accra. Northern, surrounded by regions with poor health facility levels, could therefore be described as the most disadvantaged region in terms of pressure on health facilities.

From Table 2.5, there has been a significant increase (32.6 per cent) in numbers of hospital, from 251 hospitals in 1991 to 333 in 2001. The number of hospitals in Greater Accra almost doubled over the period, while that in Ashanti increased by a third, the two accounting for 47.4 per cent of the total number of hospitals in the country. On the other hand, the proportion of hospitals in Northern, Central, Volta and Upper East declined between 1991 and 2001. Concerning health centres, significant increases in the numbers occurred in all regions, with a general increase of 48.8 per cent but Western, Ashanti, Northern and Upper East appear to have benefited more than other regions. The ratio of population per health facility for Greater Accra (8,605) is about half the ratio for Eastern (16,706), Central (15,496) and Northern (15,149), the result of relatively more facilities in Greater Accra than other regions. Volta (6,984) has an even better ratio than Greater Accra, more the result of declining population which reduces pressure on available facilities.

**Table 2.5: Public Health Facilities by Region (1991 /2001)**

Region	1991		2001		
	Hospitals	Health Centres/ Clinics	Hospitals	Health Centres/ Clinics	Population per facility
Western	12.7	9.1	11.4	11.0	10,140
Central	8.4	10.5	6.3	7.3	15,496
Greater Accra	15.1	22.8	22.5	20.8	8,605
Volta	13.5	14.0	10.2	13.9	6,984
Eastern	7.2	10.1	7.8	7.6	16,706
Ashanti	24.3	13.7	24.9	15.5	12,482
Brong Ahafo	7.6	8.8	7.2	8.3	13,278
Northern	5.9	4.5	4.5	7.4	15,149
Upper East	2.8	2.6	2.1	4.4	12,364
Upper West	2.4	3.8	3.0	3.3	10,421
All Regions	100.0	100.0	100.0	100.0	
N	251	1,138	333	1,693	11,289

Source: Centre for Health Information Management 2002, Ministry of Health

Table 2.6 shows a distribution of private health facilities by region, with Greater Accra accounting for nearly a quarter (24.8 per cent) of all private health facilities in the country, followed by Ashanti with a fifth (20 per cent) of private health facilities. Upper East and Upper West have the least number of private health facilities in the country, constituting only 3.6 per cent. Profit motive must influence the establishment of private facilities and therefore areas with an advantage of economies of scale and effective demand are likely to be centres of attraction. It is not surprising, therefore, that Greater Accra and Ashanti have a disproportionate share of private health facilities. The Missions/NGOs clinics and hospitals are present in reasonable numbers (6.6-10.2 per cent) in all the regions, more so in Ashanti (26.0 per cent). Northern and Upper East are mostly served by mission/NGO clinics and hospitals.

**Table 2.6: Private Health Facilities by Region (2002)**

Region	Private Hospital	Private Clinic	Maternity Home	Company Clinic	NGO/Mission clinic/Hospital	Total
Western	3	135	37	32	30	238
Central	5	126	36	4	26	196
Greater Accra	49	270	79	39	24	461
Volta	8	78	44	8	28	166
Eastern	6	47	34	2	29	118
Ashanti	57	111	109	16	79	372
Brong Ahafo	8	87	51	7	28	181
Northern	2	22	4	0	31	59
Upper East	2	13	2	0	20	37
Upper West	0	21	0	0	9	30
All Regions	140	910	396	108	304	1,858

Source: Ministry of Health and DANIDA, 2002

The private sector contributes significantly to health facilities and resources in the care of the people of Ghana. Ashanti (23.8 per cent) and Greater Accra (21.6 per cent) have the highest proportion of private sector beds (Table 2.7), which could be explained in terms of population and political pressure for more infrastructural facilities. The proportion of beds for the northern regions is relatively low, a reflection of the small population numbers and therefore the fewer health facilities available in the regions. For the three northern regions, the combined number of beds makes up 7.3 per cent of general beds and 6.6 per cent of total beds in the private sector. Thus, even though the population in the three regions constitute about 17.5 per cent of the total population of Ghana (Census 2000), they have less than 10 per cent of the private sector beds. In the case of the three northern regions, therefore, it appears that factors other than population, notably the relative lack of economies of scale, may be responsible for the low levels of facilities.

**Table 2.7: General and Maternity Beds in the Private Sector**

Region	General Beds	Maternity Beds	Other	Total
Western	9.8	5.8	6.3	8.5
Central	6.7	9.9	8.6	7.6
Greater Accra	21.1	21.2	24.0	21.6
Volta	9.1	8.6	10.6	9.2
Eastern	13.0	12.0	8.8	12.1
Ashanti	23.3	25.8	23.8	23.8
Brong Ahafo	9.5	10.9	13.8	10.5
Northern	2.7	2.4	2.3	2.6
Upper East	1.0	0.9	0.1	0.9
Upper West	3.6	2.6	1.5	3.1
All Regions	100.0	100.0	100.0	100.0
N	12,275	3,609	3,014	18,898

Source: Ministry of Health and DANIDA, 2002

Note: \* Includes cots, delivery beds, and couches



Thus, while there is great proliferation of private health facilities in the country, a great proportion of private for-profit facilities and company clinics/hospitals is concentrated in Greater-Accra, Ashanti and urban areas. Thus, the significant majority of both private and public health facilities are concentrated in urban areas and the southern sector of the country where population pressure and advantage of existing facilities encourage new developments to the disadvantage of rural areas and the northern sector of the country.

## 2.4 Health Manpower

The issue of health manpower in the country has become a matter of great national interest, the result of pressure on health service providers as a result of the emigration of several health personnel. There was a fall in health manpower by 5.5 per cent from 15,379 in 1996 to 14,527 in 1999 (Table 2.8). While some of the decline may be due to brain drain to other countries, the reality on the ground suggests that some of the professionals leave to join or establish private practice and therefore remain in the country. The increase in staff strength from 1999 to 2001 may be the result of improved conditions in the form of additional duty hour allowance (ADHA) in 2000 to doctors and other health personnel.

**Table 2.8: Public Sector Health Staff Strength, 1996, 1999 and 2001**

Year	1996	1999	2001
Category			
Doctors	6.9	7.7	8.0
Dental Surgeons	0.3	0.2	0.2
Medical Assistants	2.2	2.3	2.4
Professional Nurses	43.7	35.6	42.6
Auxiliary Nurses	44.7	43.8	39.0
Midwives	-	8.7	6.7
Pharmacist	1.2	1.5	1.0
Lab. Technologist/Technician	0.9	0.3	0.2
Total	100.0	100.0	100.0
N	15,379	14,527	16,838

Source: Human Resource Development Unit, Ministry of Health, 2002

The health of the population is related to the level of health manpower available to offer services. In this report, attention is given to population/doctor and population/nurse ratios (Table 2.9). At the national level, the population per doctor is high (8,554), compared to that of 6,667 for Sub-Saharan Africa or 286 for the United States and 610 for the United Kingdom (Hagopian, 2003). For Greater Accra (2,860) and Ashanti (7,098), the doctors and staff at the teaching hospitals add on at the regional levels and this has improved the staff/population ratios. While population size is a factor in the equation, the supply of health personnel in general and doctors in particular is more responsible for the unsatisfactory load level. The rather heavy load for medical personnel leads to long waiting time at health facilities and discourages many people from making use of the health facilities.

An aspect of the supply of health personnel relates to spatial distribution. While doctors are mainly stationed in hospitals, the regional shares of doctors suggest a substantial mismatch between number of hospitals and number of doctors. For instance, Greater Accra and Ashanti have a little over half (55 per cent) of hospitals (both public and private) but have 69.0 per cent of doctors. On the other hand, Volta with 8.9 per cent of hospital has 4.7 per cent of doctors and the three northern regions with 7.6 per cent of hospitals have only 5.1 per cent of doctors between them. Thus, while Greater Accra (2,860) and Ashanti (7,098) have

less than 7,500 patients per doctor, all other regions have more than twice as many, with Northern having as many as 43,362 persons to a doctor. Part of the reason may be that hospitals in Greater Accra and Ashanti are much bigger than those in other regions and therefore require many more doctors per hospital, but the greater part of the reason may be the reluctance of many doctors to accept duty in smaller hospitals with less than adequate resources, thus perpetuating the cycle of underdevelopment of parts of the country.

**Table 2.9: Health Staff/Population Ratio (both Public and Private Sectors) for 2000**

Regions	Populations	Doctors	Nurses	Population/ Doctor	Population/ Nurse
Western	1,924,577	122	1,361	15,775	1,414
Central	1,593,823	104	1,427	15,325	1,117
Greater Accra	2,905,726	1,016	5,694	2,860	510
Volta	1,635,421	103	1,895	15,878	863
Eastern	2,106,696	132	2,429	15,960	867
Ashanti	3,612,950	509	2,250	7,098	1,606
Brong Ahafo	1,815,408	113	1,493	16,066	1,216
Northern	1,820,806	42	1,104	43,352	1,649
Upper East	920,089	43	874	21,397	1,053
Upper West	576,583	27	524	21,355	1,100
All Regions	18,912,079	2,211	19,051	8,554	993

Source: Ghana Statistical Service, Census 2000 and Ministry of Health

Table 2.10 gives breakdown of health manpower in the public sector for 1999 and 2001. In general, there is an increase in the number of medical officers, medical assistants and nurses between 1999 and 2001. On the other hand, pharmacists and midwives recorded declines.

**Table 2.10: Medical and Paramedical Personnel in Public Services (1999, 2001)**

Region	Medical Officer	Medical Assistants	Dentists	Dental Assistants	Pharma -cists	Midwives/ Comm/ EN Midwives	Nurses	Nurses EN/ CHN
<b>1999</b>								
Korle Bu	285	-	3	8	39	64	722	364
KATH	184	1	1	9	26	54	443	209
Western	69	40	3	8	15	93	349	535
Central	47	31	2	7	10	97	351	554
Greater. Accra	190	56	10	22	43	274	1,256	1,087
Volta	57	29	-	5	11	158	373	733
Eastern	84	43	5	7	19	162	539	1,025
Ashanti	72	46	1	7	27	119	400	507
Brong Ahafo	59	32	-	3	9	75	187	411
Northern	29	29	1	4	5	62	293	512
Upper East	25	14	1	3	7	43	160	252
Upper West	14	12	1	1	6	56	96	179
Total	1,115	333	28	84	217	1,257	5,169	6,368
<b>2001</b>								
Korle Bu	482	3	7	6	30	38	825	307
KATH	171	1	1	8	14	22	459	181
Western	64	45	3	8	9	77	414	554
Central	49	37	2	6	11	108	461	576
Greater. Accra	179	57	9	23	28	159	1,519	1,064
Volta	59	31	-	5	7	141	601	800
Eastern	85	41	3	6	18	118	798	1,068
Ashanti	101	60	2	6	23	150	703	555
Brong Ahafo	69	44	1	4	9	119	436	474
Northern	33	45	1	3	6	66	406	490
Upper East	39	30	1	3	7	69	302	330
Upper West	16	16	-	1	4	55	249	171
Total	1,347	410	30	79	166	1,122	7,173	6,570

Source: Human Resource Development Unit, Ministry of Health

Ashanti recorded a gain of about 40 per cent in medical officers, while Korle-Bu Teaching Hospital recorded 69 per cent increase probably due to its location, huge responsibilities and its status as the seat of the medical, dental and paramedical health institutions. The number of nurses increased by 38.8 per cent between 1999 and 2001 but this does not appear to have improved the population per nurse substantially.

The annual production of nurses, particularly State Registered Nurses and Community Health Nurses (as inferred from the number of registered nurses), has remained fairly constant, increasing from 1,026 in 1999 to 1,230 in 2001 (Table 2.11). It appears however that the demand for health services cannot be satisfied with these numbers. The situation is compounded by the fact that inadequate remuneration and other working conditions, including not having the needed equipment to work with, have forced many nurses and other health personnel to refuse posting to less developed facilities or leave the country for new experience.

**Table 2.11: Registration of Nurses and Midwives**

Category of Nurses	1999	2000	2001
State Registered Nurses	434	499	598
Midwives	323	455	304
Registered Mental Care Nrses	37	30	30
Peri-operative Nurses	7	42	14
Critical Care Nurses	5	23	12
Ophthalmic Nurses	15	11	34
Community Health Nurses	205	219	238
Total	1,026	1,279	1,230

Source: Nurses and Midwives Council Register 2002

Government policy should support and reward health personnel who accept postings to the rural areas. If better working conditions and opportunities are in place, many health personnel may not be compelled to emigrate but stay to contribute to improving the health of the population.

### **Brain Drain of Health Personnel**

The problem of brain drain has become a worldwide phenomenon affecting most African countries where growing numbers of trained nurses, medical doctors and radiography technicians are leaving to other more developed countries for better remuneration. This is frustrating the efforts of governments of many African countries to improve the patient-doctor ratio.

Ghana's health sector is not an exception; already, a high number of health personnel, including medical doctors, pharmacists and nurses, have emigrated because of poor conditions of service. Reliable statistics to determine the number of doctors and nurses who have left the country are not readily available. Judging from the number of nurses who requested verification of certificates with the Nurses and Midwives Council, most likely for employment outside the country, it is observed that nurses who have left the country or intend to leave the country has more than doubled between 1999 and 2001 (Table 2.12).

**Table 2.12: Nurses Requesting Verification of Certificates**

Period	1999			2001		
	Male	Female	Total	Male	Female	Total
January-March	8	68	76	21	194	215
April-June	11	64	75	24	158	182
July-September	8	86	94	29	263	292
October-December	13	89	102	27	199	226
Total	40	307	347	101	814	915

Source: Nurses and Midwives Council Register 2002

Table 2.13 shows the number of African doctors trained in Universities of sub-Saharan Africa but now working in either United States or Canada. Doctors from Nigeria, South Africa and Ghana working in United States constitute almost 86 per cent of the total.

**Table 213: Sub-Saharan African International Medical Graduates (IMGs) in the United States by Country of Training**

Country	United States		Canada	per cent
	per cent	per cent		
Nigeria	2,158	40.5	123	5.7
South Africa	1,943	36.4	1,845	85.8
Ghana	478	9.0	37	1.7
Ethiopia	257	4.8	9	0.4
Uganda	133	2.5	42	2.0
Kenya	93	1.7	19	0.9
Zimbabwe	75	1.4	26	1.2
Zambia	67	1.3	7	0.3
Liberia	47	0.9	8	0.4
Other 12 countries	83	1.5	35	1.6
Total	5,334	100.0	2,151	100.0

Source: Paper on trends in Physician Migration from Sub-Saharan Africa to the U.S. by Hagopian et al, March 2003

From table 2.13, Ghana is the third major sub-Saharan African country supplying locally trained medical graduates to the United States and the fourth in the case of Canada. Thus, Ghanaian trained doctors in the two countries (515) forms over a third (38.2 per cent) of the number of doctors currently working in the public sector in Ghana or 23.3 per cent of all doctors in both the public and private sectors in 2000. The fact that many other Ghanaian trained doctors are working in other countries such as South Africa, Middle East, Britain and France makes the situation with the health sector and health care services delivery call for concern and effort to address it. What is happening with doctors and nurses is not peculiar to the health sector. The general economic situation and the pressure of population make it difficult to isolate health personnel for treatment. What is needed, therefore, is a holistic approach including mainstreaming population factors in the development effort.

## 2.5 Health Care Delivery Services

Health care delivery consists of treatment of illnesses and consultations at the clinics and hospitals including both out-patient and in-patient health care services delivery. Table 2.14 shows trends in the average number of visits to out-patient departments in all health facilities in the country. The per capita national average remained virtually unchanged at 0.36 from 1996 to 1998; the rate of per capita out-patient visits increased steadily thereafter to 0.49 in 2001. This means that, on average, the proportion of the population that received out-patient

health care service increased from 36 per cent in 1996 to 49 per cent in 2001. The use of health services is an indicator of both access to health resources and the level of illness or demand in the community. Low average out-patient visits may therefore result from lack of access to health services and not necessarily from lower burden of diseases in these areas; the reverse is equally true in situations of high average out-patient visits. What is not in dispute, however, is that except in Greater Accra there is increasing demand for out-patient care and the pressure on resources and personnel will lead to deterioration in service delivery under current conditions.

**Table 2.14: Average Out-Patient Attendance (1996-2001)**

Region	1996	1997	1998	1999	2000	2001
Western	0.36	0.38	0.38	0.41	0.43	0.49
Central	0.18	0.22	0.26	0.28	0.34	0.41
Greater Accra	0.57	0.56	0.52	0.43	0.45	0.53
Volta	0.36	0.37	0.42	0.37	0.39	0.39
Eastern	0.32	0.29	0.29	0.38	0.44	0.45
Ashanti	0.46	0.43	0.41	0.45	0.50	0.56
Brong Ahafo	0.48	0.54	0.50	0.53	0.61	0.62
Northern	0.14	0.19	0.18	0.28	0.36	0.33
Upper East	0.27	0.15	0.17	0.50	0.53	0.52
Upper West	0.21	0.24	0.24	0.43	0.49	0.49
All Regions	0.34	0.34	0.35	0.41	0.45	0.49

Source: Ministry of Health Centre for Health Information Management

Hospital admission rate is another indication of the extent of ill health in the community. The rate of hospital admissions for every 1,000 people has increased steadily from 25.0 in 1996 through 29.6 in 1999 to 36.4 in 2001 (Table 2.15). The rate of hospital admission has increased for all regions except Greater Accra over the period, which is an indication of greater demand for in-patient health care services. The rate is lowest in Greater Accra (30.0 per cent) and highest in Upper West (48.9 per cent).

**Table 2.15: Hospital Admissions per 1,000 Population**

Region	1996	1997	1998	1999	2000	2001
Western	28.7	29.7	30.4	30.1	33.4	35.7
Central	16.9	17.7	19.6	28.0	31.1	32.9
Greater Accra*	31.1	33.1	32.6	20.1	26.5	30.0
Volta	29.5	31.4	33.4	32.8	34.9	34.8
Eastern	24.1	23.8	20.1	31.3	33.7	40.8
Ashanti*	25.1	28.5	29.0	31.4	43.4	32.7
Brong Ahafo	32.2	35.5	29.7	25.6	39.3	34.8
Northern	13.7	16.6	20.5	24.1	31.7	35.3
Upper East	22.7	17.9	20.6	37.4	37.6	38.2
Upper West	23.6	24.9	30.8	34.9	43.4	48.9
All Regions	25.0	26.0	26.7	29.6	35.5	36.4

\*Includes Teaching Hospital admissions

Source: Regional Performance Reviews and Centre for Health Information Management

Average bed occupancy rate is the proportion of available hospital beds, which are used for admission at a given period of time; it suggests either congestion or less than optimum utilization of hospital beds. The average length of stay in hospital could be an indication of

the severity of the conditions in admission or the poor management of illness while the turnover interval, which is the interval between use of bed by different patients, is also an indication of utilization.

Bed occupancy for most regions is below 60 per cent and indicates the degree of under utilization of hospital facilities. From Table 2.16, it is highest in Greater Accra (89.1 per cent), probably because of the high referral HIV/AIDS and tuberculosis cases to Korle-Bu in recent years. The fact that bed occupancy is low in spite of increases in population and hospital admissions means that there is not likely to be pressure exerted on in-patient health care facilities in many hospitals in near future. It is also possible that many cases are referred to the national facility at Korle Bu. This may explain why the turnover time for bed occupancy is only a day while it is 2 days or more in other regions. The need for the expansion of in-patient health care facilities should be assessed in the light of the bed occupancy and other delivery indicators.

**Table 2.16: Average Bed Occupancy by Region (all facilities) (2001)**

Region	Total Beds	Annual Admissio	Annual Discharges	Deaths	Occupancy Rate	Average Days of Stay	Turn over interval	Death Rate
Western	1,250	54,800	51,500	2,757	50.1	4.2	4.2	5.0
Central	1,458	52,348	48,215	2,927	61.4	6.4	4.0	5.6
Greater Accra	3,097	108,783	101,544	5,475	89.1	9.4	1.1	5.0
Volta	2,108	55,987	54,615	2,950	50.6	6.8	6.6	5.3
Eastern	2,211	88,325	83,507	4,749	56.9	5.2	4.0	5.4
Ashanti	2,372	103,630	91,370	5,473	69.1	6.2	2.8	5.3
Brong Ahafo	1,293	66,215	63,335	3,524	64.7	4.6	2.5	5.3
Northern	913	66,392	61,641	2,657	65.7	3.4	1.8	4.0
Upper East	658	33,508	31,576	1,539	48.6	3.5	3.7	4.6
Upper West	624	27,494	26,500	1,247	52.7	4.3	3.9	4.5

Source: Centre for Health Information Management, Ministry of Health

### **Traditional Medicine in the Health care system**

Traditional medicine involves the practice of traditional systems, some of which are religious in nature, to manage disease conditions that affect members of the community. Most traditional medical practitioners specialize in plant medicine, traditional birth attendance (TBA) and psychic healing and are mostly found in rural areas (70 per cent). In addition are practitioners of alternative medicine who are mostly found in the cities and large towns. There are about 50,000 registered traditional and alternative medicine practitioners (TAMP) in the country, currently treating different kinds of diseases, notably among them being malaria, infertility, hernia, abdominal pains, waist pains, asthma and bone setting, with plants and herbs as the major source of raw material.

It is estimated that 80 per cent of the world population use herbal preparations for primary health care needs (WHO, 2002). In 1999, about 50 per cent of Ghanaians used herbal preparations as the first source of self-medication when sick. There is sometimes internal and cross referral system of patients within the traditional medicine sector and between the traditional medicine and orthodox medicine, even though cross referral from orthodox medicine practitioners to traditional and alternative medical practitioners is insignificant. Traditional medicine practitioners play a very important role in the health care system

because they exist in almost every locality or within easy reach, unlike the modern system that is both physically and financially outside the reach of most communities.

## 2.6 Public Health Activities

Public health service involves the delivery of preventive practices such as immunization, child welfare clinics, antenatal services, family planning services and general health promotion education.

### Immunization of children

The main reason for immunization of children is to reduce or control the incidence of major endemic and communicable diseases such as measles, poliomyelitis, yellow fever, tetanus and tuberculosis to levels where they would not pose a public health problem. Table 2.17 presents immunization coverage for children 0-11 months, between 1994 and 2000 and shows a steady increase in expanded programme of immunization coverage. The yearly target for immunization has been set at 85 per cent nation-wide but in spite of the steady increase in immunization coverage and declining fertility, the nation has not yet reached the target.

**Table 2.17: EPI Coverage among Children (0-11 months), 1994-2000**

Year	BCG ( per cent)	Measles ( per cent)	DPT3 ( per cent)
1994	60.6	49.5	48.1
1995	67.1	55.1	52.2
1996	65.2	53.2	51.4
1997	71.8	58.5	59.6
1998	76.7	66.7	67.5
1999	-	-	-
2000	-	-	83.9

Source: Expanded Programme of Immunization, Disease Control Unit, MOH, March 2001

### Nutritional Status of Children

Protein energy malnutrition is one of the major health problems and a leading cause of death among children under five years of age. The condition may result from lack of food or from infections that cause loss of appetite and commonly affect children between the ages of six months and five years. Children between 12 and 36 months old are especially at risk since they are the most vulnerable to infections such as measles. This is likely to be the case if fertility levels are high and birth intervals are close such that children compete for attention and food needs.

Table 2.18 which shows nutritional status and immunization coverage of children, indicates that the nutritional status of infants (under one year) and children aged one year is worse in the northern part of the country, especially Northern and Upper West, than the south, except Central. For instance, 3.0 per cent of infants and 6.7 per cent of children aged 1 year in Northern are found to be severely malnourished, that is their weight for height ratio falls below the 60 per cent of the weight for height standard (50<sup>th</sup> per centile) for children 0-5 years. In Greater Accra, the situation is much better, for only 0.3 per cent of infants and 1.2 per cent of children aged one year are severely malnourished.

The trend in nutritional status of children from 1993 to 2000 shows that most regions have recorded some appreciable improvement over the period, but Northern, the worst affected region in 1993, continues to record the highest level of acute malnutrition. Greater Accra, Volta, Brong Ahafo and Eastern recorded increases over the period but they are nevertheless among the lowest levels of malnourishment among children.

**Table 2.18: Vaccination Coverage and Acute Malnutrition (Wastage)**

Region	Childhood Immunization (0 – 11)			Proportion of Acute Malnutrition				
	Target Population	DPT	per cent Coverage of DPT3	Infant 0–11 Months	Child 12-23 Months	Under 5 Years		
						1993	1998	2000
Western	75,927	65,076	85.7	1.0	1.4	1.8	1.4	1.2
Central	64,522	52,476	81.3	2.0	1.6	2.6	0.4	1.8
Greater Accra	121,507	78,782	64.8	0.3	1.2	0.6	1.3	0.7
Volta	65,653	47,730	72.7	0.9	1.5	1.0	1.2	1.2
Eastern	86,969	58,918	67.7	0.9	1.1	0.0	1.0	1.0
Ashanti	130,819	97,114	74.2	0.6	1.3	1.9	1.9	0.9
Brong Ahafo	74,891	65,106	86.9	1.7	2.1	1.6	1.7	1.9
Northern	76,352	62,825	82.3	3.0	6.7	7.6	2.0	4.8
Upper East	37,791	29,120	77.1	0.6	1.6	3.1	2.1	1.1
Upper West	23,664	21,586	91.2	2.2	3.2	4.8	1.5	2.7

Source: Ministry of Health, 2000 Annual report

Ghana Demographic and Health Survey reports 1993, 1998,

### ***Reproductive Health Services***

Reproductive health services focus on health care and education given mostly during pregnancy and child birth, an important activity of preventive and promotive health care. The objectives, among others, are to make child bearing safe for all women and to contribute to the improvement of infant health and personal hygiene. The intended outcome is that fertility levels will come down and slow down population growth.

Table 2.19 shows that there has been general improvement in reproductive health indicators over the years. Antenatal coverage and tetanus toxoid (TT) immunization coverage rates supervised delivery and family planning indicators. The substantial differential between antenatal coverage and subsequent delivery and post natal care may reflect in high maternal and early child mortality rates. This is likely to perpetuate high fertility behaviour and continued high population growth.

**Table 2.19: Reproductive Health Indicators in Ghana, 1995-2001**

Year	Family Planning Practices				
	Antenatal Coverage	Supervised Delivery	Tetanus Toxoid Coverage	Couple Years Protection	Use of Modern Methods
1995	-	-	37.0	-	-
1996	84.4	37.7	36.3	214,745	6.0
1997	85.2	40.6	44.6	278,952	7.7
1998	87.5	40.8	58.3	346,523	9.2
1999	86.4	43.5	57.7	370,708	9.3
2000	97.7	51.6	73.0	515,445	12.6
2001	98.4	50.4	72.9	597,293	15.4

Source: Annual report: Reproductive and Child Health Unit, 2001

There has been considerable increase in couple year of protection (CYP) related to the use of short- and long-term family planning methods. The Ghana Demographic and Health Survey reports total fertility rate for women 15-49 years at 4.6 births per woman in 1998, a drop from 5.5 in 1993 and 6.4 in 1988, an indication that the family planning and birth spacing campaign is achieving positive response, even if minimal. Knowledge of family planning is very high in Ghana, with about 93 per cent of currently married women having heard of at least one modern method of contraception (GDHS 1998), and use of family planning methods is increasing among married women and men in the reproductive age group in Ghana though the level (less than 20 per cent) is still low.

## 2.7 Morbidity Situation

The need to ensure that the general population enjoys good quality of life calls for concerted effort at reducing the incidence of preventable diseases such as malaria, upper respiratory tract infection (URTI), hypertension, tuberculosis and HIV/AIDS. The need to promote good healthy conditions requires a comprehensive framework to prepare and provide the environment for the control and prevention of these diseases. The preventive measures that need to be put in place include proper environmental sanitation, personal hygiene, proper nutrition, and adequate health education campaign.

### Causes of Morbidity (OPD Attendance)

The pattern of out-patient attendance by disease has been consistent over time, with minor fluctuations in the top ten causes of out-patient visits within the regions. Malaria, upper respiratory tract infection (URTI), diarrhoea, skin disease and injury are the leading causes of out-patient visits (Table 2.20). The trend in the proportion of the major disease managed at the out-patient department indicates that the pattern has remained virtually unchanged. Diarrhoea and skin diseases have swapped the third and fourth positions between 1998 and 1999, while acute eye infection and intestinal worms also exchanged seventh and eighth positions at the same period. Four of the 10 leading diseases managed at the OPD increased between 1996 and 2001. These are malaria, pregnancy complications, acute eye infection and hypertension, while the proportion for the others declined over the period.

**Table 2.20: Leading Reasons for Out-Patient Visits**

Major Reasons	1996	1998	1999	2001
Malaria	40.3	41.2	40.9	43.1
Upper respiratory tract infection	8.3	7.9	8.2	7.5
Diarrhoea	4.6	4.6	4.9	4.3
Skin diseases	6.6	5.0	4.6	4.0
Accidents including burns	4.4	3.7	3.8	3.5
Pregnancy related complications	2.6	3.1	2.4	2.9
Acute eye infection	2.0	2.3	2.4	2.6
Intestinal worms	2.5	2.5	2.3	2.4
Hypertension	1.7	2.0	2.2	2.3
Gynaecological disorders	2.1	1.9	2.1	1.8

Source: Centre for Health Information Management 2002

Examples of the leading reasons for hospital admission from Ashanti and Upper East also show that malaria is the leading cause of hospital admission (Table 2.21). Others include pregnancy and pregnancy related complications, diarrhea, anaemia and pneumonia. It is worth noting that anaemia, pneumonia, hernia and typhoid, which have not made the list of

the 10 major disease causes for hospital admission at the national level, are very significant in Ashanti and Upper East. These disease are also the leading causes of infant and maternal mortality as well as under five mortality. Malaria accounts for a high proportion of childhood mortality. The case fatality rate ranges from about one per cent for the uncomplicated cases to about 15 per cent of the severe ones. Malaria accounts for a high proportion of childhood mortality. The case fatality rate ranges from about one per cent for the uncomplicated cases to about 15 per cent of the severe ones. The extent of prevention or otherwise of these preventable disease conditions could influence the age-sex structure of the population and the rate of growth of the population.

**Table 2.21: Major Disease Causes for Hospital Admission, Ashanti and Upper East**

Major Disease	Ashanti		Upper East	
	2001	2002	2001	2002
Malaria	32.4	29.1	28.8	30.7
Pregnancy and related complications	9.7	9.7	2.9	3.3
Anaemia	7.9	7.5	10.0	10.5
Diarrhoea	5.9	5.9	4.0	2.9
Pneumonia	4.8	4.7	5.6	7.5
Gynaecological disorders	3.9	3.8	0.7	0.9
Hernia	3.5	3.4	2.4	1.9
Accidents	3.2	3.5	2.1	1.3
Typhoid	2.3	3.2	1.8	3.1
Hypertension	2.1	2.8	1.1	1.2
Upper respiratory infection	-	-	2.6	2.7

Source: Centre for Health Information Management 2002

Evidence has shown that the incidence of HIV has been significant since reporting started in 1986. As at end of September 2002, the cumulative total reported cases had reached 64,361 with heterosexual sex remaining the most predominant mode of transmission and accounting for 75-80 per cent of all infections. Records show that among antenatal clinic women (the most reliable cohort group for trends) tested for HIV in the country, one per cent tested positive in 1990, 2.6 per cent in 1994 and 3.0 per cent in 1998, indicating an upward trend in infection cases in the country. In year 2000, although HIV/AIDS prevalence among adults was relatively low, a national average of 3 per cent was recorded. Most of the people infected with HIV/AIDS are in the age group 25-29 years for females and 30-34 years for males; females account for 76 per cent of all reported AIDS cases. About 70 per cent of reported cases are in the 20-39 year age group. The highly affected age groups constitute the very active years in the reproductive period when couples produce their children. Any escalation of the HIV/AIDS menace can affect fertility levels and lead to children not being properly cared for because many resources would be expended on improving the health of the affected parent.

Ashanti (33.5 per cent), Greater Accra (25.1 per cent) and Eastern (11.7 per cent) account for about 70 per cent of the reported HIV/AIDS cases in 2001. Translation into cases per population still leaves Ashanti (91.4), Greater Accra (68.5) and Eastern (53.1) as having the highest prevalence of HIV per 100,000 persons, while Western (8.9), Volta (18.7) and Northern (24.2) have the lowest rates. Several factors, including activities of return migrant commercial sex workers in the Kumasi and Accra-Tema metropolis, widespread poverty, ignorance and blind copying of imported lifestyles, have led to the high incidence of the disease in the country.

Table 2.22 shows reported cumulative HIV/AIDS cases from 1986 to 2001 by age and sex, indicating that about four-fifths (79.5 per cent) of the total cases are within the age group 20-44 years (for males, it is 75.7 per cent and for females 81.8 per cent), which turns out to be economically the most productive population.

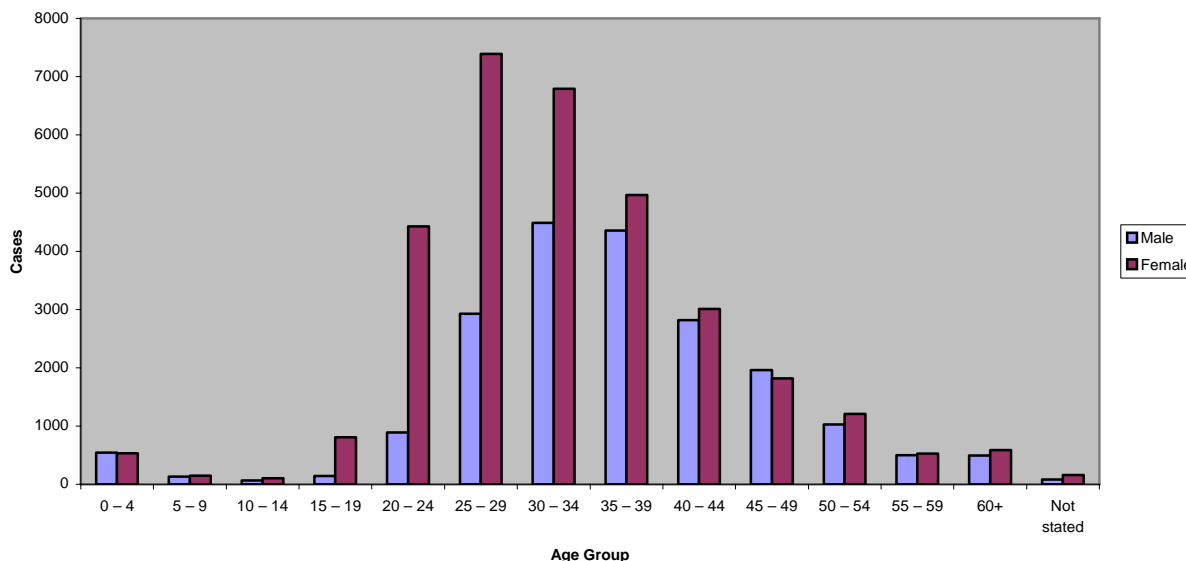
**Table 2.22: Cumulative AIDS Cases by Age and Sex 1986 – 2001**

Age group	Total		Male		Female	
	No.	per cent	No.	per cent	No.	per cent
0 – 4	1,078	2.0	545	2.7	533	1.6
5 – 9	278	0.5	132	0.6	146	0.4
10 – 14	166	0.3	64	0.3	102	0.3
15 – 19	951	1.8	144	0.7	807	2.5
20 – 24	5,323	10.1	892	4.4	4431	13.6
25 – 29	10,317	19.5	2,928	14.3	7,389	22.7
30 – 34	11,280	21.3	4,487	22.0	6,793	20.9
35 – 39	9,324	17.6	4,355	21.3	4,969	15.3
40 – 44	5,833	11.0	2,821	13.8	3,012	9.3
45 – 49	3,777	7.1	1,959	9.6	1,818	5.6
50 – 54	2,235	4.2	1,028	5.0	1,207	3.7
55 – 59	1,024	1.9	498	2.4	526	1.6
60+	1,086	2.1	496	2.4	590	1.8
Not stated	244	0.5	83	0.4	161	0.5
Total	52,916	100.0	20,432	100.0	32,484	100.0

Source: National AIDS Control Programme 2002

Figure 2.3 presents a bar chart of cumulative AIDS cases by age and sex. Except for the age groups 0–4 years and 45–49 years, females outnumber males in all the age groups. The reported cases on AIDS deaths in this age group (20–44 years) in recent years are increasing. This has resulted in an increase in the number of orphans in the country; AIDS orphans, who as at 1994 numbered 36,000 are expected to range between 236,000 and 390,000 by year 2014. The social concern of how to sustain such a large number of orphans and provide them with needed care and supervision, so that it does not compound the problem of street children and child labour, is one that needs to be addressed comprehensively. The fact that the 20–44 age group is the active reproductive population and that 63.2 per cent of reported cases are female means that the age-sex structure of the population is likely to be altered in the future. This may lead to a reduction in the number of marriages if the balance shifts in favour of males and probably an acceleration of the fertility decline and reduced population growth rate.

Fig 2.3: Cumulative AIDS Cases by Age and Sex 1986 - 2001



The health situation is directly linked to the state of the environment. The type of housing, access to water and good hygienic practices determine the pattern of diseases and stresses suffered by the people. The provision of health facilities and health manpower has not kept pace with population growth. With the gradual increase in the proportion of adult population, the disease pattern is showing high prevalence of chronic diseases and this must be addressed. Ghana still has a high incidence of communicable diseases, because of the type of environment and population dynamics that promote overcrowding in certain peri-urban areas of the major cities. While there is increase in population, the provision and delivery of modern health services have not increased in concert and this has led to deterioration in the quality of health care services.

## 2.8 Environmental sanitation

### Introduction

Environmental sanitation is an essential factor contributing to the health, productivity and welfare of the population. In this regard, safe drinking water, good sanitation, healthy food, and decent housing with adequate room space to ensure better circulation of air and prevent the spread of diseases are identified as necessary for healthy living. The significance of these health status indicators is that they influence incidence of diseases and ultimately the health status of the population. An important aspect of the environmental sanitation policy and programmes should involve personal hygiene and adequate health education campaign.

### Type and Adequacy of Dwelling

The type and adequacy of dwelling unit in terms of room space are considered, because of the health implications associated with these indicators. Of a total number of 3,877,418 dwelling units recorded during the 2000 Census, 50 per cent were constructed with mud

bricks or earth. There are in addition such other dwelling units as tent, kiosk and containers which are temporary structures commonly found in the cities and rapidly developing areas of the fringes of Accra, Kumasi, and Tema/Ashiaman, constituting 1.9 per cent of dwelling units in the country. Materials for construction of these structures are relatively of poor quality, mostly mud with thatched roof and poor floor construction materials, while others are metal containers with its associated heat. These housing developments are often the result of over population relative to available housing stock and therefore proper building procedures are not adhered to. Such environments do not promote healthy living and mostly become zones of high incidence of diseases. Places characterized by temporary structures in the cities and rapidly growing areas like the mining towns exhibit a disorganized layout with poor environment, no gutters and sewerage system. What is normally seen in such environment include indiscriminate garbage disposal in the streets or walkways and persistent stench of toilet and rotting garbage. This normally results in outbreak of vector borne diseases, and could affect the age structure of the population because a sizable proportion of people living in such environment are mostly economically active.

### **Average Number of People per Sleeping Room**

The more the number of rooms and the bigger the size compared to the number of occupants the better it is for the health and well being of occupants. This is because adequate room space allows for better ventilation, thus reducing the spread of air-borne diseases.

Over crowding and congestion usually lead to poor hygienic practices in our communities, resulting in the spread of vector-borne diseases such as malaria, if a clean, safe and pleasant physical environment is not maintained among the people. Overall, there are 2.7 persons per sleeping room in Ghana; the room density is higher in rural (3.0) than urban (2.4) localities but certain parts of the cities (informal settlements) and the mining towns in the country have as high as 3.8 persons per sleeping room. Across the regions, the lowest density is recorded for Greater Accra (2.1) and the highest for Northern (4.6) in 2000 (Table 2.23).

**Table 2.23: Density and Persons per Sleeping Room by Region and Locality of Residence**

Density and Persons Per Sleeping Room by Region and Locality					
Residence	Average Persons Per Room	Persons Per Sleeping Room			
		1-2	3-4	5-6	7+
<u>Locality</u>					
Urban	2.4	70.4	17.0	6.6	6.0
Rural	3.0	52.6	28.1	11.0	8.3
<u>Region</u>					
Western	2.2	72.3	19.2	5.2	3.3
Central	2.2	73.0	17.4	5.5	4.1
Greater Accra	2.1	73.9	17.3	5.6	3.2
Volta	2.8	57.5	28.4	8.7	5.4
Eastern	2.6	62.5	23.7	8.2	5.6
Ashanti	2.3	71.3	17.6	6.4	4.7
Brong Ahafo	2.9	57.4	25.3	9.3	8.0
Northern	4.6	23.3	33.9	20.8	22.0
Upper East	4.2	26.7	37.5	19.1	16.7
Upper West	4.0	29.8	39.0	18.1	13.1
Ghana	2.7	61.5	22.6	8.8	7.2

Source: Ghana 2000 Population & Housing Census

The proportion of persons per sleeping room, as a measure of over crowding, is shown to be 61.5 per cent for 1-2 persons, with an additional 22.6 per cent of households having 3-4 persons per sleeping room. Given that the greater proportion of households live in rooms (probably no more than 2) in compound houses, sleeping rooms may very likely compete with personal belongings, furniture and household utensils, which means that the actual space available for a bed or mattress on the floor may be so small that sleep itself may be uncomfortable. The sheer population pressure on shared facilities (water, cooking space, toilet, wastes disposal) available to occupants of the house is also likely to be very great and pose a danger for the spread of disease. The health facilities will be stretched to their limits in the event of a break of epidemic proportions.

### **Source of Drinking Water**

Safe drinking water is another important determinant of healthy living. In all, 42.1 per cent of the households in the country have access to pipe-borne water or a tanker service, while 33.0 per cent use a well or borehole, with the remaining 24.9 per cent depending on natural water sources such as river, rainwater and pond (Table 2.24). Some notable improvements have been achieved in the provision of potable drinking water since 1987. For instance, the proportion of households with access to piped water improved from 28.7 per cent in 1987 to 40 per cent in 1998 and 42.1 per cent in 2000. Between 1987 and 2000 also, the proportion of households depending on natural sources has declined by almost a half, from 48.7 per cent to 27.6 per cent in 1998 and further to 24.9 per cent in 2000. The provision of safe water is much greater in urban areas than in rural areas; about 71.2 per cent of urban households enjoy pipe-borne water, compared with 16.1 per cent in rural areas. Well water (44.1 per cent) is the most accessible and important safe water for rural households, but as many as 39.8 per cent obtain their drinking water from natural sources.

**Table 2.24: Main sources of Drinking Water by Region by Urban/Rural**

Place of Residence	Main Source of Drinking Water		
	Pipe Borne	Protected Well	Natural Sources
<u>Locality</u>			
Urban	71.2	20.6	8.2
Rural	16.1	44.1	39.8
<u>Region</u>			
Western	32.6	37.2	30.2
Central	54.9	28.8	16.3
Greater Accra	88.2	6.4	5.4
Volta	25.6	32.3	42.1
Eastern	28.9	39.3	31.8
Ashanti	40.7	40.0	19.3
Brong Ahafo	24.2	40.9	34.9
Northern	23.4	39.6	47.0
Upper East	13.7	68.2	18.1
Upper West	16.2	58.4	25.4
Census (2000)	42.1	33.0	24.9
(GDHS) 1998	40.0	32.4	27.6
(GDHS) 1993	36.0	29.2	34.8
(CWIQ) 1997	28.7	22.6	48.7

Source: Ghana 2000 Population & Housing Census, Ghana Demographic and Health Surveys 1993&1998, Ghana Core Welfare Indicators Questionnaire Survey (1997)

Although remarkable improvements have been achieved over the years, a sizable proportion of the population still lacks quality water, and a lot more needs to be done to provide potable drinking water to improve human health and quality of life. At the regional level, it is only

Greater Accra (88.2 per cent) and Central (54.9 per cent) where piped-borne water is the major source of drinking water for households. That 5 regions, including Ashanti, have more than 30 per cent of households depending on natural sources that are often polluted with human, animal and other waste materials as drinking water should be a matter of great concern. It is likely to make communities that depend on these sources unattractive to live in because of the drudgery of walking long distances to fetch the water and the need to boil the water before drinking if one was concerned enough about one's health. Public officers may refuse posting to the areas, educated local people may leave to settle and work elsewhere and this may perpetuate the cycle of underdevelopment of infrastructure and facilities.

### **Type of Toilet Facility**

Of the various sanitation facilities, the flush toilet is the most hygienic, but only 8.5 per cent of households in 2000 have access to it, either owned by the household or shared with other households. The KVIP, which represents an improvement on the pit latrine, is available to 6.9 per cent of households in their dwelling units, while about 20 per cent of households have no toilet facility in their homes (Table 2.25). As many as 38.3 per cent of households use a public or another household's facility which may be any of the types likely to be built on the compound (KVIP, pit or pan). The census data do not indicate the type for public or other household facility and therefore may not be directly comparable with results of other surveys. The practice though has been to convert most of the public latrines to the W.C or KVIP latrine.

There has been a marginal increase in the proportion of households using flush toilet, from 6 per cent to 8.5 per cent between 1987 and 2000. The proportion using KVIP toilet facility also shows a steady increase over the period, from 14.2 per cent in 1993 to 24.8 per cent in 1998, with a corresponding decline in the proportion using pan/bucket (from 12.4 per cent in 1987 to 6.3 per cent in 1998) and pit latrine (from 54.2 per cent to 40.5 per cent over the same period). The proportion of households without toilet facilities, on the other hand, remained virtually unchanged over the period.

**Table 2.25: Toilet Facility by Locality of Residence, 1987-2000**

Toilet Facility	1987			1993			1998			2000		
	Urban	Rural	All	Urban	Rural	All	Urban	Rural	All	Urban	Rural	All
Flush Toilet	13.5	0.8	6.0	15.8	0.9	6.1	18.3	2.1	7.8	16.2	1.6	8.5
KVIP	-	-	-	27.8	7.2	14.2	36.9	18.2	24.8	9.6	4.5	6.9
Pit Latrine	34.5	65.1	54.2	29.2	59.5	48.6	21.7	50.8	40.5	12.1	30.9	22.0
Pan/Bucket	29.8	5.6	12.4	19.2	1.8	8.0	13.7	2.3	6.3	6.9	1.5	4.0
Public/Another House	-	-	-	-	-	-	-	-	-	44.3	33.0	38.3
No Facility (Other)	22.2	28.5	25.3	8.3	30.6	22.6	9.4	26.6	20.5	10.9	28.5	20.2

Source: Ghana Living Standards Survey 1987, Ghana Demographic and Health Surveys 1993&1998

While both urban and rural localities are targeted to meet the modern sanitary standards, there appears to have been greater improvement in urban than rural areas. For instance, there has been a more substantial reduction in the proportion of urban households (22.9 per centage points) than rural (4.1 per centage points) using pan/bucket latrine. On households with no toilet facility, there is a reduction of 11.3 per centage points for urban areas and virtually no change for rural areas between 1987 and 2000. These reductions are reflected in increases in KVIP use. While the number of households that use flush toilet increased by 2.7 per centage points in urban areas and 0.8 in rural areas, there has been a much more

significant increase in the usage of the KVIP toilet facility in both rural and urban areas, given that most public facilities are of the KVIP type.

The pit latrine is the most common toilet facility in all regions, except the Greater Accra, where the dominant facility is the flush toilet and the three northern regions where as many as 74.7 per cent or more of households have no access to any form of toilet facility (Table 2.26). This poses a serious threat to healthy living, as the traditional type of sanitary facilities mostly contribute to unhygienic environment and facilitate easy transmission of diseases. This is a matter of concern and needs to be given the necessary attention.

**Table 2.26: Sanitation Facilities by Region**

Sanitation Facility	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper East
Flush Toilet	7.2	4.9	22.1	2.5	4.0	11.6	3.0	2.5	2.5	2.5
KVIP	5.7	7.0	10.1	6.1	7.0	7.7	7.7	2.3	1.6	4.3
Pit Latrine	30.4	25.1	11.2	28.6	37.5	20.5	31.8	1.9	1.5	2.5
Pan/Bucket	2.7	2.8	9.1	4.8	5.5	2.8	1.0	1.6	1.4	1.9
Public/Another House	41.7	42.0	35.7	33.0	40.4	51.8	42.0	15.5	14.6	19.2
No Facility	12.3	18.2	11.8	24.9	5.5	5.7	15.6	76.1	78.5	69.6

Source: Ghana 2000 Population and Housing Census

### **Refuse Disposal Methods**

Refuse is mostly disposed of at either a public dump site or thrown indiscriminately into valleys, pits, bushes, a stream or river side, open gutters or on undeveloped plots of land. These improper and unhygienic methods of refuse disposal account for 83.4 per cent of solid waste generated by households. The remaining 16.6 per cent of households either burn or bury the waste, mostly around the house, or have it collected for disposal (Table 2.27).

**Table 2.27: Distribution of Methods of Solid and Liquid Waste Disposal by Region and by Residence**

Residence	Solid Waste Disposal					Liquid Waste Disposal			
	Collected	Burned	Buried	Public Dump	Dumped Elsewhere	Sewerage System	Street	Gutter	Compound
<b>Locality</b>									
Urban	8.4	8.2	3.7	67.0	12.7	8.1	29.9	37.1	24.9
Rural	1.5	7.5	4.1	49.2	37.7	1.3	47.0	6.9	44.8
<b>Region</b>									
Western	2.2	4.5	4.0	59.6	29.7	3.2	34.7	23.7	38.4
Central	0.8	6.4	2.6	69.3	20.9	2.0	41.0	20.4	36.6
Greater Accra	19.5	12.2	4.6	51.4	12.3	14.4	19.3	38.9	27.4
Volta	2.4	12.0	6.1	47.0	32.5	1.3	41.4	9.6	47.7
Eastern	2.2	10.0	5.2	56.5	26.1	2.0	31.6	17.8	48.6
Ashanti	1.3	3.3	2.6	78.9	13.9	3.8	39.5	28.4	28.3
Brong Ahafo	0.9	3.4	2.4	70.3	23.0	1.3	54.6	7.3	36.8
Northern	2.1	9.4	2.5	30.4	55.6	2.0	62.7	8.5	26.8
Upper East	3.3	16.4	5.7	13.2	61.4	4.1	52.5	6.1	37.3
Upper West	2.3	4.6	6.0	21.1	66.0	2.3	67.4	4.8	25.5
<b>Total</b>	<b>4.8</b>	<b>7.8</b>	<b>3.9</b>	<b>57.6</b>	<b>25.9</b>	<b>4.5</b>	<b>39.0</b>	<b>21.1</b>	<b>34.6</b>

Source: Ghana 2000 Population and Housing Census

The collection of refuse is most common in Greater Accra (19.5 per cent). With the exception of the three northern regions, where indiscriminate dumping of solid waste (dumped elsewhere) is predominant, the remaining regions have public dumpsite as the most commonly used method of refuse disposal.

Only 4.5 per cent of households dispose of domestic liquid waste through the sewerage system, the appropriate and hygienic means; the remaining households either throw their liquid waste onto streets (39.0 per cent), on the compound of the house (34.6 per cent) or into gutters in front of the house (21.1 per cent). These crude methods of disposing of liquid waste contribute to insanitary conditions and vector breeding. The forms of liquid waste disposal in urban areas are not too different from those in rural areas, with more than 90 per cent of households using inappropriate and unhygienic methods of liquid waste disposal. Greater Accra is the only region with a relatively higher proportion of households (14.5 per cent) disposing of liquid waste through the sewerage system.

It is apparent that liquid waste disposal and solid waste management are serious problems in Ghana. Structures and facilities available for hygienic solid and liquid waste disposal are inadequate. As population increases, the use of the inappropriate methods is likely to increase and poses much greater danger for the health of the population. One of the main problems seems to be insufficient awareness by people living in insanitary conditions of the dangers posed by the poor environment or the passive acceptance that there is no alternative. Whatever the situation, the cost of inadequate sanitation may lead to direct economic loss due to disablement of ill people who cannot perform their economic activities. This could also increase health care costs, more especially in low-income settlements.

## **2.9 Policy Interventions**

The Government and its development partners have made significant improvements in the provision of health infrastructure in terms of health facilities; the levels in the three northern regions, however, are relatively low and demand urgent attention. The levels match the general status of development of the sector of the country; notably, there are very few private maternity homes, clinics and hospitals in the three regions. This state of affairs will worsen maternal health, which could also lead to poor child health. There is therefore the need to bridge the gap in provision of health facilities and resources between the northern and southern parts of the country. This requires more health centres equipped with the basic minimum equipment and infrastructure in the northern sector, taking into consideration the widespread nature of the population distribution in the area. It is also important to encourage and support activities of the mobile clinics so that people living in remote areas could be provided with the necessary health care. In addition to the problem of north and south, there is also the disparity between urban and rural areas, which must also be addressed to ensure equity and sustainable development in the health sector. These demands require the government to expand health infrastructure in terms of health facilities to meet the current trend in population growth.

The brain drain of health personnel is alarming and constitutes a threat to the health sector of the country; therefore, sustained and continuous efforts must be made to check the out-flow of well-trained personnel from the health system. Manpower training policy should cover other categories of health personnel, apart from nurses and doctors. It is important to evaluate the emphasis on the training of public health personnel to spread services to the remotest parts of the country. Government policy should be directed at supporting and ensuring that condition of service for health personnel (remuneration, housing, transport) are

improved, especially for those in the rural areas in order to retain the few left in the system. It is also necessary to train more health personnel who will accept to work in any part of the country; and possibly ensure that a sizable number of medical doctors, after housemanship, are sent to the rural areas to serve for at least one year to make sure that rural areas have constant supply of medical officers. This requires attention to the expansion and upgrading of more health centres, to befit the standard of a facility to be manned by a medical officer, and development of more medical schools and institutions for other health related programmes as already planned for the University of Development Studies.

Preventive health activities, such as immunization of children under the age of five years, antenatal services and use of family planning methods are all on the increase, though yet to reach the target of 85 per cent coverage set by the health sector. There has been an improvement in the utilization of out-patient services in general; the use of health services is both an indicator of access to health resources as well as a signal of a high level of illness in the community. The low utilization of health services in areas with low health facility per population may be an indication of lack of access to health services. The likely explanation could be financial accessibility and this calls for a review of the financing of health care services in Ghana; the passing into law of a comprehensive national health insurance scheme is in order and its implementation should advance the health objective of the country.

The trends in the prevalence of HIV/AIDS and tuberculosis are alarming and measures must be put in place to address the risks that the population takes by not translating awareness into practice. To be able to prevent the spread of HIV/AIDS, activities of commercial sex workers need to be controlled. It is also advocated that individuals abstain from unprotected sex, be faithful by having one sexual partner and form the habit of condom use. There must be a collaborated effort by government and other corporate bodies to intensify campaign for abstinence among the youth to save the nation from polarization, as the youth who form the backbone of the future population are at greatest risk.

Many of the major causes of morbidity and mortality are preventable communicable diseases, such as malaria, tuberculosis, HIV and most accidents. Most of these conditions do benefit from health education, which is expected to change the life style of people in terms of personal hygiene; efforts in this direction, such as the recently introduced programme of monthly health walks for civil servants should be encouraged.

In the long term, health policy should address advances in the management of diseases, often requiring overseas treatment, and support growth in the delivery of health care, which will go a long way to meet the current trend in the population growth.

The trends in environmental sanitation indicators reflect in the level of development in the regions. In the three northern regions, improvements in environmental sanitation have not been encouraging. Strategies must be put in place to address general economic empowerment of families to provide better housing with adequate room space, portable water, proper toilet facilities, proper hygiene and relatively improved living conditions to ensure better healthy living.

The policy, which empowers health inspectors to be vibrant in their activities to ensure hygienic environment need to be revitalized to enhance their role in national development. The services of these health inspectors are needed to ensure that good and clean environment is maintained for the upkeep of better health among the people in Ghana, especially those in crowded areas and also put up strategic plan to salvage the situation in future.

## Acronyms

ADHA	Additional Duty Health Allowance
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
BCG	Baccile, Calmele Guerin
CHAG	Christian Health Association of Ghana
CHIM	Centre for Health Information Management
CYP	Couple Years of Protection
DALY	Disability-Adjusted Life Year
DHS	District Health Service
DPT	Diphtheria, Pertussis and Tetanus
EOC	Essential Obstetric Care
EPI	Expanded Programme of Immunization
FP	Family Planning
GDHS	Ghana Demographic and Health Survey
GLSS	Ghana Living Standards Survey
GSS	Ghana Statistical Service
HIV	Human Immunodeficiency Virus
IEC	Information, Education and Communication
IMG	International Medical Graduates
IUD	Intra Uterine Device
LAM	Lactation Amenorrhoea Method
MCH/FP	Maternal and Child Health/ Family Planning
MOH	Ministry of Health
NHPU	National Health Planning Unit
NMC	Nurses and Midwife Council
PLWHA	People living with HIV/AIDS
PNC	Post Natal Care
RCH	Reproductive and Child Health
RTI	Reproductive Tract Infection
STI	Sexually Transmitted Infection
TT	Tetanus Toxoids
WIFA	Women in Fertile Age group

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## **CHAPTER THREE**

### **WOMEN AND CHILDREN<sup>3</sup>**

#### **Executive Summary**

Two of the major concerns confronting the global community today are the eradication or alleviation of poverty and halting the spread of environmental degradation in order to promote sustainable development. Since the 1994 International Conference on Population and Development in Cairo and the 1995 Fourth World Conference on Women in Beijing, a new consensus has emerged that gender issue are inextricably linked to these issues and that the elimination of the inequities, injustices and widespread discrimination which women suffer in all areas constitutes the key to the solution of these global problems.

It is important therefore to focus in this chapter on the demographic, social and economic characteristics of women and children as reported in the 2000 Census in order to determine firstly, if there have been any significant changes in their socio-economic status and secondly, to critically examine the implications of the current status of women and children for policy formulation and development planning.

#### **Demographic Structure**

Women outnumber men in the total population by a ratio of 50.5 to 49.5. Males outnumber females in the younger age groups (under 15) but at the older ages, women predominate. Except for the year 1960, when males outnumbered females in the total population largely as a result of the presence of a significantly large migrant population, the pattern since 1970 has been similar to the 2000 one with the over-all sex ratio hovering around 98.0. Women also outnumber men in the urban areas, while in the rural areas, their proportions are about the same. The sex ratio by age is generally erratic being influenced at particular age-groups by the pattern of emigration.

About a third of households in Ghana (31 per cent) are headed by females, a situation which is also partly a reflection of migration trends, divorce, single parenthood and widowhood.

#### **Educational Attainment**

Women generally lag behind males in terms of educational achievement and literacy. About half (50.2 per cent) of adult females are illiterate compared to about a third (33.6 per cent) of adult males. The disparities are also reflected in school attendance, with 44.5 per cent of females aged 6 and older never having attended school compared to 33.1 per cent for males. This however represents a remarkable achievement for females who are steadily reducing the gap between the sexes. In 1960, 83 per cent of females had never attended school compared to 63 per cent for males. The disparities in educational attainment are more pronounced at the secondary and tertiary levels because of a higher drop-out rate for girls.

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This chapter is contributed by Prof. A.F. Aryee and Mrs. Araba Forson.

### **Nuptiality**

The importance attached to procreation and high fertility in traditional society was such that marriage was near-universal and occurred soon after puberty. The census data suggest that this pattern has radically changed in recent years. In 1960, only 8.5 per cent of women in the population were reported as having never married. In 2000, this figure increased dramatically to a quarter (25.1 per cent) of the adult female population. The near-universality of marriage is shown by the fact that whereas in 1960 only an insignificant proportion (less than 1 per cent) of the female population had never married by age 65, the corresponding proportion for 2000 is 5.4 per cent.

### **Economic Activity**

The data show that participation of women in the labour force has increased between 1960 and 2000, though only a small proportion are in wage employment. Females are mainly self-employed in retail trading and in agriculture. In the urban areas, women outnumber men in the private informal sector in trading and other services.

Women have also made significant gains in the senior level occupational classes of professional/technical (36.4 per cent) and administrative/managerial (28.1 per cent) where they now constitute substantial proportions of the population in those groups compared to only 19.7 per cent in 1960. Women are also participating more in clerical and related services where their proportional strength has increased from 7.4 per cent in 1960 to 21.4 per cent in 2000. In many other areas formerly considered exclusively male preserves, such as positions of Chief Directors, Judges and political administrators, an appreciable number of women are beginning to make their presence felt.

The statistical evidence presented in the report suggests that women have made significant gains in the areas of autonomy or husband-wife relations, education, participation in the modern economy and in governance but a great deal still needs to be done in all areas to bridge the gap. The heightened gender consciousness generated by recent international conferences has undoubtedly been a major factor in promoting these changes. Affirmative action, legislation and sensitization are some of the mechanisms being used or advocated by a wide range of gender-interest coalitions to enhance the process.

### **The Status of Children**

A child is defined as any person below the age of 18 years by the Ghana Children's Act of 1998. There are several reasons for the high premium placed on prolific child-bearing in traditional society. These range from the personal emotional or psychological satisfaction which babies and children give their parents and families to the numerical increase in the size of the lineage or clan and its attendant benefits or advantages in intra-lineage relations.

An important factor in all this revolves around the economic value of children, starting at a very early age with simple domestic chores such as sweeping, cleaning, fetching water from the stream and taking care of siblings to helping on the farm, carrying loads and herding the animals.

The uncertainties facing the Ghanaian child in today's society and the considerable concern policy makers attach to their status are the result of the clash between these traditional perceptions or roles and the demands of a modern society which sees the child as a full member of society with well-defined rights as currently enshrined in the Children's Act of 1998. These initiatives insist on the child's right to education, proper parental care, health and nutrition while at the same time protecting him/her from abuse, child labour and trafficking.

### **Demographic Structure**

Children constitute 47.5 of the population in 2000. About 56 per cent of the population in 2000 reside in rural areas with 44 per cent in urban areas. With the recent declines in fertility, the population is becoming less young and the proportion under 5 years has decreased consistently from 19.3 per cent in 1960 to 14.6 per cent in 2000. Boys outnumber girls up to age 19 years, after which women outnumber men at most ages.

### **Education**

The participation rate of children in formal education has been increasing consistently for the various age groups since 1960. Out of every 100 children in 1960, only 30 were attending school; in 2000 the corresponding figure is 50, which illustrates the considerable advancement in education over the period. There are however significant disparities between the North and South and between the urban and rural areas. There are also imbalances which adversely affect girls in terms of participation rates, drop-out rates, highest levels attained and type of subjects studies.

### **Economic Activity**

Of the 3,890,964 children aged between 7 and 14 enumerated in the 2000 Census, 15.4 per cent are reported to engage in economic activities with an additional 3.8 per cent seeking work. This is lower than the 4 out of every 10 children between 5 and 17 years reported as working in the Ghana Child Labour Survey of 2001. The vast majority (78.8 per cent) of those who work are in the rural areas, while males outnumber females by a ratio of 52 to 48.

About 67 per cent of the working children are engaged in agriculture/forestry/fishing. About a half (51.6 per cent) of working children are self-employed while about 29 per cent are unpaid family workers.

The gap and disparities in education, the extensive child labour and even little details such as the fact that some children between 15 and 17 are household heads are serious policy issues which require more discussion, research and programmatic action.

### **3.1 Introduction**

#### **Objectives of the Study**

The main objective of this analysis is to highlight the information on women in terms of relative size, composition, social and economic attributes. The changes in time in these social and economic characteristics do undoubtedly have wide implications for changes in gender roles and status and the study will attempt to focus on these inter linkages in order to show how these gender roles have been transformed over time and in what direction.

The general perception or widely-held view is that the status of women in traditional Ghanaian society was very low. In many rural and remote parts of the country, very little change has really occurred. There are many conceptual and methodological difficulties in trying to measure changes in the status of women over time. Not only do norms, values and practices vary from one group to the other, but even more difficult is the task of defining the standards by which certain behaviour patterns or practices can be described as desirable or undesirable, good or bad, as these decisions are strongly influenced by culture.

In recent years, however, and more specifically since the United Nations launched its special decade for women in 1975, the increased concern with gender issues has spurred the world community into adopting a universal agenda which now defines the objectives, goals and targets for enhancing the status of women. Some of the key indicators used in assessing the process of change relate to autonomy, access to social resources, land, education, formal employment and participation in governance.

This study will look at the changes in some of these indicators as shown by recent censuses since 1960. In order to understand or appreciate the significance of the changes which have occurred in the modern era, the study starts with a generalized synopsis of the role and status of the Ghanaian woman in traditional society as outlined in various sociological and anthropological studies. The focus however is on the changes in social and economic attributes and their implications for policy.

#### **Sex in Demographic Analysis**

Classification of census data by sex is of crucial importance in all demographic studies. All the major demographic processes such as fertility, nuptiality, infant and adult mortality and migration are determined or influenced by the sex composition of the population. The size of the population itself and its growth rate are similarly determined by the sex composition; indeed, large differentials between males and females, especially in certain age groups, as is the case with populations affected by wars or male migration, can adversely affect the population's ability to replace itself.

The importance of sex as a demographic variable is only a reflection of the wider value which all societies have attached to it for the allocation of roles, responsibilities, rights and duties in almost every sphere of life. Because these roles and responsibilities change over time and vary from one social group to the other, the concept of gender is being generally used in the literature to refer to the socially constructed differences between men and women

in order to distinguish it from the more static biological difference of sex. It is important, however, to understand the almost inseparable linkage between the two concepts as one cannot be understood without the other. The biological classifications of sex which censuses are concerned with constitute the empirical basis or reference from which economists and sociologists explore changes in gender roles and statuses. The analysis of the census information by sex is thus the first step in understanding gender issues.

### **Methodology**

The analysis in this chapter is based mainly on the modern population censuses of 1960, 1970, 1984 and 2000 with particular emphasis on the 2000 census data. Other sources of data such as the Demographic and Health Survey (DHS) and other specialized studies or surveys are also used. In order to fully understand the situation of women and children and the changes taking place, sociological and anthropological studies are cited where necessary. Administrative records are also cited to provide some details that are not collected during censuses and surveys. Rates, ratios and proportions are used to throw light on the sex differentials and trends. Graphical representation is used to offer visual aid where appropriate.

## **3.2 Dominance In Traditional Ghanaian Society**

### **Introduction: Men and Women - The Social Divide**

In almost all societies, women have historically been subjugated, marginalized and discriminated against in all areas of life on the basis of a myriad of assumptions, inferences or beliefs related to sex differences in physiology, mental, physical and psychological capabilities.

These assumed differences constitute the basis for the allocation of roles, responsibilities and rights which, in essence, emphasize male superiority. Male dominance or superiority is expressed in all spheres of life but more particularly in domestic relationships where, as head of the household, the man has absolute control over the family's wealth or resources, and makes all the major decisions without consulting the wife, if he so wishes. These gender roles are internalized through socialization and enforced by custom, law and even religion. In intra family relations, it is the man who decides when and how to mete out punishment to all those who infract the rules, and the use of some form of physical violence as a form of punishment can extend to both wife and children as "subjects" in his kingdom. The extent of differentiation, deprivation and discrimination however differ from one society to the other.

The basis for the assumed differentials, whether innate or acquired, is however increasingly being questioned by modern society, and scientific knowledge has indeed proved that many of these assumptions are erroneous or baseless. Concomitant with the increase in the body of knowledge relating to society's assumptions about innate gender capabilities is the realization by all concerned that no society can solve its myriad of developmental problems unless it makes a conscious and systematic effort to eliminate the barriers inhibiting the full integration of women into all aspects of socio-economic development programming.

The International Conference on Population and Development of 1994 and the Beijing Conference on Women in 1995 served to concretize this new thinking and succeeded in firmly planting women's empowerment and development issues at the centre of the new international agenda, aimed at speeding up the modernization of societies and eliminating underdevelopment, disease, hunger, ignorance and denial of human rights.

Most African traditional societies are patriarchal in structure and membership of the patrilineage provides the basis for political power, social status, sense of identity and access to land, the single most important source of security and wealth. Almost half of the Ghanaian society, mainly those of Akan descent, are matrilineal in which descent, inheritance and children's legal status are vested in the woman's lineage rather than the man's. The matrilineal system thus gives a degree of social, economic, political and legal equality that is lacking in patrilineal societies and which is symbolized in the office of the queen-mother, often recognized as the power behind the throne.

But even in the matrilineal society, male superiority over the female is well-entrenched and differs from that in patrilineal societies in degree rather than in substance, as it is the woman's brother who becomes the substantive repository of political power as chief and it is the son and not the daughter who ascends to the throne. For all societies, whether patrilineal or matrilineal, the social and economic implications of the kinship system are wide-ranging.

### **Gender and Governance**

Systems of governance and political administration differ widely from the highly centralized kingdom of the Ashantis to the loosely organized acephalous societies of the North. Irrespective of the type of political organization, perhaps nowhere else in the social system are gender inequalities more marked than in the area of governance. Women are indeed treated and categorized as minors as far as politics is concerned, and political power is wielded and exercised almost exclusively by men. In most societies, formal political and jural power is wielded by the chief and his elders, working through the clan or lineage heads. Among the matrilineal Akan, the queen-mother as the head of the matrilineage, is responsible for selecting or nominating chiefs and this role invariably confers on her the honour of being one of the chief's closest advisors and confidants. There is no doubt that in the past, the Ashanti queen-mother represented a powerful force in traditional politics. She could declare war (as the famous Yaa Asantewa did against the British in 1900) and even though the actual fighting was done by men, the queen-mother provided spiritual and moral leadership in addition to supervising the domestic front in support of the war effort.

Among the Ga-Dangmes who were originally a theocratic society led by priests, a woman's position in the political system was far less salutary. When the chieftaincy institution was eventually established in these areas, the queen-mother's role became a natural appendage, but without the corresponding responsibilities and social status which pertained to Ashanti queen-motherhood.

It seems however that over the years, the power and influence of the queen-mother even in the matrilineal system have systematically been whittled away by a male dominated social system. Even the right of nomination of a candidate to the chief-ship is often challenged or

nullified by the council of clan elders who are often sub-chiefs in their own right at another level or tier of the hierarchical political structure. Indeed, in much of Akan land today, the queen-mother's right has been modified in practice to that of right of nomination and not absolute right of selection. This empowers the "Gyase", or clan heads to nominate and crown their own chiefs after rejecting the queen-mother's choice three times.

In the areas where the queen-mother is still highly revered and influential, the deference is more to her age, seniority and spiritual personification of the lineage rather than a recognition or acceptance of her political authority as such. This deference to age or seniority is also characteristic of the patrilineal societies in a social system where stratification by age has traditionally taken precedence over other forms of stratification such as by gender or wealth.

Among the Dagomba and Mamprusi, some "Skins" are reserved for female royals. The female chief or "Pua-Kpein" is usually the chief's senior sister, aunt or most senior woman in the lineage and her functions include responsibility for rituals, sacrifices and settlement of disputes among women. A recent study indicates that in the Northern Region, female leadership is well entrenched. Some women chiefs or 'Po-Nas' have entire villages that they rule over in their own right through hereditary skin rights.

In the Buno Manso area of Brong-Ahafo, female chiefs are said to rule in their own right. In the absence of a chief, the queen-mother or Ohemmaa rules as a chief and also plays a vital role in the enstoolment and destoolment of chiefs. The evidence for the existence of women chiefs in some areas of the country is quite clear. There is no denying the fact however that in all these systems, the men are always hovering in the back-ground whether as advisors, agents or the real decision makers.

### **Gender and the Economy**

The traditional value system engendered a marked dichotomy in economic activities based on the widely held belief that men are the primary breadwinners and heads of their families while women are helpers or dependents who provide supporting services. Thus where farming is the major or dominant activity, it is the man who does the clearing and preparation of the land while it is the woman who plants the seed, does the weeding, harvesting and marketing.

Where hunting is a major activity it is the men who do the hunting while the women content themselves with the domestic chores such as care of the home, the cooking and care of the children. In the coastal areas and along the rivers where the major activity is fishing, it is the men who do the fishing while the women support with activities such as marketing and preservation (smoking and drying).

It is this traditional role of marketing as the exclusive preserve of women which has transformed the modern Ghanaian woman into her new role as the prime mover or controller of much of the commercial retail trade in both foodstuffs and imported goods such as textiles and provisions. Women also dominate at all levels of food distribution in Ghana, starting from the farm gate where they sometimes provide the resources to pre-finance various farming activities. It continues through the middle-women or commodity "queens" who

specialize in particular foodstuffs from specific areas and link up with the small-scale women retailers of the commodities at the various markets.

While the major family farm may be owned and exploited by the men, women are known to own smaller farms in their own right, producing mainly foodstuffs and vegetables for domestic consumption. This practice is largely a by-product of the institution of polygamy. It is in the husband's interest to ensure that each co-wife has the ability to support herself and her own children without always depending on him. At the same time, the rivalry between co-wives, in trying to out-perform each other, is not only an incentive for higher productivity but is extremely healthy for the male ego.

With the introduction of cash crops, such as cocoa and oil palm into the subsistence agricultural economy in the latter part of the 19<sup>th</sup> century, the strict segregation of roles began to weaken, and women's involvement in the production of food correspondingly increased. In a study of farming activity, Mikell (1985) shows that the transformation from exclusive male ownership and exploitation of farmland to a more egalitarian system in which ownership was diffused occurred in phases. In the period between 1910 and 1920s, women were involved in the cocoa industry primarily as workers on their husbands or brothers' farms. With the migration of men to urban areas to work in the mines, or the ports or elsewhere, responsibility for the farm fell increasingly on women and many began to acquire their own. Between 1920 and 1940 women, especially in the cocoa areas, increased their share of ownership of farms, although these farms were smaller than the men's.

### **Ownership or Access to Land**

It has been argued that an important factor in determining the extent of women's ownership or participation in farming activity is access to lineage land. Mikell (1985) found that women who live at home in the lineage and have jural access to lineage land are relatively independent of their husbands, while migrant or exogamous wives who work on their husbands' farms find themselves dependent on their husbands for livelihood.

Women's ownership or access to land varies from one area of the country to the other. In almost all areas of traditional society land, for obvious reasons, is the most valued resource for the group. Its value goes far beyond the numerous resources it provides for the sustenance of the group. More importantly, it provides the strong mythical or religious link which is believed to bind the present generation to their ancestors and defines therefore their identity, unity or spirituality.

Lands are therefore owned by the patrilans or matrilineans and so where descent and inheritance are patrilineal, access to the ancestral lands passes through the male line to succeeding generations for their exclusive collective use. Thus among patrilineal groups such as the Ga-Dangme and Ewe, access to the ancestral land passes through the male line to the successor generation.

Among the Akan, women have a right to lineage land, but lineage heads often discriminate against women for fear that they might subsequently alienate portions to husbands who belong to other matrilineages. The situation is not very different in patrilineal societies

where it is extremely difficult for unmarried women, divorcees and widows to have access to land based on the same fear of losing part of the lineage land to outsiders.

Marriage is indeed one of the most important sources of land for women, but security of tenure ends with the dissolution of the marriage through divorce or death. On a man's death, the wife's children (often male) usually inherit the property including land. The woman's interest, including farmland, passes on to the children or, if they are minors, to a brother or senior male relative who acts as administrator. In northern Ghana, women can acquire land through their husband's lineage but they only have usufructory rights. It has also been argued that among the Anlo of south-eastern Ghana, women can own property through direct purchase or inheritance and can transfer such property to their children including daughters. (Kumekpor and Banini, 1970).

In sum, it seems that women generally have some rights to land in many parts of Ghana, but such rights to land are not as secure or unfettered as in the case of men. Not only are their rights severely circumscribed, but their holdings are usually much smaller and maintained through husbands, brothers and sons. Even among the matrilineal groups where women's access to land is customarily sanctioned, what a woman ultimately gets depends in practice on the good will and benevolence of the male head of the family.

### **Women in Marriage and the Family**

The payment of bride-wealth (sometimes called bride-price) by a man or his family to that of a prospective bride's family is probably the commonest key element in traditional marriage. The bride-price itself may be something very small such as the "tiri-nsa" paid in Ashanti. It may also be substantial especially when related to the general level of living or income in the area. An example is the bride-wealth paid among the Frafra of northern Ghana which may consist of four cows, eight sheep, eight guinea-fowls, one cock, one goat, one sack of guinea-corn, one smock and pair of traditional trousers and an extra cow if the woman is deemed beautiful.

Bride-wealth may be paid in one piece or in stages according to the custom of the particular group and in some cultures the final payment or installment is not paid until the wife has proved her fertility to all with her first birth. But whether the payment is token or substantial, the fact that it is always from the man's family to that of the bride tends to reinforce the general societal perception that it is the man who is gaining "something" from the transaction. In other words, the man is exchanging money or goods either for the woman herself or for some services from the woman. The man in effect becomes the "owner" of the "property" or services.

Although the genesis or rationale for the institution of bride-wealth may be lost in history, the uni-directional mode of transfer provides ammunition to the misogynist to believe, assert and behave as if the payment affords him absolute rights over the "goods" he has purchased.

It is often argued that there is a corresponding relationship between the amount of money paid for a bride and how well or badly she is treated in the home by the husband. Where bride-prices are very high, the marriage starts with a great deal of resentment on the part of

the man who may have struggled, sacrificed or even gone into debt to secure all the necessary items for the marriage. He therefore starts marriage in a vengeful mood determined to extract full value from an innocent bride for all the troubles or humiliation he has been subjected to. The harsh treatment, over-assertiveness bordering on hostility and occasional violence can often be traced to this earlier “suffering” on the part of the bridegroom especially in cases where, at some stage in the protracted negotiations a few insults, insinuations or disparaging comments may have been carelessly thrown around by one party or the other. A similar phenomenon seems to be occurring in modern society where families who insist on very expensive church weddings for their impecunious sons-in-law unwittingly end up making enemies of their in-laws and in the process undermine the stability of these marriages.

More generally, however, the bride-wealth payment is interpreted to represent the husband’s exclusive rights over the sexual and reproductive properties of the woman. This interpretation is, of course, not strictly valid because in the matrilineal Akan system where the man’s children do not belong to his lineage, he still pays some bride-wealth to the woman’s family. This probably explains why bride-wealth amongst the Ashanti borders on tokenism.

Procreation however is vital for the survival of the kin group and it is through marriage that the lineage can guarantee its continuity or survival. The value attached to children encompasses every area of life both for the family and society. The more prolific a woman is, the greater the returns to the lineage and the greater therefore the status, esteem and honour bestowed on her. This explains why among many tribes including the Akan and Ga-Dangme, a woman who bears her tenth child is ceremonially honoured. It also explains why the childless woman is abhorred with such merciless virulence in all cultures. Her failure is not only a disservice to the husband, but even more importantly a threat to the continuity of the lineage.

The man’s right over the woman’s sexual and reproductive properties were so absolute that in most cases women had very little say in the decision of whether or not to have children and how many. Even her marriage could have been arranged or forced on her and, except in very rare cases, she could not even deny her husband sex whether she wanted it or not. The disproportionate susceptibility of women to HIV/AIDS infection stems partly from their inability to refuse sex to erring husbands who might have been infected by co-wives, concubines or even casual girl-friends. The woman’s weak position in intra-family relations and her inability to assert any degree of independence or control over her sexual and reproductive rights stem basically from the limitless opportunities the institution of polygamy offers the man to scuttle any such attempts by the woman to assert her independence. If the woman refuses sex or a child on demand, all a man has to do is go elsewhere to get the same services. Competition for a man’s attention, services or affection and the psycho-social traumas which it engenders is not only demeaning but utterly destructive to a woman’s self-esteem. The prolific child-bearing is itself often the result of the competition between co-wives who are encouraged by the pro-natalist cultural ethos to feel that the more children, especially sons, they have the more favoured they are both in the eyes of the husband and the larger family.

The practice of polygamy demeans and undermines the woman's self-esteem in many other ways. For example, as older wives tend to be replaced with younger wives, the former are prematurely retired from the bedroom thereby denying them sexual gratification at ages when their natural desires are still as potent as the man's. It is not unusual for a wife as young as 40 years or so to be permanently retired from the marital bed because her eldest daughter has also started child-bearing at 16 or 18. Thus long before she reaches natural or physiological menopause, the society would have forced her into a state of social menopause with all the psychological distress and physical deprivation associated with that condition.

### **The Age Factor**

Age is an important basis for social stratification in Ghanaian society and defines one's position vis-à-vis others in the social system. Age difference between spouses is therefore an important factor in promoting inequality in conjugal relations.

Serial polygamy implies that many wives are much younger than their husband. It is not unusual for the second, third or fourth wife to be of the same age as the eldest daughter of the senior wife. The wide age divide serves 'ab initio' to limit social communication between husband and wife and in reality the young wife is more an instrument of sexual and reproductive gratification than an equal marital partner.

The inhibiting effect of age is also seen in societies such as the Konkomba, where child-betrothal is a preferred form of marriage arrangement. By the time a man marries, he is about twice the age of his bride, setting the stage quite clearly for a life of deference, docility, subservience and inferior status on the part of the wife. It has also been medically established that the early child-bearing associated with child marriages can result in a range of health problems including premature death, prolonged and obstructed labour and miscarriage. The physical and psychological trauma associated with such high risk child-bearing often has long-term effects on the mental and physical well-being of the woman. Many often live in fear of their husbands, especially when they make any sexual move, and suffer as a consequence from depression, anxiety and stress disorders.

If the bride happens to belong to some particular ethnic groups in the country such as the Builsa, Kusasi, Wala, Sissala, Dagarti and Mamprusi her traumatising could have been triggered off much earlier in life with the discredited custom of female genital mutilation which often left many of its victims scarred for life.

The practice of duolocal residence such as among the Gas offer the wife some protection against the husband, as close relatives often monitor their kinswoman on a daily basis and may act promptly if they detect signs of physical or emotional abuse. It also gives women more freedom or independence in social relations.

### **Marital Disruption and Other Issues**

The woman's inferior status before the law or custom in Ghanaian society is systematically and continuously reinforced at various stages of the life-cycle through a wide range of rituals and other customary sanctions. Among many societies, young girls who get pregnant before

the virginity or puberty rites have been performed undergo various forms of punishment. The Krobos enforce this prohibition through their “dipo” custom while the Ashantis do so through the “kyiribra” rites. There is no such corresponding rites for boys and even worse is the fact that the men who make the girls pregnant are not officially sanctioned.

Young girls ranging in age from 6 to 15 years are forced under the “trokosi” system to serve shrine gods in atonement for the sins and crimes of other family members. Invariably these girls end up spending their entire lives as servants, farm labourers or wives to the shrine priests. The discrimination against the female sex is thus an integral part of the religious system, as there is no explanation why only nubile girls and not boys can serve this particular purpose.

When a marriage is disrupted or terminated through divorce or death, the discrimination, harassment and injustice continue and the woman seeking divorce is likely to find the odds heavily stacked against her. For a start, a man can divorce a woman for a whole range of offences such as adultery, disobedience and even laziness. The same privilege is not extended to the woman. In fact, the woman who seeks divorce after being maltreated, battered and humiliated by an uncaring husband runs the risk of being stigmatized and ostracized for being a “bad” woman by the larger society.

If she is lucky enough not to be accused of having killed her husband through witchcraft, a widow is forced to go through a series of degrading widowhood rites. The rites themselves differ from one ethnic group to the other, but almost without exception, they pose a threat to the physical, mental and emotional health of the woman. All these practices are designed to emphasize the man’s superior, pre-eminent role and the woman’s corresponding inferior status in society. In many of these societies, the final humiliation for the widow is to end up being “inherited” by the late husband’s brother or other male relative regardless of her own feelings or desires. Widowhood inheritance ensures that the husband’s ownership rights are permanently preserved within the lineage.

### **Re-Modelling of Roles**

Societies are dynamic by nature and many of the institutions, beliefs, practices and roles outlined in the preceding section are in the process of transformation or redefinition. Some of the customary practices which appeared to be gross violations of human rights were directly proscribed by the erstwhile colonial administration. Examples are the more degrading forms of widowhood rites or those involving loss of life.

Other customary practices became obsolete or anachronistic and disappeared on their own or resurfaced in completely modified forms. The most significant source of change perhaps is the fact that the international community has now firmly agreed on a number of fundamental principles as essential for good governance, equity and justice. Equality between the sexes and the elimination of all forms of discriminatory practices against women are some of these cardinal principles. The acceptance of these principles is one of the motivating factors behind the attempts being made in all areas to dismantle the structures, barriers, and practices which impede the full integration of women into modern society.

In the following sections an attempt is made, using census and other current demographic data, to examine the progress which has been made in achieving these objectives by examining in detail gender disparities in various spheres of socio-economic life.

### **3.3 Situation of Women**

With females in Ghana forming more than half of the population, it is important in planning development projects that policy makers consider trends of issues that affect the productivity of women such as fertility, mortality, migration, rural/urban residence, age distribution, household headship, educational attainment and economic activity. Policies should for example take into consideration the fact that even though females have a higher life expectancy than males, they are often at risk during their reproductive life from pregnancy related complications, water related and poor environmental and sanitation diseases, malnutrition and sexually transmitted infections. With the daily care of children being largely the woman's responsibility in terms of time, the ability of women to cope effectively with housekeeping and employment outside the home should be factored into the design of employment and child care policies. Facts are also required on the level of literacy and educational attainment of women as it is an important factor affecting the woman's ability to participate effectively in the labour markets and decision making in the households and at all levels of governance.

#### **Distribution of Female Population**

In analyzing gender disparities, we need to have an understanding of the age and sex distribution of the population at all levels— regional, urban and rural. In 1960, males outnumbered females by 50.5 to 49.5 per cent of the population. The situation was reversed in 1970 and has remained at that level since. Table 3.1 shows that the proportion of females increased to 50.4 per cent in 1970 and only marginally moved to 50.5 per cent in 2000. Reasons for this are the improvement of education and health services, which has reduced the risk faced by females in their reproductive life, emigration of males and increased competition for jobs.

**Table 3.1: Female Population by Urban /Rural Residence, 1960,1970, 1984, 2000**

Year	Total Population	Female Proportion		Total Country
		Urban	Rural	
1960	6,726,815	48.5	49.7	49.5
1970	8,559,315	50.1	50.5	50.4
1984	12,296,081	51.3	50.4	50.4
2000	18,912,079	51.1	50.1	50.5

Source: Ghana Population Censuses (1960, 1970, 1984 and 2000)

#### **Distribution of Females by Urban/Rural Residence.**

In 1984 and 2000, the proportion of females of the urban population was higher than the corresponding proportion in rural areas. Analysis of trends of urbanization in Table 3.2 seems to imply that growth in urbanization has been accompanied by increases in the proportion of females in the urban areas. This is probably because of decreases in child and maternal mortality in urban areas because in these areas, females have more access to

modern health care and formal education. The proportion of females in urban areas has increased from 48.5 per cent in 1960 to 51.1 in 2000, while they also constitute the majority in rural areas even though the proportion had declined since 1970.

**Table 3.2: Population by Sex and Locality of Residence**

Locality	1960		1970		1984		2000	
	Male	Female	Male	Female	Male	Female	Male	Female
Urban	51.5	48.5	49.9	50.1	48.7	51.3	48.9	51.1
Rural	50.3	49.7	49.5	50.5	49.6	50.4	49.9	50.1

Table 3.3 indicates that between 1960 and 2000, the proportion of the population residing in urban areas has increased from 23.1 per cent in 1960 to 43.8 per cent in 2000. At this rate of increase, it is expected that the urban population will exceed the 50 per cent mark by the next census in 2010.

**Table 3.3: Population in Urban/Rural Residence 1960, 2000**

Residence	1960	1970	1984	2000
Urban	23.1	28.9	32.0	43.8
Rural	76.9	71.1	68.0	56.2

Source: Computed from 1960, 1970, 1984 and 2000 Population Census Reports

### **Regional Distribution of Females**

Table 3.4 shows the regional distributions of females and changes in sex ratios during inter census periods. Except for Upper West, sex ratios have declined over the 40 year period for all regions and the trend observed, nationally, applies to almost all regions, with females consistently outnumbering males at an increasing rate with time. The regions with the highest proportions of females (i.e. lowest sex ratios) are Central, Upper East, Upper West, and Volta. In these regions, decline in employment opportunities may have caused more males to emigrate. The reason for the low sex ratio for Central may be the tendency of young men to migrate to Greater Accra because of the proximity of this region. Increases in the population of female students and teaching staff in Central may also account for the low sex ratio because this region has a large number of educational institutions. For year 2000, apart from Western, Ashanti and Brong Ahafo, females outnumber males in all other regions. These three are regions with a lot of agricultural activity particularly cash crop farming, timber and cocoa, and may be one reason for the presence of more males than females. Western and Ashanti are, in addition, regions with most of Ghana's mining activity.

**Table 3.4: Sex Ratio and Intercensal Changes by Region**

Regions	Sex Ratio				Change in Sex Ratio		
	1960	1970	1984	2000	1970-1960	1984-1970	2000-1984
All Regions	102.2	98.5	97.3	97.6	-3.7	-1.2	0.3
Western	110.2	104.7	102.6	103.4	-5.5	-2.1	0.8
Central	95.0	93.8	95.9	91.2	-1.2	+2.1	-4.7
Greater Accra	112.0	104.9	96.0	97.7	-7.1	-8.9	1.7
Volta	95.2	92.5	93.9	96.8	-2.7	+1.4	2.9
Eastern	102.0	98.3	98.7	93.6	-3.7	+0.4	-5.1
Ashanti	105.0	99.1	97.0	101.3	-5.9	-2.1	4.3
Brong Ahafo	111.2	104.5	103.5	100.8	-6.7	-1.0	-2.7
Northern	104.0	102.1	98.1	99.3	-1.9	-4.0	1.2
Upper East	93.0	90.8	91.0	92.1	-2.2	+0.2	1.1
Upper West	92.0	89.2	90.2	92.6	-2.8	+1.0	2.4

### **Age Distribution of Females**

Sex ratios are influenced by fertility, migration and mortality in various age groups. The population has been young with an excess of females over males, particularly in the younger economically active age groups. Between 1960 and 1970, relatively low sex ratios have been recorded for ages 0-4, implying that more females than males have been born in this period. In 1984, the situation improved a bit, but still fell short of what pertains in other parts of the world where records of birth and death registration are accurate, that male births outnumber female births such that the sex ratio at birth approximates closely 101-104 male births per 100 female births.

An examination of the sex ratios by age in Table 3.5 shows that for all census years, sex ratios are low ( between 98 and 100) in the 0-4 age group. It indicates a small excess of females over males in this age group. Sex ratios however increase in subsequent age groups till it peaks in the 10-14 age group, and then begins to decline till it reaches the lowest value in the 20-34 age group which is the most active group of the economically active population and the most likely to migrate outside the country to work. Between 1970 and 1984, large numbers of Ghanaians , mainly males, left the country for work, with many of them returning after 1984. Some have also remained outside the country.

**Table 3.5: Five Year Age Specific Sex Ratios, 1960,1970,1984,2000**

Age Group	1960	1970	1984	2000
0-4	98.2	99.1	100.2	99.0
5-9	102.5	100.1	102.4	100.0
10-14	110.6	105.4	106.4	104.0
15-19	103.6	105.3	104.4	104.0
20-24	83.2	81.4	84.6	91.0
25-29	90.2	84.9	84.8	88.0
30-34	98.6	88.8	89.9	88.0
35-39	110.6	102.1	93.5	91.0
40-44	114.0	99.3	91.4	99.0
45-49	128.4	112.5	102.9	100.0
50-54	118.4	107.1	96.6	97.0
55-59	122.5	115.8	101.0	106.0
60-64	116.3	105.9	91.3	94.0
65+	114.8	102.4	95.1	99.0

Source: Population Census Reports, GSS; 1960, 1970, 1984, 2000.

After age 34, there is again an excess of males over females in 1960 and 1970 in almost all the older age groups. But for the more recent censuses, 1984 and 2000, there has been generally an excess of females over males in almost all the age groups after age 34 with the exception of the 45-49 and the 55-59 age groups.

One implication that can be drawn from this analysis is that the life expectancy of women may be increasing. Improved health status of women from reduction of stress due to smaller household sizes, labour saving household devices, increased access to safe water and electricity, more access to formal education, better nutrition and increased participation in paid employment may be responsible for females outliving males at most ages.

### **Female Household Headship**

About a third (34 per cent) of the 3.7 million households in Ghana are headed by females. This situation gives cause for concern, since the sex of household head is an important factor in determining the welfare of household members. Female household heads have to take on more roles in addition to their traditional roles sometimes at great cost to their mental and physical health. They work within and outside the home, doing many different things including mothering, nurturing children and cooking. In general, women hold their households and families together, managing available household resources. Their ability to do this effectively depends to a large extent, on their position within the family set-up and on their access to productive resources.

Studies have shown that women in the traditional society have limited access to lineage land. This situation of gender inequality regulates women's access to resources in such a way that women are always dependent on men, with most women depending on husbands or kin for access to land for farming and other productive activities. The consequence of this on female heads of households is that they and their household members become more dependant on other men and relatives for productive resources and other male related assistance. Even though, in some cases, female heads have their spouses migrating for work to increase household income, these female heads have to take up many additional responsibilities. The status of an uneducated, unemployed and pregnant female head, is one of the worst in the country. Her status can be enhanced only with improvement in her educational and employment status and decrease in fertility.

### **Trends in Female Household Headship**

Data in Table 3.6 indicate that over the period 1960-2000, there is an increasing incidence of female headed households in both rural and urban areas of Ghana. The percentage of all households that are headed by females increased from 25.7 per cent in 1960 through 31.9 per cent in 1984 to 34.3 per cent in 2000. The Table shows that in all the censuses reported, there was a higher proportion of female headed households in urban than in rural areas.

**Table 3.6: Household Headship by Residence, Region and Sex. 1960, 1970, 1984 and 2000**

Area of Residence	1960		1970		1984		2000	
	Male	Female	Male	Female	Male	Female	Male	Female
All Areas	1,132,360	392,700	1,279,541	514,039	1,742,985	935,925	2,431,925	1,269,316
	74.3	25.7	71.4	28.6	68.1	31.9	65.7	34.3
<u>Locality</u>								
Urban	72.3	27.6	-	-	64.2	35.8	62.7	37.3
Rural	75.0	25.0	-	-	70.3	29.7	68.4	31.6
<u>Regions</u>								
Western	72.0 <sup>0</sup>	28.0 <sup>0</sup>	75.9	24.1	72.6	27.4	70.1	29.9
Central	-	-	60.7	39.3	58.7	41.3	58.6	41.4
G. Accra	74.7	25.3	74.6	25.4	54.0	46.0	65.4	34.6
Volta	71.6	28.4	67.7	32.3	63.3	36.7	59.9	40.1
Eastern	71.9	28.1	68.2	31.8	66.6	33.4	62.4	37.6
Ashanti	68.1	31.7	65.3	34.7	63.0	37.0	63.4	36.6
B. Ahafo	72.8	27.2	71.5	28.5	69.7	30.9	65.7	34.3
Northern	94.6*	6.4*	90.6	9.4	88.8	11.2	82.5	17.5
U. East			87.7+	12.3+	86.2	13.8	74.4	25.6
U. West					76.2	12.8	74.9	25.1

Source: Population Census Reports, GSS  
<sup>0</sup> includes Central  
 \* includes Upper East, Upper West  
 + includes Upper West

With increasing urbanization, it seems that female headed households are increasing. This is a result of changes in the population of never married, divorced/separated women, widows and married women whose spouses are living elsewhere. The proportion of never married increases when more women delay marriage due to the relatively greater educational and economic opportunities. This is more likely to occur in more urbanized areas where increased enrolment of girls in school in the 1980s is likely to increase the number of female household heads in that area after twenty years or later. It may also reflect the increase in single parent or one persons households which are becoming an urban phenomenon. The deliberate decision of many women to delay marriage for educational and employment reasons may help to explain the regional disparities observed in female household headship in Table 3.6 with the high proportions in Central (41.4 per cent), while male out-migration may be the reason for the high incidence in Volta (40.1 per cent) also. The patriarchal system of the Ga Dangbe and northern regions may also explain the low incidence of female headship in Greater Accra (34.6 per cent) and the three northern regions (17-25 per cent).

This emerging household structure seems to be linked to disparities in the level of urbanization of regions because of the changes in lifestyle and educational and other socio-economic opportunities that go with urbanization. Table 3.7, which shows the trend of urbanization, indicates that since 1960, level of urbanization has been highest in Greater Accra, Ashanti and Central. The relatively high concentration of population in these three regions are due mainly to the more favourable influence of economic, infrastructural, political and administrative factors which have made these regions more attractive to immigrants and in-migrants. They have a high concentration of industrial/commercial or social establishments such as schools and clinics which offer opportunities for girls education and women's employment. Young women in these regions can as a result delay marriage due to longer years of education, greater career opportunities and paid employment.

Table 3.7: Level of Urbanization by Region

Region	1960	1970	1984	2000
Western	24.7	26.9	22.6	36.3
Central	28.0	29.1	28.8	37.5
Greater Accra	72.6	85.3	83.0	87.7
Volta	13.1	16.0	20.5	27.0
Eastern	21.1	24.6	27.7	34.6
Ashanti	25.0	29.7	32.5	51.3
Brong Ahafo	15.6	22.1	26.6	37.4
Northern	13.0	20.4	25.2	26.6
Upper East	5.0	6.7	10.9	15.7
Upper West	3.9	7.3	12.9	17.5
Total Country	23.1	28.9	32.0	43.8

Source: Population Census Reports, GSS

### **Marital Status of Female Household Heads**

Table 3.8 shows that 70.7 per cent of household heads were either married or living in consensual union; an additional 18.4 per cent had been in a marriage before even if they were

not currently in any union. Of the female heads, 51.2 per cent were in a stable union as against 80.8 per cent of male heads. On the other hand, 39.6 per cent of female heads compared with 7.4 per cent of male heads are currently out of marriage. This means that women are much more likely to be heads of households when there is no partner than when they are married. Female headed households may therefore face problems with support in meeting family responsibilities since there is only one parent. The proportion of urban female household heads who are married or in a consensual union is about the same for urban (50.5 per cent) as rural areas (52.1 per cent). A slightly higher proportion of rural female heads (42.4 per cent) than urban female heads (36.8 per cent) are out of marriage. The proportion of never married heads of household is higher for males and for urban areas. Even though female heads who are never married or living in a consensual union may have problems of their own with care and maintenance, the separated, divorced or widowed are more vulnerable, because they are single parents. With increasing educational attainment, women are likely to have a stronger financial standing and the absence of a partner will be less of an economic problem.

**Table 3.8: Marital Status of Heads of Households by Sex and Locality of Residence, 2000**

Marital Status	Total			Urban			Rural		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
Never Married	10.9	11.8	9.2	15.2	16.7	12.7	7.1	7.8	5.5
Married	63.3	73.5	43.7	60.4	70.0	44.1	65.8	76.3	43.3
Consensual Union	7.4	7.3	7.5	6.3	6.2	6.4	8.4	8.2	8.8
Separated	2.4	1.5	4.3	2.6	1.5	4.6	2.2	1.4	4.0
Divorced	8.0	4.0	15.7	8.1	3.9	15.2	7.9	4.1	16.1
Widowed	8.0	1.9	19.6	7.4	1.7	17.0	8.5	2.1	22.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	3,701,241	2,431,915	1,269,316	1,746,524	1,095,318	651,206	1,954,717	1,336,607	618,110

Source: Ghana 2000 Population and Housing Census

### **Educational Attainment of Female household heads**

The educational attainment of female heads has consistently improved over the period 1960-2000, though Table 3.9 indicates that in 2000, there was still a high proportion (56.6 per cent) of female heads who had never attended school, compared to 38.5 per cent for male household heads. In 1970, the corresponding figures were 82.3 per cent for female heads and 63.3 per cent for male heads, which reduced to 65.4 per cent for females and 46.2 per cent for males in 1984. Empowered with education, female household heads who are widowed, separated/divorced or never married, can take advantage of opportunities for paid employment and further education to increase their income and that of their households.

Analysing changes in the proportion of females who never attended school, the pattern observed since 1970 indicates that improvements in the educational attainment of females is also reflected in the educational attainment of female heads. In 1970, when the proportion of adult females who never attended school was 76 per cent, the corresponding proportion of female heads who never attended school was 82 per cent. In 1984, the proportion of females never attending school reduced to 60 per cent and the proportion of female heads who never attended school also reduced to 65 per cent. There was further improvement in the educational attainment of females and female heads in 2000 with 53 per cent of females and 57 per cent of female heads never attending school.

**Table 3.9: Educational Attainment of Household Heads by Sex of Head and Locality of Residence**

Highest Education	Sex	1970			1984			2000		
		Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
All Levels	Male	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Female	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Never Attended	Male	63.3	40.2	73.9	46.2	28.9	55.1	38.5	22.1	51.9
	Female	82.3	71.6	88.1	65.4	53.3	73.4	56.6	44.4	69.5
Pre-School	Male	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
	Female	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Primary	Male	7.3	6.6	7.6	7.6	5.3	8.8	4.9	4.1	5.6
	Female	6.9	8.1	6.2	9.0	8.4	9.4	6.2	6.1	6.3
Middle/JSS	Male	23.0	38.8	15.7	34.8	43.5	30.3	33.6	38.6	29.5
	Female	9.0	16.2	5.1	20.8	28.7	15.4	23.6	29.6	17.3
Secondary/SSS	Male	2.8	6.8	0.9	5.5	11.4	2.6	8.6	13.4	4.7
	Female	0.6	1.5	0.2	2.1	4.3	0.6	4.4	6.7	1.8
Commercial Tech.	Male	1.4	3.8	0.4	2.7	5.8	1.1	5.6	9.2	2.7
	Female	0.4	0.9	0.0	1.3	2.8	0.3	3.6	5.8	1.4
Post-Secondary	Male	1.5	1.9	1.3	2.0	2.3	1.8	3.9	4.7	3.2
	Female	0.7	1.4	0.4	1.2	2.1	0.7	3.2	4.4	2.0
Tertiary	Male	0.7	1.9	0.2	1.2	2.8	0.4	4.7	7.8	2.2
	Female	0.1	0.3	0.0	0.2	0.4	0.1	2.3	2.9	1.6

Source: Population Census Reports

***Economic Activity of Female Household Heads***

The ability of female household heads to earn some income relieves her household from untold hardship particularly when it is a single parent household with many dependants. For the large proportion (48.8 per cent in 2000) of female heads who are currently in no union, working in the formal sectors would enable them to earn higher incomes than working in the informal sector which is characterized by low incomes and high levels of insecurity. These female heads however are like other females, likely to be engaged in farming, trading, or small scale food manufacturing. For them to earn high incomes, the female heads need resources in the form of capital and land. Yet, women have limited access to these resources because of the traditional set up which precludes women from inheriting property.

Table 3.10 indicates that 18.9 per cent of female heads in 2000 are engaged in the formal sector compared to 26.3 per cent of male household heads. On the other hand, 80.0 per cent of female heads are engaged in the private informal sector which is more than the proportion of male heads (71.7 per cent) working in this sector. This is probably due to the smaller proportion (13.6 per cent) of female heads who have attained levels of education higher than Middle/JSS level compared to 22.8 per cent of male heads.

**Table 3.10: Household Heads by Sex and Employment Sector, 2000**

Employment Sector	Total	Male		Female	
All Sectors	3,242,159	100.0	2,208,137	100.0	1,034,022
Public	303,426	9.4	237,793	10.8	65,633
Private formal	472,119	14.6	341,990	15.5	130,129
Private informal	2,411,027	74.4	1,584,233	71.7	826,794
Semi public or parastatal	30,884	1.0	26,242	1.2	4,642
NGO's or International	7,157	0.2	5,715	0.2	1,442
Other	17,546	0.5	12,164	0.6	5,382

Source: Ghana 2000 Population and Housing Census

### **Marital Status of Women**

Marital status is an important factor to be considered in efforts to reduce fertility and to improve the status of women and children. Low age of first marriage and the high incidence of polygamous marriages cause high fertility which in turn lowers the status of women and children. Divorce and separation also contribute to high fertility because they cause serial polygamy (marrying, divorcing, remarrying, etc.).

In developing countries, girls tend to be given into marriage at an early age and a marriage may be very simple and informal to the extent that even the acceptance of any money token can destine a girl to be the wife of a man for whom the alliance was sought. Marriage in Ghana is also not just a union between a man and a woman as in the Western legal concept, but also the establishment of a permanent relationship between the families of the parties to the marriage. Consequently, the death of one of the parties does not of itself determine the end of the marriage. The 1998 GDHS indicates that one of the risk factors in infant and child mortality is the marital status of the mother. Unmarried women tend to experience higher child loss than married women. Where such women are poor, they find it difficult to afford proper care and children also suffer from paternal care.

### **Trends in Marital Status of Women**

Early marriage is declining with increasing access to education of the girl child. As girls stay in school longer, they end up marrying at a later age as marriage and the schooling are incompatible. This postponement is not limited to those in formal education but at times extends to those who are apprenticed to learn some trade. From Table 3.11, it is observed that in 1960, most females were married by the age of 20, with most of the never married concentrated in the 15-19 age group, whereas the proportion of never married males is substantial up to age 29. In 2000, most females were married by age 30, reflecting a delay in marriage by both males and females; males because they may not be financially ready to assume responsibilities that go with it and females because they may want to complete schooling. In 2000, most males were not married until about age 30-34. This pattern will continue for as long as men prefer to marry women younger than they are. GDHS results (presented as Appendix A3.1) also show the same pattern for the period 1993-1998. It can therefore be predicted that early marriages will not be common in Ghana by 2020.

**Table 3.11: Marital Status by Age and Sex, 1960 and 2000**

Age	Male						Female					
	Never Married	Married	Consensual Union <sup>1</sup>	Separated <sup>2</sup>	Divorced	Widowed	Never Married	Married	Consensual Union <sup>1</sup>	Separated <sup>2</sup>	Divorced	Widowed
<b>1960</b>												
15-19	96.4	3.2	-	-	0.3	0.1	45.9	51.5	-	-	2.4	0.6
20-24	71.2	27.0	-	-	1.7	0.1	8.6	86.2	-	-	4.6	0.6
25-29	36.7	59.0	-	-	3.9	0.4	2.3	91.6	-	-	4.9	1.2
30-34	17.4	76.1	-	-	5.7	0.8	1.3	90.5	-	-	6.0	2.2
35-39	10.2	81.8	-	-	6.7	1.3	0.7	88.3	-	-	6.7	4.3
40-44	6.1	84.5	-	-	7.5	1.9	0.4	82.2	-	-	9.5	7.9
45-49	3.9	85.3	-	-	8.0	2.8	0.5	72.4	-	-	11.9	15.2
50-54	3.5	84.7	-	-	8.8	3.0	0.6	61.7	-	-	14.9	22.9
55-59	3.3	84.9	-	-	8.1	3.7	0.3	50.7	-	-	16.3	32.7
60-64	2.5	81.6	-	-	10.0	5.9	0.3	38.0	-	-	16.1	45.6
65+	1.9	75.5	-	-	10.9	11.7	0.4	20.8	-	-	14.4	64.4

Total	33.5	59.4	-	-	5.2	1.9	8.5	75.1	-	-	7.2	9.2
<b>2000</b>												
15-19	89.2	7.6	1.8	0.5	0.6	0.3	80.5	13.3	4.4	0.7	0.8	0.3
20-24	77.4	16.0	4.7	0.7	0.8	0.3	43.5	40.6	11.8	1.5	2.1	0.5
25-29	50.6	37.4	9.0	1.1	1.5	0.4	20.6	61.7	11.5	1.9	3.4	0.9
30-34	23.2	61.8	9.8	1.6	2.9	0.7	8.2	72.8	9.7	2.4	5.2	1.7
35-39	12.3	72.6	8.7	1.8	3.7	0.9	4.9	75.2	8.2	2.6	6.4	2.7
40-44	8.0	76.8	7.5	1.9	4.6	1.2	3.9	72.6	6.8	3.0	8.5	5.2
45-49	5.7	78.5	6.3	2.0	5.5	2.0	3.0	69.6	5.6	3.2	10.4	8.2
50-54	4.8	78.4	5.3	2.2	6.7	2.6	2.7	63.7	4.4	3.2	12.1	13.9
55-59	4.5	77.3	4.8	2.4	7.5	3.5	3.0	57.7	3.8	3.4	13.4	18.7
60-64	4.9	74.5	3.8	2.4	8.3	6.1	3.0	48.0	2.6	3.1	14.2	29.0
65+	8.2	64.9	3.4	2.5	9.2	11.8	5.4	32.8	2.3	2.6	12.7	44.2
Total	39.0	48.1	5.9	1.5	3.5	2.1	25.1	51.5	7.4	2.2	6.0	7.8

Notes: 1 included in Married

2 included in Divorced

Source: Ghana Population Censuses (1960 and 2000).

### **Polygamy**

Urbanization has over time alienated people from their customary roots and most customary marriages operate as monogamous marriages in the urban areas. However, in the rural areas, things can be very different. Polygamy is still being practiced in many rural areas with some men marrying as many as three wives or more. Results of the Demographic and Health Survey in 1988 indicate that 33 per cent of currently married women in the sample were in polygamous unions. Such marriages are more likely to be more prevalent among the older, less educated women than the young schooling girls and career women.

There is some indication from the data in Table 3.11 that the incidence of polygamy has declined only marginally over the 40-year period. Data on the no longer married (separated, divorced, widowed) indicate that for every such man (7.1 per cent) in 1960, there were at least 2 women (16.4 per cent); the ratio has not changed much in 2000 (7.1:16.0). The proportion of divorced/separated women has increased slightly from 1960 (7.2 per cent) to 2000 (8.2 per cent) but that of widowed women has decreased from 9.2 per cent in 1960 to 7.8 per cent in 2000. Girls are participating more in formal education, are staying longer in school, and therefore postponing marriage. They are also able to foresee the consequences of polygamous marriages and to take decisions of their own. The incidence of polygamy is therefore likely to decline as young newly married women take over from the older women.

### **Duration of Marriage and Marital Instability**

Table 3.11 shows that there are marked differences between males and females in the duration of marriage. Whereas large proportions (over 60 per cent) of married females are reported between ages 20-54 in 1960, and 20-59 in 2000, large proportions of married males are reported in all age groups after age 30. It indicates that males remain married longer than females. This implies that males tend to remarry after divorce, separation or death of spouse whereas females are likely not to remarry.

Census results seem to indicate that the divorce rate has been increasing with time. For every 10 divorced men, there were 14 divorced women in 1960 whereas in 2000 there were 18

divorced women to 10 divorced men. A similar trend is observed in Appendix Table A3.1 for the period 1993-1998.

There is also some indication that unmarried males have more than one partner. In 2000, for every 100 men reporting living in consensual union there were 141 women reporting such sexual union. With HIV/AIDS on the increase, this has serious implications for the spread of the disease and for policies that seek to control its spread. It also provides an explanation for the higher susceptibility of females to the disease. To protect women and the spread of the disease, education should be intensified and women in particular, made aware of the disease and how it is contracted.

### **Education and Training of Women and Children**

Education and training of girls is widely accepted as one of the best means for achieving equality, sustainable development and economic growth in Sub-Saharan Africa. Education of women affects their capacity to take control of their own lives to exercise their basic human rights, and to participate fully in decision making in households and at all levels of governance. This capacity would then empower them to transform the policies of government and other institutions into programmes and policies that address their needs and ultimately promotes national development.

Though overall progress has been achieved in girls' enrolment at primary and secondary levels, girls still face discrimination in access to education at higher levels and in science and technology due to a number of factors including customary attitudes, early marriages and pregnancies and inadequate and gender-biased teaching. Lack of protective laws and non-enforcement of the existing laws, renders girls more vulnerable to all kinds of violence especially in areas where there is lack of accessible schools for specialized training.

### **Women's Education**

Analysis of data on current school attendance in Table 3.13 indicates that the number of females aged 15 years and older who were currently attending school has been lower than male adults for all census years. The disparity was largest in 1960 when 6.3 per cent of males above the age of 15 years were currently attending school compared with only 1.8 per cent of females. The trend observed is one of which school attendance of females aged 15 years and older is increasing for both males and females, but at a faster rate for females than for males of the same age group. Between 1960 and 2000, the proportion of females currently attending schools increased from 1.8 per cent to 7.9 per cent while that of males increased from 6.3 per cent to 11.1 per cent over the same period.

In all census years, it is also observed that the proportion of adult females who have never attended school has been higher than for males. With increasing enrolment of girls, this proportion has declined consistently, recording a decrease by 36.8 percentage points between 1960 and 2000. The corresponding decrease for males was 32.3 points over the same period. This is an indication that with time, the gap between males and females with respect to school attendance is closing but at a rather slow pace.

**Table 3.13: Distribution of Population 15 years and Older by School Attendance and Sex,**

Sex	Never Attended	Attended In The Past	Presently Attending	Total	
				per cent	Number
<u>Both Sexes</u>					
1960	79.5	16.4	4.1	100.0	3,730,309
1970	65.9	25.5	8.6	100.0	4,543,348
1984	49.8	40.4	9.8	100.0	6,760,905
2000	45.3	45.3	9.4	100.0	11,105,236
<u>Males</u>					
1960	69.9	23.8	6.3	100.0	1,884,552
1970	54.0	34.1	11.9	100.0	2,227,000
1984	39.9	48.1	12.9	100.0	3,261,072
2000	37.6	51.3	11.1	100.0	5,435,829
<u>Females</u>					
1960	89.4	8.8	1.8	100.0	1,845,757
1970	76.0	16.6	7.4	100.0	2,316,348
1984	59.8	33.3	6.8	100.0	3,499,893
2000	52.6	39.5	7.9	100.0	5,669,407

Source: Population Census Reports

Low enrolment rates of females to primary one together with factors like high repetition and dropout rates affect the participation of females at all other levels of the education ladder. The educational attainment of adults by sex for 2000 is shown in Table 3.14. The analysis from the Table shows that even though the disparities for the 40 year period has decreased, the disparities widen as males and females move from primary to other levels. The disparity between males and female attainment at the primary level, was highest in 1960 and has decreased with time. At higher levels of the ladder the situation changes with males outnumbering females at all levels and the disparity increasing with the level of attainment.

**Table 3.14: Educational Attainment (Past School Attendance) by Level and Sex**

Highest Level Attained	6 Years and Older			15 Years and Older		
	Male	Female	Sex Ratio	Male	Female	Sex Ratio
<b>1960</b>						
All Levels	478,200	188,410	254	450,040	162,780	276
Pre-School	-	-	-	-	-	-
Primary	134,210	96,960	138	108,670	72,790	149
Middle	279,730	77,870	359	277,410	76,690	362
Secondary	25,070	5,270	476	25,060	5,270	476
Vocational/ Commercial/Technical	6,630	1,100	603	6,630	1,100	603
Post Secondary	9,930	3,510	283	9,930	3,510	283
Tertiary	3,760	930	404	3,760	930	404
<b>1970</b>						
All Levels	800,706	450,692	178	758,936	398,561	190
Pre-School	-	-	-	-	-	-
Primary	198,533	199,728	99	159,727	150,555	06
Middle	496,974	219,684	226	494,029	216,743	228
Secondary	50,625	13,637	371	50,609	13,623	371
Vocational/	21,369	5,974	358	21,366	5,973	358

Commercial/Technical						
Post Secondary	22,395	9,567	234	22,395	9,565	234
Tertiary	10,810	2,102	514	10,810	2,102	514
<b>1984</b>						
All Levels	1,614,717	1,226,392	132	1,511,407	1,166,400	130
Pre-School	-	-	-	-	-	-
Primary	265,343	335,817	79	222,866	281,416	79
Middle	1,070,163	769,109	139	1,065,469	763,608	140
Secondary	154,430	63,174	244	154,306	63,084	245
Vocational/						
Commercial/Technical	62,900	32,873	191	6,885	32,873	21
Post Secondary	38,526	21,513	179	38,526	21,513	179
Tertiary	23,355	3,906	598	23,355	3,906	598
<b>2000</b>						
All Levels	3,005,097	2,452,298	1,225	2,790,674	2,242,546	124
Pre-School	14,601	14,497	101	7,852	7,727	102
Primary	426,669	484,161	88	244,816	307,028	80
Middle	1,558,236	1,305,229	119	1,534,317	1,281,284	120
Secondary	445,391	270,135	165	443,906	268,678	166
Vocational/						
Commercial/Technical	224,565	155,928	144	224,138	155,481	144
Post Secondary	153,180	125,221	122	153,180	125,221	122
Tertiary	182,465	97,127	188	182,465	97,127	188

Source: Population Census Reports, GSS

The data further indicate that most females who pursue further education after secondary/middle school enter teacher training or commercial/vocational and technical institutions; very few of them enter the universities and other tertiary institutions. The disparity observed from the data in Table 3.14 is large at the tertiary levels whereas it is small for the other institutions.

Literacy, defined as ability to read and write, together with school attendance provides a good indicator of educational attainment. A lot of information today is transmitted in written form therefore the ability to read and write is very essential. Table 3.15 shows that 49.8 per cent of the female population aged 15 years and older could read and write in 2000, up slightly from 47.9 per cent in 1997. The corresponding figures were higher for males. A comparison of data in Table 3.15 which compares the literacy rates for males and females as reported for the 1998 GLSS, 1997 CWIQ and the 2000 Census indicates that in all the years, males were more literate than females. This is true for both urban and rural areas though the disparity observed is larger for rural than for urban areas. It is also observed that literacy rates are higher for urban areas than for rural areas for both males and females.

**Table 3.15: Literacy (15 years and older) by Locality of Residence and Sex**

Literacy	1997 CWIQ			2000 Census		
	Both Sexes	Male	Female	Both Sexes	Male	Female
All Localities	62.2	62.3	47.9	57.9	66.4	49.8
Urban	63.0	77.1	51.7	73.1	80.8	65.8
Rural	39.9	54.4	28.4	44.4	53.6	35.5

Sources: 2000 Population and Housing Census  
Core Welfare Indicators Questionnaire, 1997.

Table 3.16 indicates the language which one is literate in. In both 1999 and 2000, the highest proportion of both males and females is literate in both English and a Ghanaian language, with the proportion being lower for females.

**Table 3.16: Literacy (15 years and older) by Language and Sex**

Literacy	1998/99 GLSS			2000 Census		
	Total	Male	Female	Total	Male	Female
English Only	11.5	13.7	9.6	16.4	17.7	15.2
Ghanaian Language Only	4.6	4.5	4.8	2.5	2.4	2.7
English and Ghanaian Language	33.7	46.1	23.1	38.1	45.3	31.2

Source: Ghana Living Standard survey, 1988/1989

### **Children's Education**

Participation rates of children in formal education has been increasing consistently for each age/age group from one census to another. School attendance of six year olds which stood at a low of 30.6 per cent in 1960 has increased steadily over the 40-year period to 56.2 per cent in 2000 (Table 3.17). The proportionate change in school attendance slowed down over the last two decades due to a drop in urban areas from 70.2 per cent in 1984 to 68.3 per cent. Participation rates in the rural areas however increased from 46.5 per cent in 1984 to 49.4 per cent in 2000, raising the national participation rate of children from 53.2 per cent in 1984 to 56.2 per cent in 2000.

### **Trends in Children's Participation in Education**

Though participation of children in education has improved over the 40 year period, the rates are still rather low. By 2000, of all children of school going age (6-24), 23.3 per cent were not in school either because they had completed basic education or dropped out and 26.5 per cent had received no form of schooling. This situation calls for more effort by government and families to identify the causal factors for non school attendance in order to find lasting solutions to the problem. Some of these factors could be poverty, prevalence of child labour, inaccessibility to schools, lack of teachers and books, poor school infrastructure, lack of role models, irrelevance of school syllabus, attitude of parents to education particularly for girls and lack of jobs for school graduates.

### **Disparities in Rural /Urban Participation**

The data in Table 3.17 indicates that the gap between children's participation in formal schooling in rural and urban areas has not closed over the 40 year period. The gap between the urban and rural areas which was 18.8 per centage points in 1960 remained unchanged by 2000 except that it moved to a lower plain. The gap between male and female children's participation in formal education is however closing for both urban and rural children. A gap between male and female participation rates ( for 6 year olds ) of 10.5 per centage points which was recorded in 1960 has reduced to a gap of 0.8 per centage points in 2000.

**Table 3.17: School Participation Rates of Children (6 years) by Sex and Locality of Residence**

Year	All Localities			Urban			Rural		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1960	30.6	35.8	25.3	45.7	52.0	40.0	26.9	32.0	21.4
1970	36.6	38.1	35.2	51.6	52.9	50.3	31.5	33.2	29.8
1984	53.2	54.3	52.1	70.2	71.9	69.0	46.5	47.6	45.3
2000	56.2	56.6	55.8	68.3	69.0	67.6	49.4	49.8	49.0

Source: Population Censuses of Ghana (1960, 1970, 1984 & 2000).

Table 3.18 indicates that in 2000 school attendance increased with age of children, peaking at the 10-14 age group. This pattern was observed in previous census results, except that in 1960 it peaked at age 9.

**Table 3.18: Current School Attendance by Age, Sex and Locality of Residence**

Age	Total			Urban			Rural		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	64.3	65.5	63.0	72.6	74.8	70.5	58.3	59.3	57.2
6	56.2	56.6	55.8	68.3	69.0	67.6	49.4	49.8	49.0
7	66.6	67.1	66.1	78.0	78.8	77.2	59.5	60.0	58.9
8	67.5	68.0	67.0	77.3	78.1	76.6	61.3	61.9	60.7
9	69.5	69.8	69.1	78.5	79.3	77.8	63.3	63.6	62.8
10 - 14	70.3	71.3	69.3	78.3	80.4	76.4	64.4	65.2	63.5
15 - 17	51.5	54.7	48.1	57.7	62.2	53.7	45.9	48.9	42.3

Source: Ghana 2000 Population and Housing Census.

Table 3.19 shows the educational attainment of children who in 2000 were not attending school but had attended school in the past. It shows that of all children who were out of school but had some form of formal education, most (93.6 per cent) completed formal education at the primary and JSS levels, with more of them (55.6 per cent) completing formal education at the JSS level and the remaining 44.4 per cent completing at the primary level. Only 5.3 per cent of these children had attained the secondary/senior secondary school level. This may be as a result of the limited number of senior secondary schools in the country and parent's inability to support their children at this level.

**Table 3.19: Past School Attendance by Age and Highest Level Attained, 2000**

Highest Educational Level	Age						
	Total	6	7	8	9	10-14	15-17
Total	681,117	6,582	64,208	62,440	54,843	236,102	256,942
Pre School	14,574	1,384	2,899	2,910	2,669	3,657	1,055
Primary	407,276	5,198	61,309	59,530	52,174	180,775	48,290
Middle/JSS	219,697	-	-	-	-	47,864	171,833
Secondary/SSS	34,691	-	-	-	-	2,942	31,749
Vocational/Technical/Commercial	3,032	-	-	-	-	864	2,168
Post Secondary	1,847	-	-	-	-	-	1,847

Source: Ghana 2000 Population and Housing Census.

The 2001 Ghana Child Labour Survey reported that out of 1,012 children who had attended school before but were currently out of school, 971 offered reasons for their not being in school. Of the 971 children, 39.6 per cent had completed school while the greater proportion had dropped out for a variety of reasons but principally because they were poor in their studies (27.1 per cent) or could not afford schooling (19.6). Slightly less than half of children in urban areas (48.9 per cent) and about a third (33.3 per cent) in rural areas were not in school because they had completed. In rural areas, a fairly large proportion (31.2 per cent) of children also dropped out of school because they were poor in their studies.

### **Regional Disparities in Children's Education**

There are still marked differences between the northern and southern sectors of Ghana with respect to children's school attendance. Table 3.20 indicates that children in the southern sector of the country participate more in formal education than those in the northern sector. Out of every 100 children in the northern sector, only 45 of them attend school whereas in the southern sector, more than 65 children attend school. There is also a predominance of urban participation over rural participation of children in formal education.

Greater Accra (73.7 per cent), Central (73.9 per cent), Eastern (73.2 per cent) and Western (71.0 per cent) reported the highest participation rates with more than 70 per cent of children aged below 18 years in each region attending school in 2000. Northern recorded the lowest participation rate of 34 per cent which is less than half the participation rate for the 4 regions. The three northern regions have, since 1960, been the most rural of all regions, with Northern being the most urban of the three but the one with the lowest population density in the country since 1960. The long distances that children have to walk to get to school may therefore be one of the factors contributing to Northern having the lowest proportion of school attendance.

**Table 3.20: School Participation Rates by Age and Region, 2000**

Age	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
Total	71.0	73.9	73.7	67.8	73.2	68.5	66.3	34.2	38.5	35.4
6	65.7	67.8	69.5	54.6	63.9	61.8	58.7	31.0	34.3	28.8
7	75.5	76.9	79.7	68.1	76.4	74.5	69.5	35.1	38.1	33.4
8	75.2	77.0	78.4	69.2	77.1	74.6	69.8	35.1	40.1	34.7
9	76.7	80.2	79.7	72.7	79.6	73.9	72.7	37.3	39.5	38.3
10-14	76.9	80.1	79.5	74.0	79.8	75.0	72.5	36.3	41.4	38.4
15-17	54.1	58.2	59.7	59.5	57.9	49.8	51.7	30.1	34.3	33.5

Source: Computed from the Ghana 2000 Population and Housing Census data.

Distances between schools will also be longer in this region than in other regions. Supervision and management of schools in this region will also be more costly and difficult, worsened by the lack of telecommunication and electricity in the relatively large number of rural areas. As a result, the quality of education in this region suffers more than in other parts of the country and parents, many of whom are illiterate, are unable to appreciate the benefits of educating their children.

Another factor that makes education unattractive to illiterate parents in the northern sector is that these regions have very little industrial and commercial activity compared to other regions. It is therefore difficult for children who graduate from school to find paid employment in non-agricultural activities in their regions. The only obvious option for young graduates is to migrate to the southern sector to find work, leaving their poor, old parents to fend for themselves. Many of the graduates who do not migrate are likely to end up working as peasant farming just as their counterparts who never attended school. There is therefore not much benefits to be derived from sending a child to school in these regions.

The northern parts of the country suffer enduring high levels of poverty. Poverty has deepened and become more intractable in Northern, Upper East, Upper West and Central. High rates of under-five mortality and infant mortality occur in Central and Brong Ahafo while inadequate levels of economic infrastructure occur in Brong Ahafo, Volta and parts of Western.

### **Effect of Poverty on Availability of Schools and Participation**

Poverty has been identified as the root cause of low participation rates of children in the formal education system. Although the Economic Reform Programme (ERP) initiated in 1983 was able to stabilize the economy and lead to some growth, other results were some negative impacts on the poor and vulnerable since poverty reduction was not the underlying objective of the programme (World Bank, 1991). In 1986, as part of the second phase of the recovery programme, the Government initiated reforms both in the structure and content of education aimed at increasing school enrolment, strengthening the relationship between educational content and the socio-economic needs of the country, and raising quality and ensuring financial sustainability.

As a result, pre-university education was reduced from 17 to 12 years, a revised and updated curriculum was introduced and junior secondary schools (JSS) were put in place. Text books and boarding fees were increased considerably at all levels except for nurseries. Boarding fees subsidies at secondary schools and Universities were also cut by up to 50 per cent in real terms (World Bank, 1988b). In order to reduce costs and staff/student ratios, about 6,000 non-teaching personnel were redeployed. This reform caused some dislocation in the adoption of new curricula as well as pricing policies and placed more emphasis on community participation. For the poor and vulnerable groups, particularly those in the rural areas and the urban poor, this is likely to have impacted negatively on children's participation in education. This is because the provision of basic education is recognized as a joint undertaking of the community, central government and district implementation committees, with the community being responsible for the provision of infrastructure, the effective operation of the schools and the supervision of attendance.

Using employment status as an indicator of poverty, it can be concluded the country is worse off than it was in 1984. The proportion of self employed persons without employees, aged 15 and over, was 64.9 per cent in 1984. The corresponding estimate for 2000 was 67.6 per cent. It is widely acknowledged that the social strata that have been affected most by recession include smallholders. The 1992 and 1999 Ghana Living Standards Surveys also suggest that the overall poverty in Ghana was high in the 1990s. The proportion of the population defined as poor was 52 per cent in 1992 though it reduced to 40 per cent in 1999. If therefore poor communities are responsible for educational infrastructure in their communities, there is cause for concern for the future of children's education.

### **Availability of Schools and Teachers**

The Ministry of Education Youth and Sports reports that there was a shortage of teachers in the country in 2003. Despite this, it is also reported that there is an inefficient use of schools and teachers in the northern sector due to low participation rates. In one schools for example,

only 2 candidates were presented for the basic school examinations in 2003. Participation of children in these regions need to be improved to make efficient use of schools and teachers particularly in rural areas.

The number of primary schools increased considerably from 10,071 in 1985/1986 to 14,576 in 2001/2002. There were a total of 9,922 primary schools in the public sector in 1985/1986 which increased to 12,066 in 2002 while in the private sector the increase was for 149 to 2,510 over the period.

### **Distances of Schools from Localities**

Children reported in the 2001 Ghana Child Labour Survey that the three major reasons for children never attending school are affordability (44.2 per cent), distance from school (18.4 per cent) and lack of interest in schooling (17.1 per cent). Availability of schools depends not only on increases in the number of schools, but also on the distances that children have to walk to the school facility. The distances of these facilities from localities varies considerably by region and rural and urban location. In 2000 with the exception of two districts in Western, all other districts have more than 50 per cent of their localities with a primary school located either in or within 1-5 kilometres of the locality. The minimum distance of schools from localities as recommended by the Ministry of Education for children is 8 kilometres.

### **Pre School Education**

It is recommended that there should be for every child, 18-24 months of pre-school education prior to entry into primary school. It improves children's play and inter personal relationships and introduces them to reading and other cognitive skills so that by age 6, they are ready for school. Pre schools are also useful in freeing mothers to spend education.

Facilities for pre-schools are however not adequate, unevenly distributed and not equipped to deal with the needs of children. In 1987, the number of public and private pre-schools registered with the GES, was 3,374 (MOE, 1990). In 2002/2003, the number more than doubled to 8,995 with 6,278 being public. Enrolment also increased from 117,928 in 1987 to 768,818 in 2003 (SPIMPR Division, MOE, 2003). While the efforts of private proprietors and non-governmental agencies are commendable, there is still a pressing need for more community crèches and kindergartens to cater for the population of 0-3 year olds in the next 3 years.

### **Government Expenditure on Children's Education**

Some of the problems facing the educational sector are low enrolment rates, erosion in the quality of education and low level of student achievement and inefficient management of the educational systems. This may be a result of reduced educational investments per pupil. In the past two decades, Ghana has experienced a significant decline in the level of investment in the educational sector due to fiscal problems arising from economic recession. The inability to keep up with external debt payments has forced governments to cut down on the rapid rate of human resource development that occurred after independence in the 1960s.

### **Gender Imbalances in Children's Education**

As indicated earlier, there are gender imbalances in education, as revealed by different participation rates, dropout rates, levels of attainment and the type of subjects studied by girls. Gender parity index (GPI) for age 6 (the ratio of male participation rate to female participation rate) has been above 1.00 since 1960. It indicates that males participate more in school attendance than females at age 6. Participation rate of females has however been increasing with time as the GPI has decreased consistently from 1.41 in 1960, 1.08 in 1970 to 1.04 in 1984 and 1.01 in 2000.

Although overall improvements in enrolment levels for girls are under way in primary – level education, several challenges still exist, especially in reducing gender disparities in secondary-level and higher education. Girls in 2002 constituted around 45 per cent of primary-level enrolments, yet they constituted only 40 per cent and 21 per cent of enrolment levels in secondary and tertiary-level education respectively. (MOE, 2003) When compared with their male counterparts, women students also tend to have higher repetition and attrition rates and lower attainment at all levels, with the higher level showing the greatest disparity.

The socio-economic background of parents, their attitudes about education, and the mothers' attainment in education contribute significantly to shaping decision about schooling. A household's need for child labour may make it a high opportunity cost to send children to school. Research had shown a strong relationship between household welfare and school enrolment. For instance, the Ghana Living Standards Survey found a steady increase in school enrolment with rising levels of welfare (GSS, 1995). Such results reflect the willingness of households to send children to school, provided they have enough resources to cover the costs.

A mother's ability to pay school fees and to provide encouragement to her children to continue attending school is an important factor in explaining enrolment and attendance. More than half of the adult female population is illiterate with the situation worse in the rural areas. Except for the small proportion of the mothers who have managed to have some resources through commerce and other activities, many Ghanaian mothers are not able to pay their children's fees.

Child labour is one of the main reasons why some children are not effectively participating in schooling. The household or parental time at certain periods of the day and year tend to be very constrained, especially in rural area where households must commit many hours to activities such as collecting water or firewood, herding cattle and other animals, and farming. Some cultural and traditional practices can also inhibit effective participation in schooling. Traditional practices such as early marriage particularly affect the enrolment of girls. Marriage is a priority in many communities with the result that girls of school-going age become wives and mothers at the expense of their education.

School related factors are also important determinants of whether girls enter and remain in school. The accessibility and girl-friendly nature of school, the quality of schools, the relevance of the curriculum, and the message conveyed by educational materials and by teachers on sex roles influence how parents, as well as students themselves, make schooling

decisions. Many rural schools lack the minimum infrastructure such as proper classrooms, and materials necessary to ensure a satisfactory level of instruction. Overcrowding, lack of library facilities, inadequate supply of water and toilets are characteristic features of many schools. Data from Table 3.21 indicate that the participation of female children in SSS has been lower than that of males between 1992 and 1995. Gross enrolment rate actually declined from 1992/1993 to 1995/1996.

**Table 3.21: Enrolment of Girls in Senior Secondary Schools, 1992 to 1995**

Year	Total	Proportion	Gross Enrolment Rate
1992/1993	257,355	34.1	25.4
1993/1994	245,897	35.1	24.2
1994/1995	209,190	35.8	19.5
1995/1996	199,028	37.5	17.8

Source, MOE

## **Economic Activity of Women**

The economic activities and labour force participation of women are important indicators of women's status, autonomy and empowerment. But the economic importance of women extends far beyond its value as an index of women's empowerment or autonomy. Women's economic contribution is vital for national development or progress at the aggregate level and crucial for the household or family's sustainability. This is especially important in a country such as Ghana where women have traditionally played a dominant role in certain areas of the economy such as agriculture and trade. As such, there has been increasing concern about the marginalized participation of women in the formal labour market. This concern needs to be seriously addressed because it has implications not only for the status of women, but also for the eradication of poverty and, ultimately, national development. This analysis attempts to explore what the position is regarding women's employment opportunities; whether they have equal access, where their activities are predominantly located, what type of tasks they perform and whether disparities in occupation by sex exist.

With the increasing expansion of the formal labour market in recent years, women have found themselves increasingly marginalized because they lack the requisite skills and qualifications to compete with the men on an equal footing in the sphere of economic activity. This concern is now being seriously highlighted in key national development strategies such as the Ghana Poverty Reduction Strategy (GPRS) for it has implication for women's autonomy and also for national development.

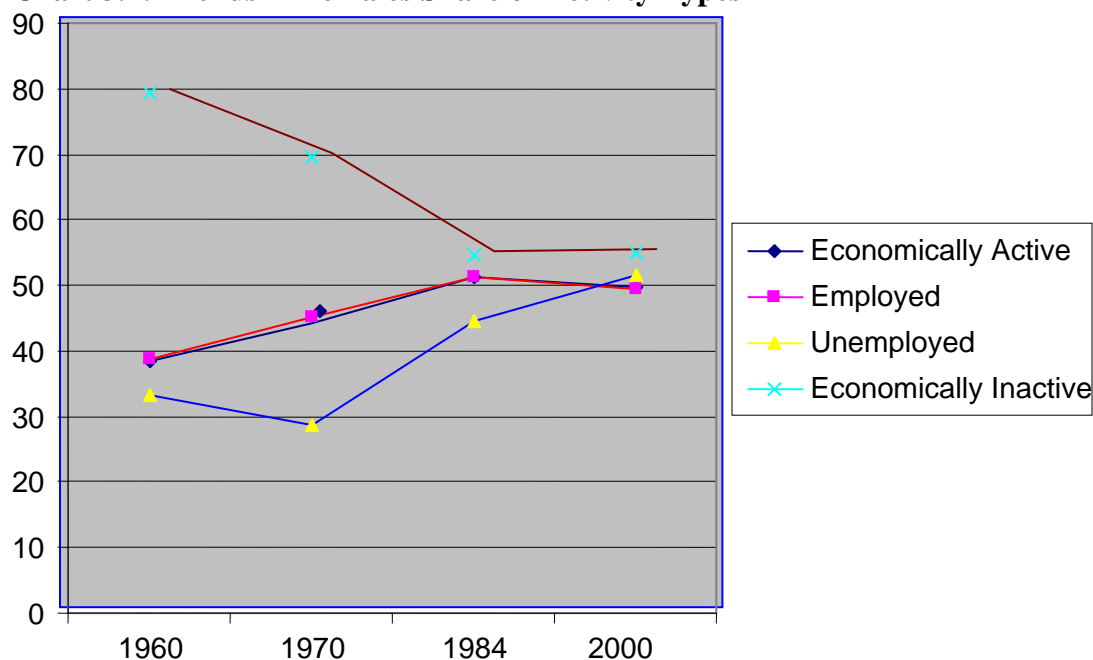
### **Trends in Women's Labour Force Participation**

Chart 3.1 is an illustration of trends in women's labour force participation since 1960. For women, the total labour force participation rate has increased between 1960 and 2000. This is partly due to increases in participation during the prime working years which has offset

decreases in female labour force participation caused by increasing school enrolment and decreasing age of retirement during this period.

Increases in female participation rates during the prime working years are associated with a rising female age at marriage as many young women stay in school longer and many subsequently go to work after completing school and before marriage/first birth. The decrease in fertility rates has also contributed to the increase in women's participation rates. An overall increase in women's participation rate has probably been because the increasing effect was more pronounced than the decreasing effect caused by increasing enrolment of girls over the forty-year period.

**Chart 3.1: Trends in Females Share of Activity Types**



Source: Population Census Reports

The changes in the Ghanaian economy associated with increasing inflation rates in the period between 1984 and 2000 has also been a factor that caused an increase in female participation rates over that period. More women were forced to work for pay, profit or family gain as the value of income fell due to inflationary crisis. Others already in the labour force, had to work longer hours to earn more income to support their families.

Increasing urbanization also has contributed to the increase in women's labour force participation. Women in the urban areas use more charcoal, gas or electricity for cooking and therefore spend less time looking for firewood. Similarly, urban women use pipe borne water, spend less time fetching water for household use thus they are able to use the time saved to participate in economic activities and further education.

The increase in women's labour force participation has partly been due to an increase in the proportion of unemployed women in the labour force. Of the unemployed, the proportion of women shows an increasing trend from 28.8 per cent in 1970 to 51.2 per cent in 2000 (Table 3.22). This is explained by the increase of poverty and lack of jobs in Ghana over the period following the implementation of the structural adjustment programmes.

It is important to consider the extent to which women's increased participation in the labour force is motivated by the growing poverty of their households. The quality of the increased employment of women both in terms of stability and productivity ought to be carefully examined before concluding that such trends are indicative of improved labour market conditions for women or improvements in the status of women.

Despite the increasing participation of women in the labour force, male labour force participation has been substantially greater than female labour force participation from 1960 to 2000. Women's share of the labour force increased from 38.4 per cent in 1960 to 51.2 per cent in 1984. Between 1984 and 2000, women's share decreased slightly to 49.7 per cent. This was partly due to the fall in women's participation in sales work between 1984 and 2000 (Table 3.22). In 2000 out of a labour force of 8,292,114 persons aged 15 years and older, 4,121,505 (49.7 per cent) were women. Thus, though women constitute the larger proportion of the population in 2000, the proportion of women in the labour force was lower than that of men.

**Table 3.22: Proportion of Females by Type of Activity (15 years and older)**

Activity	1960		1970		1984		2000	
	Total	Share of Total	Total	Share of Total	Total	Share of Total	Total	Share of Total
Economically								
Activity	1,045,958	38.4	1,472,223	44.2	2,855,623	51.2	4,121,505	49.7
Employed	991,418	38.7	1,415,119	45.2	2,785,451	51.4	3,679,487	49.5
Unemployed	54,550	33.3	57,104	28.8	70,172	44.5	442,018	51.2
Economically								
Inactive	779,789	79.4	844,125	69.7	644,275	54.6	1,547,902	55.0
Homemakers	676,859	98.4	603,918	96.6	277,761	90.0	549,398	70.5
Students	32,954	22.3	127,009	32.4	239,348	36.2	399,723	42.7

Source: Population Census Reports, GSS

Wholesale/retail trading activities (i.e. sales work) which has been predominantly the domain of women since 1960 started to experience increased participation by men because this sector has been the fastest growing sector since 1980. The economic recovery programmes undertaken in the early 1980's produced limited success in the growth of agriculture and manufacturing with improvements only in services with the debt financed import/consumption boom. This resulted in the decline of industry from about 20 per cent to 14 per cent of GDP during the same period. Services (including sales) on the other hand rose from about 30 per cent to 44 per cent. Women are now facing competition in their trading

activities from men who invariably have more access to land and credit. What has sustained women in this activity has been the continued existence of the traditional markets for local food stuffs where the cost of food is substantially less than in the modern shops.

The gender division of labour in Ghana has also been aggravated because two things have happened simultaneously. First, men who were formerly more likely to be in wage employment have lost their jobs through retrenchment. Second, and as a consequence, women have been forced to seek additional income-generating activities in an attempt to keep family income constant. The result is that women's labour has increased a lot, while that of men has in many instances been reduced.

In the process, women's ability to perform their traditional family roles has been seriously compromised. One of the phenomena increasingly being observed is mothers delegating their domestic duties to their daughters, or house helps, so that mothers can go out and earn some money to buy necessities. Not only are many of the young girls incapable of performing adult tasks, but it is likely that they frequently endanger the lives of their younger siblings.

### **Problems of Definition and Measurement of Women's Labour Force Activity**

A number of problems are encountered in defining labour force activity which are accentuated in the measurement of female participation in labour force activities. Thus, women's labour force activities that meet the official definition of labour force participation may not be accurately measured, depending on the definition of work used in a particular survey or census.

As found in other parts of the world, women in Ghana have both reproductive and productive roles which result in greater responsibilities and burdens as well as unpaid work. Yet, their work is not considered as contributing significantly to national income. As a consequence, there is likely to be under-enumeration of women's labour force activity which is accentuated in the Ghanaian cultural context, which is characterized by narrowly prescribed norms about appropriate activities, relationships and mobility for women.

Some of the factors that affect the accurate measurement of women's labour force activities are interviewer and/or respondent cultural biases and preconceptions about appropriate behaviour for women, and the particular phrasing of census questions. There are also the conceptual difficulties in defining labour force activity and classifying women's activities into occupation and industry classifications.

The labour force is defined as the summation of the employed and the unemployed population. The 2000 census adopted the international definition of the unemployed as economically active persons who did not work during the reference period but who were actively looking for work. For women, this concept is ambiguous, since it is not clear what constitutes an active job search. Because of women's sole responsibility for housekeeping work, unemployed women would invariably spend their time "employed" in housekeeping work in their own households. They are not able to search as men do though they are available to work in the labour market.

Migration is one coping strategy adopted by members of the family in the face of economic crisis. Women unlike men, cannot migrate easily because until recently, migration was sanctioned only for male members of the family. This may be one reason for the larger proportion of women unemployed compared to the male unemployed. Out of a total of 859,255 persons aged 15 years and over who were unemployed in 2000, 51.2 per cent were females.

These figures may represent under estimation of women's labour force activity partly because the preconceived view of perceiving women working at home as 'homemakers' is likely to have introduced some biases by influencing the collection of data on female participation. This is particularly true for cases where the respondents who reported on women's activities during data collection were males. Women who were mainly engaged in homemaking activities, 'without a job' and not 'actively searching' for a job were referred to as not having worked for pay or profit or family gain (i.e. not economically active).

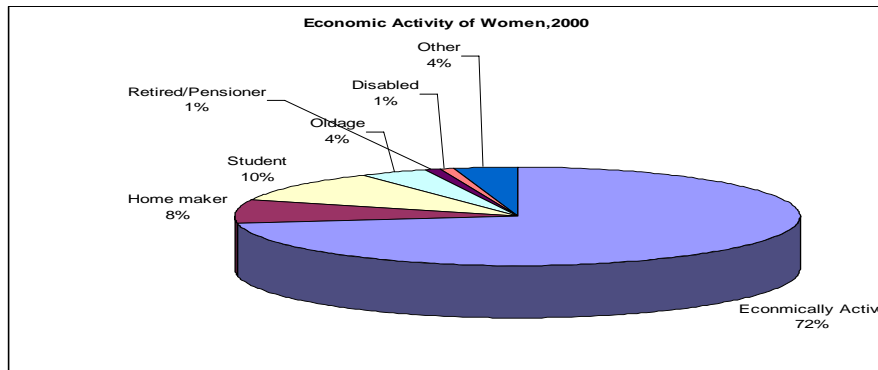
First, one must consider what constitutes labour force activity. An activity is generally considered as labour force activity if it can directly or indirectly generate income. The boundary between labour market activity and home/subsistence production is however not always clear. For example, working for a wage or salary either in money terms or in kind, is clearly a labour market activity, whereas an unpaid family worker in a household enterprise generating income or goods for household consumption is not always considered to be working in the labour market.

### **Underestimation of Labour Force Participation by Adolescent Women**

Chart 3.2 shows the distribution of females aged 15 years and older by economic activity in 2000 with a large proportion of women who are economically inactive. In Ghana, it is typical to find adolescent women aged between 15 and 19 years attending school and at the same time working in a household enterprise as unpaid family workers for at least one hour a day.

Adolescent women (15-19 age group) constituted 9.6 per cent of Ghana's women in 2000. Of this group of women, 41 per cent were attending school and 29.4 per cent worked during the reference period. Of those who worked, 92.6 per cent worked for 3 days or more. Data from the 2001 Ghana Child Labour Survey indicates that 64.3 per cent of children in Ghana engaged in usual economic activity were attending school while working. A significant proportion (88 per cent) of working children were unpaid family workers and apprentices.

Chart 3.2: Economic Activity of Females (15 years and older) 2000



Source: Population Census Reports; Ghana Statistical Service.

### **Effects of Women's Multiple Roles on Women's Pattern of Labour Force Activity**

Women have multiple roles as wives, mothers and workers hence they are more likely than men to be absent from work when employed in the formal sector. Self employment in the informal sector where it is relatively easier to re-enter after long periods of leave, therefore seems to be more appropriate for women's work than the formal sector and work as an employee.

Improvement in industrialization and technologies particularly in the agricultural sector caused increases in the participation of women. The increasing use of labour saving devices also enables women to increase activity in the labour force. Improvements in working conditions such as the introduction of maternity leave, and day care centers for children also have the effect of increasing women's participation rates. These effects have however not been felt much in Ghana since agricultural production remains rain fed and at the level of subsistence with the hoe and cutlass used even for the cultivation of cash crops for export. If there had been a change in agricultural technology to less labour intensive modes of production, the labour force working in the agricultural sector (including women) would have decreased. On the contrary, the share of women in this sector increased from 36.9 per cent in 1960 through 42.9 in 1970 and 47.3 in 1984 to 49.1 per cent in 2000 (Table 3.23). This is because agriculture, which remains labour intensive, continues to be the mainstay of Ghana's economy with stagnation in industrialization. Changes in working conditions also have not had much effect on women because these are in the formal sector in which only about 15 per cent of Ghana's women work.

The informal sector is a convenient place for women's work because of its location. The location of enterprises in this sector, is usually in open space or temporary structures on land not owned by women, and for which little or no rent is paid. The cost of leaving work is therefore less than the cost of leaving the formal labour market. In 2000, the proportion of women in the informal sector was 10 per centage points larger than the proportion of men in that sector. Though this occurrence may be said to be due to the lower educational attainment of women, there is need for some research into this subject because there are many well educated women working from home informally usually as traders, because they find it more convenient than perhaps working formally employed as a nurse or a teacher.

From Table 3.23, we see that the per centage of women who are in administrative and managerial activities grew four fold over the period 1984-2000. This situation is probably due to the increase in the number of women engaged in self employed activities after graduating from school. Many women who have learnt some skills such as dressmaking, hairdressing or production of tie and die cloth consider themselves as managers of enterprises even though they may be engaging several apprentices and no employees.

The per centage of women in clerical and related activities however continued to increase consistently to about three times what it was in 1960. This may be a result of reduction in the drop out rate for girls and the lower participation of girls at higher levels of education. Though enrolments of girls has increased, the level of attainment has remained predominantly at the secondary level with more girls more qualified for clerical and related activities in the formal sector.

For all four census years, it is obvious that there are 'male' occupations and 'female' occupations, with the male occupations being occupations that tend to have higher pay, higher status and more authority. The per centage of males working in professional/technical and administrative/managerial occupations is higher in all the years than for females. The proportion of females in these occupations however increased from 19.7 per cent in 1960 to 37.0 per cent in 2000. It is worth noting that the gap between the sexes appears to be closing because both the traditionally male dominated and female dominated occupations are becoming decreasingly dominated by one sex. Sales, for example, which in 1960 was 80.4 per cent female was 70.5 per cent in 2000. Similarly, the professional/technical occupation in 1960 was 80.3 per cent male, but reduced to 63.0 per cent in 2000.

**Table 3.23: Major Occupation of Employed Persons (15 years and older)**

Major Occupations	1960		1970		1984		2000*	
	Employed Population	Share of Female	Employed Population	Share of Female	Employed Population	Share of Female	Employed Population	Share of Female
Professional & Technical	60,005	19.7	119,675	23.5	221,704	35.7	541,914	37.0
Administrative/Managerial	13,354	3.1	11,323	5.2	16,246	8.8	24,569	30.0
Clerical	43,348	7.4	86,366	15.5	127,575	29.8	382,629	23.5
Sales	345,603	80.4	413,510	87.8	750,179	89.0	1,270,115	70.5
Services	55,318	29.1	90,164	23.3	130,736	34.7	495,718	63.1
Agriculture, Animal Husb/ For.	1,563,533	36.9	1,798,256	42.9	3,288,808	47.3	4,072,156	49.1
Production and transport Lab.	478,220	21.9	613,753	35.4	887,232	44.8	1,505,013	40.9
Total	2,559,383	38.7	3,133,047	45.2	5,422,480	51.4	8,292,114	49.7

Source: Population Census reports

\* For all Economically Active

Males outnumbered females by 326 to 100 in the professional/technical occupation in 1970. By 1984, the disparity had been whittled down to only 180 to 100 females, and to 170 to 100 females in 2000. For the administrative and managerial workers, the male-female ratio declined from 1823 to 100 in 1970 to 233 to 100 in 2000. For both these categories, it is clear that women are slowly narrowing the gap in access to these professional grades. These figures are clearly a reflection of the considerable advances in education and acquisition of modern skills attained by women.

Comparison of census data for males and females shows that industrial segregation by sex is extensive throughout Ghana, with high levels of sex segregation existing in all regions. Due to occupational segregation, men are in a more favourable position in the labour market as compared to women with comparable educational qualifications and experience. This is shown by data in Table 3.24 which indicates that the size of female dominated non-agricultural labour force is much smaller than the male dominated non-agricultural labour force. The male labour force in the male dominated industries (i.e. mining and quarrying , electricity generation, water supply, construction, transport, finance, real estate and public administration ) is 4 times larger than the female labour force in the female dominated non-agricultural industries (wholesale/retail trade, hotels and restaurants). The reason for this may be the relatively fewer number of women than men in the non agricultural and formal labour force. It is therefore unlikely that women comprise a large proportion of many occupations.

**Table 3.24: Industry of Employed Persons (15 years and older) by Sex**

Industry	Sex	1960		1984		2000	
		Employed Population	Sex Ratio	Employed Population	Sex Ratio	Employed Population	Sex Ratio
Agric/Forestry/ Hunting/Fishing	Male	1,002,300	173.1	1,750,024	112.1	2,034,391	106.4
	Female	579,031		1,560,743		1,912,327	
Mining and Quarrying	Male	45,628	1759.7	24,906	1295.8	70,816	215.6
	Female	2,593		1,922		32,846	
Manufacturing	Male	185,749	188.1	198,430	50.9	379,048	91.9
	Female	98,749		389,988		412,381	
Construction	Male	86,022	3269.6	60,692	1519.6	187,709	522.8
	Female	2,631		3,994		35,902	
Elect., Gas, Water & Sanitary Serv.	Male	14,015	8054.6	14,033	999.5	18,238	223.2
	Female	174		1,404		8,171	
Wholesale/Retail Trade/ Restaurants/Hotels	Male	95,798	34.8	111,540	16.4	412,358	47.1
	Female	275,333		680,607		876,311	
Finance/Insurance/Real Estate/ Business	Male	3821	899.1	117,806	2356.1	77,723	227.0
	Female	425		5,000		34,232	
Transport/Storage/communication	Male	66,749	6215.0	18,933	251.0	196,916	628.8
	Female	1,074		7,542		31,318	
Community/Personnel Services	Male	119,617	503.5	339,051	252.9	371,688	110.6
	Female	23,759		134,051		335,999	

Source: - 1960, 1984 and 2000 Population Census Reports,

### Gender Disparities in Economic Activity

From the discussion so far, we find that there were in 2000, significant differences between women and men with respect to economic activity. Firstly, there were more economically active men than women. Of the employed, there were more males than females while the number of unemployed females exceeded the number of unemployed males.

Females constitute the larger proportion (55.0) of the economically inactive population (Table 3.25). Apart from students, the largest proportion of the economically inactive are homemakers. Of these homemakers, 70 per cent are females while 30 per cent are males. The disparity with respect to home makers is what should be expected because traditionally, women are responsible for housekeeping and care work in households while men are responsible for 'breadwinning' activities.

The observation in Table 3.25 that 29.5 per cent of homemakers are men may come as a surprise, but 'homemaker' is used to refer to all who are not in employment but help run the home. It likely hides some degree of unemployment of such males. The proportion of female students is significantly less than that of male students.

Only 35 per cent of the retired/pensioners are women. This indicates the low level of participation of women in the formal labour force in the past. It may be an indication that females even after retirement continue to manage some household business to assist with household expenditure while many men may be unwilling to undertake such menial jobs.

**Table 3.25: Economically Inactive Persons (15 years and older) by Sex, 2000**

Activity	Males	Females	Share of Females
Total	1,265,220	1,547,902	55.0
Home maker	229,405	549,398	70.5
Student	536,507	399,723	42.7
Oldage	113,785	219,270	65.8
Retired/Pensioner	62,656	33,151	34.6
Disabled	45,710	48,691	51.6
Other	277,157	297,669	51.8

Source: Ghana 2000 Population and Housing Census.

There are also disparities in the number of women employed in the major occupations as indicated in the Table 3.26. Females predominate in two of the seven occupations. (ie the sales and services occupations). In all other occupations, there are more males than females.

**Table: 3.26: Major Occupations by Sex, 2000**

Major occupations	Total	Male	Female	Share of Female
Professional/Technical	6.6	8.3	4.8	41.3
Administrative/Managerial	0.3	0.4	0.2	32.8
Clerical	4.5	7.0	1.9	21.9
Sales	15.2	8.6	22.0	70.9
Services	5.8	4.3	7.4	63.8
Agriculture/Animal Husb/Forestry.	50.3	50.8	49.7	49.1
Production and Transport	17.3	20.6	14.0	41.4
N	7,428,374	3,748,887	3,679,487	49.5

Source: Ghana 2000 Population and Housing Census.

Investigations made into the number of women working in various Ministries and Departments of the formal public sector in December 2003 indicate that the disparities still exist though it seems the situation of occupational segregation by sex is changing. Though in 1960, there was hardly any woman at the top levels of governance in Ghana, in 2003, out of 5 Chief Directors in the Civil Service, there was one female. From Table 3.27 we can also observe that of a total of 233 Judges working for the Judicial Service, 37 are females (16 per cent). The representation is fairly much the same at all levels and at the highest level (Supreme Court), women's representation is higher than at the lower (District Magistrate) level. Whereas in 1960 there was no female parliamentarian in the country, we have in 2003, nineteen (9.5 per cent) of the 200 members of parliament as females and six (5.5 per cent) of the 110 District Chief Executives as women. Of the 79 Ministers in Ghana, ten (13 per cent) are women.

**Table 3.27: Numerical Strength of Judges by Status and Sex, 2003**

Status	Male	Female	Total	Share of Female
Supreme Court Judge	9	3	12	25.0
Court of Appeal Judge	25	4	29	13.8
High Court Judge	48	13	61	21.3
Circuit Court Judge	61	3	64	4.7
District Magistrate	53	14	67	20.9

Source: , Personnel Department, Judicial Service

Though the data suggests that women are participating more at high levels of governance, Table 3.28 shows that the proportion of females is highest at the Deputy Minister and the Deputy Regional Minister levels; none of the Regional Ministers is a woman.

In the Ministry of Justice also there are more female attorneys at post than there are males. Of the total of 98 State Attorneys, 50 (51 per cent) are females. It shows that female lawyers prefer to work as State Attorneys than to work as Judges. This seems to confirm the view that women engage in work that is convenient for their multiple roles as wives, mothers and workers and not necessarily work that matches their qualifications. The working conditions at the bench may not be appropriate for women because of their multiple responsibilities.

**Table 3.28: Government Ministers by Status and Sex, 2003**

Title	Total	Male	Female	Share of Female
Cabinet Minister	19	17	2	10.5
Minister of State	14	12	2	14.3
Deputy Minister	31	26	5	16.1
Regional Minister	10	10	0	0.0
Deputy Regional Minister	5	4	1	20.0

Source: Public Relations Unit, Ministry of Women and Children

### 3.4 The Changing Status of Women

#### **Female Autonomy**

As argued earlier, male-dominance is a key aspect of the Ghanaian social system and the woman's role and status are recognizably inferior to those of the man in almost all aspects of social, political and economic life. Custom, law and even religion have been used to rationalize and perpetuate these differential roles to the extent that women themselves seem to have accepted and internalized them.

The dynamic nature of society in general, and social relations in particular, make it pertinent to assess whether there is any discernible or significant change today in how society, men and women see themselves or assess their respective statuses. Both men and women have been involved in all the processes of social change the society is undergoing, whether it is in terms of access to modern education, participation in the formal economy, governance and even rural-urban migration. All these modern processes have significantly changed the structure of society and in the process the old order is constantly being questioned, modified or even undermined. The questioning of the old order is not limited to the balance of power in inter-spousal relations but extends to a wide range of traditional practices which demean or harm women such as widowhood rites, female genital mutilation and Trokosi, all of which are in various stages of disintegration. The specific ways in which these changes have affected the role and status of women will now be examined.

#### **Changes in Spousal Relations**

As pointed out earlier, certain features of traditional marriage, such as payment of dowry and polygamy, tend 'ab initio' to make the woman an inferior partner in the relationship. This

inferiority is expressed in the extreme, in terms which give the impression that the man owned and, therefore, had absolute control over the wife.

A fairly extensive survey of these related issues seems to indicate that in many areas “women are still not regarded as the equal of their male partners in taking autonomous decisions, even if these decisions are personal.” Such assertive behaviour is interpreted as stepping out of their defined roles and many often mutilate grounds for sanction (Appiah and Cusack, 1999: 122).

The persistence of male dominance is illustrated in six vital areas of household life. With regard to visits to friends, parents or relatives, about 91 per cent of women interviewed reported that their husbands’ permission was needed, while 87 per cent needed permission to trade, 86 per cent to take a sick child to the doctor, 84 per cent to visit a family planning clinic and 72 per cent even to worship (Appiah and Cusack, *ibid*). It is also significant that many of the women interviewed in the survey listed as some of the major factors responsible for the continued denigration of women in society, the dowry system, polygamy as well as traditional practices such as widowhood rites, female circumcision and ‘trokosi’.

These are all practices which are being seriously challenged by many sections of the society but their pervasive deleterious influence is still evident, and a major cause for violence in inter-spousal or domestic relations to-day is “women’s (and children’s) disobedience and their attempts to step out of their defined (traditional) roles (Appiah and Cusack, 1999:59). In fact, the foremost reason for physical violence in the domestic setting is behaviour on the part of the woman (or child) regarded as being disobedient which represents a direct challenge to the established social order. Physical violence which has increasingly become a major social issue, is thus often the outcome of the struggle between tradition and modernity.

One serious implication of the persistent male dominance is the inability of women to protect themselves from the exposure of STDs or even HIV/AIDS. Very few women can insist on their partners taking protective measures in sexual relations, even if they know their partners have other sexual partners. A wife who insists on protective sex, whether within marriage or in a casual relationship, runs the risk of simply being thrown out of the relationship or being denied the economic resources or favours which often flow from the man to the woman. In the case of a married woman, it is her very survival and that of her children which are at stake in any such confrontation. The higher number of AIDS cases in the HIV/AIDS population is partly the result of this imbalance in sexual power relations between men and women. In the early stages of the epidemic (1987) the female-male ratio was 6 to 1; it has however steadily narrowed over the years to only 2 to 1 (National AIDS Control Programme, 2003).

### **Marital Status**

The challenge to tradition and the established social order can also be seen in a number of ways. The data on marital status provide some important clues as to how women are attempting to weaken the power which men exercise over them. In traditional society, marriage is early and almost universal; it is extremely rare for a healthy normal woman to

choose not to get married. Even those who are widowed early in life sooner or later re-marry or are even inherited by their husband's brother or other relative.

### **Universality of Marriage**

Marriage can no longer be deemed universal. In general, the proportion of females never married increased from 8.5 per cent in 1960 to 25.1 per cent in 2000. Similarly, by age 50, only 1.6 per cent of females in 1960 had never married, but in 2000 the proportion of never married women increased almost ten times to 14.1 per cent. This clearly shows that the considerable pressure to which women are subjected by society in general and the family in particular to get married has begun to wane. Divorce on the other hand does not seem to have changed very much as the proportions are about the same in both 1960 and 2000 (7.2 and 6.0 per cent). It is worth noting that over the period, there has been very little change in the proportions of men who had never married; the proportion in 2000 is 39.0 per cent compared to 33.5 per cent in 1960.

### **Early Marriage**

Early marriage, as also noted earlier, is one of the characteristic features of traditional marriage. In a largely subsistence economy where formal schooling is minimal, women married soon after puberty, with the men generally much later. The singulate mean age at marriage (SMAM) for females was 17.8 years in 1960 compared to 22.3 years in 2000, a much greater increase (4.5 years) than for males (1.1 years).

In addition to choosing to postpone or abstain from marriage, women are also asserting or enhancing their autonomous status by rejecting polygamy as a desired form of marriage. Data from the GDHS show that the proportion of currently married women in polygamous unions in the urban areas declined by more than half from 33.0 per cent in 1979/80 to 15.7 per cent in 1998. In the rural areas the decline was from 35.8 per cent to 25.8 per cent which is not as sharp as in the urban areas where the effects of education and exposure to modern influences are pronounced.

A conscious decision by some women to postpone marriage or not to marry at all for one reason or the other is likely to be a factor in explaining this change; but quite clearly there are other factors of social change which are likely to have influenced the process. One of the most important of these is increasing education of girls. As observed earlier, 83.0 per cent of the female population aged 6 years and older in 1960 had never attended school. This proportion declined to 66.2 per cent in 1970, 51.7 per cent in 1984 and to 48.2 per cent in 2000.

Women are also staying longer in school. In 1960 only 1.5 per cent of female school children were at the secondary level. The proportion of girls at the secondary level increased steadily (through 2.4 per cent in 1970 and 4.6 per cent in 1984) to 6.6 per cent in 2000. The comparable increase for boys is from 3.3 per cent in 1960 to 7.8 per cent in 2000, indicating a significant improvement towards parity in education (Table 3.29).

Part of the credit for the considerable strides which women have achieved in the field of education over the years deserves to be given to the early missionaries whose non-discriminatory gender policy for enrolment in the schools which they established ensured the acceptance of girls education as equally important as that of boys. Other factors which could have influenced postponement or non marriage are migration, urbanization and the consequent

**Table 3.29: School Attendance by Highest Level and Sex**

Highest Level		1960	1970	1984	2000
Pre-school & Primary School	Total	70.6	65.9	67.6	68.7
	Male	67.9	62.5	65.0	66.8
	Female	76.0	70.5	70.9	70.7
Middle/Junior Secondary School	Total	25.2	27.6	24.1	19.3
	Male	27.1	29.3	25.1	19.7
	Female	21.5	25.4	22.9	18.8
Secondary (including SSS & 6 <sup>th</sup> Form)	Total	2.7	4.0	6.2	7.2
	Male	3.3	5.1	7.4	7.8
	Female	1.5	2.4	4.6	6.6
Commercial/Technical	Total	0.7	1.0	1.3	1.6
	Male	0.8	1.3	1.5	1.8
	Female	0.4	0.7	0.9	1.4

Source: Census Reports

declining influence of family and kinsmen. Increasing migration in search of opportunities especially to the towns inevitably results in increasing detachment from the influence of kinsmen. Life in the towns also offers a variety of new alternative interests and life-styles and marriage ceases to enjoy the almost sacrosanct status it enjoyed in traditional society. Not only are more and more women going to school but they are also staying in school much longer and enrolling in greater numbers in post-primary institutions. Demographic evidence worldwide shows a strong correlation between increased schooling years for girls and decline in fertility.

### **Economic Empowerment**

Women played a dynamic role in the traditional economy and even dominated in certain spheres such as marketing and retail trade. Because of their multiple roles as mothers, wives and income earners, they were more likely to be found in the informal sector or working on smaller farms, producing foodstuffs rather than cash crops or as unpaid family workers on their husbands farms, and earning much lower incomes than the men.

Their lack of education and requisite skills also frequently denied them access to highly skilled or professional occupations. These differences notwithstanding, a dominant feature of economic activity is the active participation of men and women. This trend has continued up to the present and both in terms of the economically active population and the employed, the differences between males and females are minimal.

The most striking feature of the data on the labour force is the fast increasing participation of women in the higher echelons of the occupational structure. For various historical and cultural reasons, the occupational categories of professional, technical workers and administrative and managerial workers have always been considered highly desirables.

Workers in these categories are not only highly remunerated but also respected as the prime movers and leaders of the economy.

For various historical and cultural reasons which have already been discussed, these two major occupational categories have been largely the preserve of men and the financial, social and economic rewards which they derive from occupying these positions have been a significant factor in maintaining or enhancing their superior status in male-female relations. The gradual but systematic entry of women into these professions is therefore a very important factor in enhancing the economic empowerment of women.

The importance of the increasing participation of females at the higher levels of the occupational structure is that women increasingly are more directly involved in decision-making at the highest levels and therefore have the opportunity to influence policies affecting them directly. There is greater participation of women also in governance as can be seen in membership of District Assemblies and Parliament.

At the domestic level, these changes also exert a considerable influence in promoting equality and communication between spouses. A wife earning as much or even more than a husband acquires, 'ipso facto', considerable power in inter-spousal relations and becomes more independent. This is the source of the fear which mothers express, now and then, when discouraging their daughters from acquiring high education or professional qualification. Men who are afraid of such independent women normally prefer less qualified spouses.

### **Fertility Decline**

Data from the Ghana Demographic and Health Surveys indicate that TFR has declined from 6.7 in 1988 to 4.6 in 1998. Several reasons have been given for this fairly remarkable decline in fertility such as the increase in modern contraceptive usage (13.1 per cent in 1998) and increase in the incidence of abortions. Although the available data do not make it possible to ascribe relative weights to the complex array of factors accounting for this decline, it is quite clear that some of the changes in marital patterns which have been discussed in this section have also contributed to the decline. Social and economic empowerment of women have enhanced their role in inter-spousal relations allowing them even if to a limited extent to take some decisions in their own interest. Thus working women may, even against the husbands' desires, decide to postpone or limit the number of children or even contracept. The decline in the proportion married, later age at marriage and the freedom to separate or divorce are all factors which have conceivably contributed to the lowering of the level of fertility.

## **3.5 Policy Implications of Women Issues**

### **The International Context**

In 1975, the United Nations launched its Decade of Action for Women to draw attention to a wide range of inequitable and discriminatory laws, policies and customary practices which were being inflicted on women worldwide and which had practically turned them into

second-class citizens. As a result of these practices, women invariably suffered various deprivations and had low self-esteem, but even more important was the fact that these practices and beliefs combined to prevent their full participation in the development process to the detriment of both society and women themselves.

Perhaps the success of the United Nations strategic move in 1975 can be discerned from the fact that by the mid-1990s the interest and concern of the world community had been aroused to the point where a series of action plans, international covenants, agreements and conventions had been adopted as outcomes of several international conferences or fora at which women's issues had featured prominently on the agenda. The United Nations Convention on the Elimination of all Forms of discrimination Against Women was adopted in 1979 and ratified by Ghana in 1986. Ghana was also an active participant in the other series of international conferences in the formulation and adoption of other agreements dealing with various aspects of women's issues such as the International Conference on Population and Development (Cairo) in 1984, which highlighted reproductive and sexual rights, the African Platform of Action of the United Nations Economic Commission for Africa , Fifth Regional Conference of Women in 1994, the Beijing Declaration and the Global Platform of Action of the Fourth United Nations World Conference on Women in 1995, and the Commonwealth Plan of Action on Gender and Development in 1995.

### **The Policy Framework in Ghana**

Within Ghana, these various conferences and international agreements served in focusing critical examination of these issues and the formulation of a national strategy to deal with the problem in all its manifestations. The initiative in dealing with specific gender issues has sometimes come from individuals or non-governmental organizations or some women themselves. This is the case for example with "Trokosi" and female genital circumcision for which two NGOs, namely International Needs and the Ghana Association of Women's Welfare (GAWW) have been nationally identified as lead advocates for their elimination from the society. Though government generally has followed rather than been the initiator of, advocacy on gender issues, there appears to be a national commitment to the agenda on women.

A new Ministry of Women and Children's Affairs (MOWAC) has been established and a National Gender Policy and Strategic Framework is currently under discussion. The objective is to consolidate the various private and government initiatives to reduce gender inequity into a coherent, holistic and comprehensive policy document with clearly defined goals, objectives strategies and allocation of responsibilities for specific activities or interventions. Government's commitment to enhance the status of women is also expressed in its major policy document, the Ghana Poverty Reduction Strategy (GPRS), which attempts to map out the national strategies, actions or pro-poor and targeted interventions for promoting economic growth to reduce poverty. These programmes in the GPRS are as a result of the Government recognizing that women suffer from unfair cultural practices that limit their rights under the law, access to land or credit, and involvement in governance and decision-making.

Government initiatives in the area of gender are strongly influenced by the principle of Affirmative Action. For example, all ministries, departments and agencies are now required to have a Gender Desk or Gender Focal Person, whose main mandate is to ensure the mainstreaming of gender perspectives into all the department's policies and programmes at the local community level, and also 30.0 per cent of all appointed assembly members must be women. A key area of national concern is domestic violence against women. The violence, which seems to be on the rise in Ghana, takes various forms such as rape, defilement, assault and wife-beating. The Government has quickly responded to this problem by setting up a special division within the Police Force known as the Women and Juvenile Unit (WAJU). Several WAJU offices are being opened throughout the country to ensure the prompt arrest and prosecution of cases involving harm to women and children. A Domestic Violence Bill is currently being widely debated by various stakeholders before submission to Parliament for adoption.

The available evidence seems to show that the fight for gender equality is a very slow process in a still largely male-dominated society but some successes have already been achieved. Two notable examples in the area of legislation are the Intestate Succession Law (PNDC Laws 111 and 112), which provides a greater measure of protection for widows than customary law and proscription of female genital mutilation. A number of constraints exist in Government's efforts to protect human rights of women and girls:

- Records are not kept of violence reported to the Police.
- Women refuse to report assaults for various reasons including the risk of further violence, ejection from house and protection of their children.
- Men threaten to divorce women who report their acts of violence to the Police.
- Superstitious beliefs of parents of trokosi victims make it difficult to arrest those who send their girls to trokosi shrines. The priest at the trokosi shrine cannot be arrested for operating their shrines because of freedom of worship. Parents of girls cannot be arrested since government cannot shoulder the burden of the care for the rescued victims.
- The law enforcement agencies including the Police themselves are gender biased.
- There are problems with the distribution of property (that portion going to the family of the deceased) of deceased in the Intestate Succession Law. The property is invariably distributed by the family heads who are males. Given that females are deemed not to own property, the women will end up not receiving their fair share of property.

### **Economic Empowerment of Women**

Under the Ghana Poverty Reduction Strategy, for the small and medium scale enterprises in the informal sector, women's production, productivity and employment are to be enhanced through the provision of 20 per cent of the District Assembly Common Fund for the productivity increase and income generation fund. Programmes should take into account the level of literacy of females who make up almost 50 per cent of the workforce.

The Ministry of Women and Children's Affairs has also established the women's special Micro Financing Fund to be made available to women, especially those in rural and deprived areas. The objectives of the fund are to help in the development of women owned enterprises augment their earning from agriculture, processing and marketing activities, and acquire resources for future investments. Actions planned should take into account the distinct disparities in women's illiteracy, industry and occupation.

Under the GPRS, women smallholder farmers and entrepreneurs are to form coalition groups and will apply to source the Women's Special Micro Financial Fund. These groups will apply to source these funds through the National Steering Committee established by MOWAC. Special Packages should be designed taking into account the fact that about 52 per cent of women cannot read or write.

Decentralization is seen as the catalyst for Ghana to achieve rapid industrialization; there is need therefore to transform agriculture into an efficient entrepreneurial activity that provides a stable supply of quality raw materials at low cost. Government's supportive role in promoting transformation of the rural environment from its subsistence orientation to a commercially attractive, viable, and dynamic sector, is vital for the achievement of sustained equitable growth.

Polices should focus on removing pricing distortions that are inconsistent with competitiveness. Taxation on agricultural production should be removed and cocoa marketing should be deregulated and provisions made for price stabilization for the farmer. Competition needs to be introduced in the distribution system and monopoly profits that currently drive a wedge between producer and consumer eliminated. The economy should be made more efficient through a reduction of investment risks, such as insufficient storage facilities, construction of feeder roads and the connection of these with the national road system. All these are essential to open up the rural sector and to expose women to market incentives.

Transforming the economy should include a change in the concept of agricultural activities from simply being a way of life to that of a profitable commercial and industrial occupation. This requires a transformation of the attitudes and conventional societal values to land and gender. These can be achieved through sustained education and demonstration. At the same time, traditional values which enrich the culture of life and social stability must be assisted to endure within a changing society.

### **Access to Land and Other Resources**

Women's access to productive resources such as land is limited as a result of discriminatory inheritance practices. Among the patrilineal Krobos, women cannot have access to their lineage land although an unmarried girl in her father's house may be given land as a gift. In most parts of northern Ghana women mainly acquire land through their husband's lineage and only have user right. Among the patrilineal Ga, Dangme and Ewe, although women may inherit land, the portion allocated to daughters is often smaller than that to sons.

All these practices have serious implications for human rights; women are indirectly forced to make choices such as whether or not to marry depending on the circumstances. Women have also been more severely affected by the pressure on land in many parts of Ghana. As a result, soil fertility has reduced and women have been more severely affected due to their lower access to land. They also have to walk long distance for water and firewood. They have therefore embarked on unsustainable environmental management which is seriously threatening Ghana's ecosystem.

Specific measures to address these issues need to be incorporated as essential elements of the GPRS. It is also quite evident to facilitate the entry of more women into the formal sector of the economy and their involvement in both small-scale industrial enterprises and modern agriculture, district assemblies, the MOWAC and the Ministry of Agriculture should combine their efforts in supporting specialized institutions and agencies such as Women's World Banking, National Board for Small-Scale Industries, Enhancing Opportunity for Women in Development (ENOWID) which have a particular interest, promoting women's economic empowerment. Some of the HIPC funds could be used to support more credit schemes for women to purchase means of production such as land, hired labour, machinery, and other basic inputs.

### **Education as a Tool of Empowerment**

Studies world-wide have shown that education of women is the most important single factor in enhancing the status of women not only because it imparts new knowledge and skills but more importantly because it enhances self-esteem, self-confidence, undermines undesirable cultural beliefs, changes the power balance in intra-spousal relations and offers alternative life choices. The benefits which a woman acquires through education also impacts favourably on the health and quality of her children, family and larger society. Gender advocates clearly recognize the importance of education and it features prominently in all policy initiatives currently being pursued by Government and several gender non-government organization.

A number of gender-related challenges have been identified in the area of education:

- Male-female disparities in enrolment ratios at all levels of the educational ladder but more particularly at the tertiary level.
- High drop-out rate of girls as a result of poverty, greater demand on their social and economic services within the household.
- A bias towards specialization in the Social Sciences or Humanities rather than Science and Technology.

Several policy initiatives have been instituted to address these problems. Some of the notable ones are the National Plan of Action on Girls Education, the Science, Technology and Mathematics Education Clinics, the placement of Girls Education Officers in all districts and the creation of a Minister for Girl Child Education. Some of the educational institutions themselves such as the Universities have instituted their own internal policies and targets to promote gender parity. Some district assemblies have also initiated scholarship schemes to enhance girls education. There is an urgent need to expand these initiatives to ensure the attainment of goals.

### **3.6 Situation of Children**

#### **Background**

Children are an important national asset and investment in them lays the foundation for a just society, a strong economy and a world free from poverty. This is therefore not an analysis of children but an analysis of the future of Ghana. What happens to them at this stage of their lives will, in large part, determine the course of the current millennium.

The profound social and economic changes taking place within and outside our frontiers over the past two decades have called for greater attention to child welfare. The indications of this concern are widespread including efforts by government, civil society and families to fulfill their obligations to children under international conventions and agreements. In February 1990, Ghana ratified the United Nations Convention on the Rights of the Child (CRC). With this ratification, there has been a lot of concern shown by the public to achieve various goals, particularly the goals of the World Summit for Children (WSC) which are the

- increase of breast feeding,
- increase in enrolment in quality schools,
- fight against preventable diseases,
- fight against malnutrition,
- improvement in childhood care,
- improvement in children's access to safe water,
- combating of AIDS,
- adoption of protocols to protect children from trafficking and abuse.

To achieve these World Summit goals, over the last decade, policies have been created to address children's issues. A National Programme of Action (NPA) dubbed 'The Child Cannot Wait' was prepared in 1992 and all laws relating to children were revised, amended, consolidated and passed as the Children's Act 560 of 1998. Other achievements are national advocacy campaigns undertaken on the rights of children, The Criminal Code Amendment Act, Act 554 of 1998, which raised the age of criminal responsibility from 7 to 12 years and the age of sexual consent from 14 to 16. Free immunization against the six childhood killer diseases, free compulsory universal basic education policy, free antenatal care services and care for under five year olds attending public health facilities are also some of the achievements reported.

Though there has been progress made on average, many children have failed to benefit, particularly those in the rural areas. Every year, many die from consuming unsafe water and from preventable diseases. Many more, mostly girls – do not attend primary school and many children contract HIV/AIDS. Children leave school primarily for economic reasons such as inability to pay fees and to provide for food supplies. (This implies that there may be problems with the implementation of the policy of Free Compulsory Universal Basic Education). A recent survey on child labour indicates the root cause of this to be poverty which leads to pressure on children to work to supplement household income rather than to study to attain high levels of education.

### **Traditional Attitudes to Children**

Studies have shown that the perceived value of children influences child rearing practices and ultimately, the welfare of children. This analysis therefore looks at parents' perceived value of children which has had some impact on children through parental behaviour.

Despite Government's commitment to the task of improving living standards, they certainly need to be assisted in this endeavour by parents and the society who have the prime responsibility for the upkeep of their children. Though children are traditionally highly valued in Ghana, they are valued for their economic worth and also for the social status accorded their biological parents. Although the biological paternity and maternity of children is recognized, it is believed that children are basically the gifts of God or gods. Traditionally, The Creator is seen as the source of all life. This implies that in the Ghanaian metaphysic, each individual has his life style determined by Him. And although children might be reincarnation of ancestors, a person is seen as uniquely sacred, because he has been imbued with part of the Creator's personality known as 'kra' - soul.

Child birth therefore has religious significance, and having children is regarded as a divine blessing and childlessness is treated as a curse, a response to possible breaches of tribal taboos. Ancestors are regarded as the most important categories of entities. They are regarded as the originators and leaders of the tribes and clans. The next most important category are elders. Traditionally, children are taught in their homes to respect their elders and are socialized to adopt the norms and expectations of the family, to fulfill prescribed social roles and to conform to cultural values.

They must greet elders whenever they meet them and help them when they are carrying some load. A child must never answer when he is being reprimanded because a child 'must be seen and not heard'. A child who fails to observe these social values is considered as untrained and uncultured. Children are also taught that they should not be seated when an elderly person is standing. They must get up and offer their seat to the elderly person. It is therefore common to see a young man in a public bus offering his seat to somebody older than he is.

In traditional Ghanaian societies, children are supposed to fulfill economic support of the family members. Young children are expected to engage in household chores such as cleaning and caring for younger siblings. These children are expected soon after puberty, to have children of their own and to support older parents. Caldwell (1982) listed three advantages of children to rural farming communities:

- for the economic productivity of the household in the help on farms and in the care of younger children
- as future investments for potential old age support.
- families gain political clout and status from the number of children they have.

The disadvantages of children are measured in terms of cost of food, clothing, shelter, education, time, stress and opportunity costs. It is presupposed that people are rational and therefore weigh the costs and benefits of bringing a child into their household. There is

therefore a net gain to having large families in the traditional society where children do a lot of work.

### **The Extended family System's Effect on Children**

A study by Trommsdorff (1995) suggests that prevailing customs of the society such as interdependence and the social and physical settings in which children grow are equally important for the values of socialization and child development. In the western world, the family is defined generally as comprising the husband, wife and children (the nuclear family). In Africa the definition goes beyond this nuclear family to include relatives from both maternal and paternal lineages. In Ghana, at the small community level, the extended family serves to foster unity among the people who relate to one another as one and the same people and who always share everything among themselves - be it wealth or problems. The system therefore allows for fostering in order that the relationship is brought close to those who, it might seem, are being separated by social factors such as marriage outside the community.

One of the system's disadvantage is that it often makes people look up to others for assistance with childcare when they could work to achieve this objective. It also encourages laziness in some people as they know they have someone to whom they can look up for every bit of help. In the long run, the only well-to-do person within the family becomes overburdened with the problems of more people than he can cope and those who suffer most from this situation are women and children.

One question that has often been asked is whether the extended family system has survived urbanization in Ghana. In the city or urban center, its survival depends on the ability of individuals to cater for the needs of others in addition to their 'family' (husband, wife and children). To ignore the pressures brought to bear on you by members of the extended family is to live outside your society by deliberate alienation (Kondor, 1993). Yet, given the economic constraints associated with urbanization - high costs for school fees, water, charcoal/gas, electricity etc., are likely to be ineffectiveness in the system though it is unimaginable to think that this complex system will be totally broken down.

The implication for child welfare is that individuals who bear a child are forced to care for the child themselves and are able to enjoy the fruits of their efforts all by themselves. Parents can also train their children without undue interference from the extended family and pressure from traditional values which sometimes hampers proper child development.

Because of the extended family system, fostering of children by non-parental kin is a common Ghanaian practice which has been documented in several accounts of both rural and urban communities in Ghana. In a study supported by the Institute of African Studies in May 1983, teachers in a sample of randomly selected 30 schools (15 urban and 15 rural areas) were interviewed. More than a quarter of own children were not living with respondents at the time of the study, while 44 per cent had one or more of their own children living elsewhere, including 22 per cent who had a child staying away for more than three years. Many also had children of relations staying with them, the majority of whom were children

of siblings. The study concluded that with fostering, childcare is not always adequate, hence the low child survival levels (53 per cent survival rate).

Studies from 23 countries have shown that roles of children are declining with social and spatial mobility and with the class formation inherent in such mobility, status aspirations for children entail more expensive inputs in terms of schooling, time, etc. A range of sources of child labour support this explanation. Child labour which was a common source of income for households (particularly in largely agrarian societies) is not as it was in the 1960's. In the study mentioned above, children of the teachers who were interviewed were school educated and were expected to achieve higher levels of education than their parents.

The high fertility of the country has been explained by the persistence of traditional Ghanaian beliefs and practices that see children as important. One of the beliefs underlying the extended family system stems from the perception that the responsibility to a child belongs to all. This is one of the beliefs responsible for the high fertility behaviour in the country. When somebody gives birth, brothers, sisters, and other close relations see it as their duty to contribute towards the upkeep of the child, unlike in the western world, where the onus of taking care of the offspring often rests with the biological parents.

### **Children from Tradition to Modernity**

Since 1960, there have been changes in the perceived costs and benefits of children. Studies have also demonstrated that when children involve more costs compared to the benefits they bring, this is likely to regulate/affect child bearing and rearing behaviour. Since 1960, there has been substantial increase in the level of urbanization in Ghana (from 23.1 per cent in 1960 to 43.8 per cent in 2000). With increasing urbanization, it is expected that there will be a decrease in the effect of traditional values and the extended family on children. Apart from Greater Accra and Ashanti, however, the rest of the country remains predominantly rural. Thus, the traditional beliefs and practices are probably still being practiced to a large extent.

Agyei-Mensah (1997), using 12,000 Ghanaian women of three different age cohorts in three different levels of settlements (Accra, Cape Coast and Otum) using level of illiteracy as a proxy for the degree of modernization, studied the extent to which parents expected their children to support them in their old age vis-à-vis the parents taking care of themselves in their old age by way of personal social security. The proportion of parents looking up to their children for their 'old age security' fell from the over 90 per cent for the 1950 birth cohort to about 60 per cent for the 1970 birth cohort, but it is still very high (close to 60 per cent to over 80 per cent) in James Town, and Otum. Parents seem to be investing more in their own future social security and not looking up to children for security as before. However it was also found that the degree of investment in ones own future social security and looking up to children for future security seem to be closely related to the level of socio-economic development of the residential area.

Recent years have seen high cost of living and high unemployment rates in the country as part of the restructuring, and modernization. Several free incentives that Ghanaians previously enjoyed (free education from primary to the university level) during the period after independence is now something of the past. Contacts with Western culture, which are

pronounced in urban areas, have created opportunities for achieved status mobility and patterns of Western lifestyle. Nevertheless, most Ghanaians still remain attached to their traditional cultural roots (Kuaba & Chachah, 1999). Child rearing practices and rules for behaviour defined for children based on ascription and other traditional prerogatives have not been entirely obliterated, even though they are changing, and the rate of change seem to follow the degree of globalization. In these societies, children are socialized to adopt the norms and expectations of the family, to fulfil prescribed social roles and to conform to cultural values. To achieve this, authoritative parenting and child rearing practices geared towards obedience and interdependence are the preferred modes of socialization (Kagitcibasi, 1996).

### **Child care and Maintenance**

In the past decade, with increased urbanization and the higher cost of living, the ability of the extended family to support children of siblings and other relations is weakened and babies are now referred to as 'contraband goods' when they are fourth or fifth in order of birth. This is one reason why child care and maintenance has of late become an important issue in developing countries - urban areas in particular. In the 1960s, a child neglected by one of its parents or both parents, was cherished because the children could be used as a source of labour. Maintenance and care of children was not perceived as a problem as it is today because neglected children were like most children, introduced to economic activity and family business at an early age.

In recent times however, child care and maintenance has become a problem because of increased participation of children in formal education, they can no longer be introduced to economic activity as practiced in the past. Apart from petty trading, the child cannot partake in the parents' economic activities because parents and foster parents, mothers in particular, are engaged in economic activities which sometimes require special skills such as handling money in trading. The hazardous nature of petty trading activities in urban areas also makes it risky for parents or guardians to engage children in economic activity in these areas. The onus of child care and maintenance therefore falls squarely on the biological parent where one's parent is solely responsible for the children.

Family tribunals have jurisdiction over complaints pertaining to paternity, custody and maintenance of children in all districts in the country. But not all districts have these tribunals and this militates against justice. In districts that have the tribunals, distance is a determining factor in the pursuit of family tribunal cases. Due to the cost of transport and the inconvenience of the distance, many do not seek the legal redress they are entitled to in the maintenance cases. Also, when the tribunal makes an award in respect of a child's maintenance, it is often insufficient and difficult to enforce.

The 1992 Constitution provides for the right of every child to maintenance and assistance that is necessary for his or her development from his or her parents. Many children are denied this right as they have to work to maintain themselves. The average household income in Ghana was estimated to be 480,000 cedis per annum when the mean annual household expenditure was 748,000 cedis (GSS, 1995). Given this low household income and high expenditure half of which goes towards buying food, providing adequate

maintenance for a child can be a problem, especially in large families. As such, many parents' inability to maintain their children, particularly those in the rural and Northern Sector, is not always a reflection of willful or gross neglect.

### ***Population Distribution of Children***

A child is defined to be any person below the age of eighteen years by the Child Rights Convention and the Ghana Children's Act, 1998. From Table 3.30 it is observed that the population of children (0-17 years) in 2000 is 8,965,233, constituting 47.4 per cent of Ghana's population. Adolescent children (aged between 10 and 17 years) form 18.1 per cent of the population.

**Table 3.30: Age Structure of Children (0-17 years)**

Age Group	1960	per cent	1970	per cent	1984	per cent	2000	per cent
0-4	1,296,625	19.3	1,563,130	18.3	2,030,082	16.5	2,769,421	14.6
5-9	1,018,590	15.1	1,450,165	16.9	2,001,825	16.3	2,775,206	14.7
10-14	681,291	10.1	1,002,670	11.7	1,503,209	12.2	2,262,216	12.0
15-17	313,602	4.7	476,101	5.6	761,974	6.2	1,158,390	6.1
Total (0-17)	3,310,108	49.2	4,492,066	52.5	6,287,090	51.2	8,965,233	47.4
All Ages	6,726,815	100.0	8,559,313	100.0	12,296,081	100.0	18,912,079	100.0

Source: Population Census Report, GSS

Trends observed in Table 3.30 indicate that with time, the population is becoming less young. The proportion of the population that is below 4 years has decreased consistently from 19.3 per cent in 1960 to 14.6 per cent in 2000 whereas over the same period, the proportion of children older than 10 years has increased consistently from 14.8 per cent to 18.1 per cent over the 40-year period. If this trend continues, government expenditure on children will, in the long run, be able to ensure good quality education and health services for all children.

Almost 60 per cent of Ghana's children in 2000 reside in rural areas (Table 3.31). This has implications for the health and education of children because children in rural areas are usually more deprived than those in urban areas. Children aged below 10 years are more likely to reside in rural areas with their parents than children older than 10 years who may be sent out to live with relatives or work as house helps in urban areas. Thus, higher proportions of children aged 10 and older are in urban than in rural areas.

**Table 3.31: Children (0-17 years) by Age, Sex and Locality of Residence, 2000**

Age	Both Sexes			Male			Female		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Total	8,965,233	3,597,292	5,367,941	4,515,691	1,750,712	2,764,979	4,449,542	1,846,580	2,602,962
0-4	2,769,421	1,033,732	1,735,689	1,379,770	513,281	866,489	1,389,651	520,451	869,200
5-9	2,775,206	1,053,432	1,721,774	1,390,652	517,610	873,042	1,384,554	535,822	848,732
10-14	2,262,216	963,577	1,298,639	1,151,131	461,218	689,913	1,111,085	502,359	608,726
15-17	1,158,390	546,551	611,839	594,138	258,603	335,535	564,252	287,948	276,304

Source: Ghana 2000 Population and Housing Census.

At the national level boys under 18 years outnumber girls of the same age (sex ratio of 101.5). Except the 0-4 age group, where girls are slightly more than boys (99.3 sex ratio),

the sex ratio increases from 100.4 in the 5-9 age group to 103.6 in the 10-14 age group and 105.3 in the 15-17 age group. The sex ratio also changes with location of residence. In urban areas, there are more female children (1,846,580) than male children (1,750,712), whereas in rural areas, there are more male children (2,764,979) than female children (2,602,962).

The rural-urban differential for the sexes of children is reflected also at the regional level, including Greater Accra (85.7 per cent) and Ashanti (48.4 per cent) which have the highest proportion of urban children (Table 3.32). It is expected that due to cultural restrictions on girls, male children are more likely to migrate to urban areas than female children, which would result in more male than female children in urban areas. It seems that the increasing need for house helps in urban areas has led to the migration of girls from rural to urban areas usually with the assistance from adults. The high incidence of 'kayayee' and street girls in the streets and markets of Accra are evidence of this.

Table 3.32 indicates that there are regional disparities in the population of children. The number of children in Ashanti alone is larger than the number of children in the three northern regions or the number of children in Volta and Central combined. After Ashanti, Greater Accra, Eastern, Northern and Western are the regions with the largest number of children. This distribution appears to reflect the general population distribution by region, with very little differences in distribution by sex.

On the other hand, regional distribution in terms of rural and urban residence shows over representation of Greater Accra (27.4 per cent) and Ashanti (23.3 per cent) relative to their share of national population. All other regions are under-represented, particularly Upper East (1.8 per cent) and Upper West (1.2 per cent). The three northern regions and Volta have more than 70 per cent of their children residing in rural areas. More than three quarters of children in the three northern regions reside in rural areas while 85.7 per cent of children in Greater Accra reside in urban areas. Ashanti which has the largest share of children (19.3 per cent) has more than half (51.6 per cent) of them residing in rural areas.

**Table 3.32: Children (0-17 years) by Sex, Region and Locality of Residence**

Region	Total		Sex		Ratio	Urban		Rural
			Male	Female			Rural	Share
All Regions	8,965,233	100	4,515,691	4,449,542	101.5	3,597,292	5,367,941	59.9
Western	928,341	10.4	469,807	458,534	102.5	316,931	611,410	65.9
Central	786,582	8.8	396,801	389,781	101.8	279,268	507,314	64.5
Greater Accra	1,151,004	12.8	555,391	595,613	93.2	986,359	164,645	14.3
Volta	776,035	8.7	393,279	382,756	102.7	196,171	579,864	74.7
Eastern	1,010,049	11.3	515,434	494,615	104.2	326,074	683,975	67.7
Ashanti	1,729,187	19.3	867,749	861,438	100.7	837,609	891,578	51.6
Brong Ahafo	896,143	10.0	452,588	443,555	102.0	315,681	580,462	64.8
Northern	949,161	10.6	483,574	465,587	103.9	229,978	719,183	75.8
Upper East	453,251	5.1	234,341	218,910	107.0	64,889	388,362	85.7
Upper West	285,480	3.2	146,727	138,753	105.7	44,332	241,148	84.5

### **3.7 Housing Conditions of Women and Children**

Good housing conditions consisting of adequate sanitary facilities, safe water supplies and drainage systems is an essential requirement for the survival and development of children and for the welfare of women. The living environment in many communities in Ghana is inadequate. Many households do not have toilets or drains for safe disposal of human excreta and other harmful substances that must not be exposed to children. The use of open fires for cooking has also caused accidents involving children in households. As a result, children are often afflicted by diarrhoeal diseases, malaria and respiratory tract infection. This puts undue pressure on mothers who are usually solely responsible for the care of sick children. Despite the acknowledgement of these factors as important not only for women and children but also for human resource and national development, no comprehensive policy regarding the household environment has been implemented and policies with a bearing on households are formulated only at the sectoral level.

The household structure within which the family lives, provides a focus for interaction between its members. Children are socialized within this context such that patterns of household formation, dissolution and headship as well as the characteristics of each household are all important determinates of the welfare of women and children. The number of sleeping rooms in a household should be adequate for children - particularly adolescent children - and other adults to have rooms of their own. Census data indicates that the number of sleeping rooms in households are insufficient for such an arrangement to be made. It is also evident from the 2000 census data that most households have inadequate sleeping rooms. With an average household of 5 persons, the ideal housing situation should be an average of 3 rooms per household, yet 38 per cent of households in 2000 have one room, with an additional 23.8 per cent having 2 rooms. Almost 50 per cent have one sleeping room and 21.5 per cent have 2 sleeping rooms.

Women and children in large households have more housekeeping to do, which in rural areas requires walking long distance to fetch more water and firewood for cooking, washing and cleaning in addition to childcare. The effect is increased stress on women and older children and lack of proper care for the younger children.

#### **Access to Safe Water, Lighting and Electricity**

Access of communities to safe water is necessary for the health of women and children. Of all households in 2000, 42.1 per cent have access to pipe borne water or tanker service, while a third (33.0 per cent) uses the borehole. The remaining 25 per cent of households depend on natural sources such as rain water, river and pond. Only in Central and Greater Accra do more than half of households have access to treated pipe borne water. During the dry season rivers and ponds are not adequate for consumption and children are likely to wade through water bodies to fetch water, with the risk of contracting water borne diseases.

Nationwide, 43.7 per cent of households use electricity as source of lighting. The kerosene stove remains the main source of lighting for all regions with the exception of Greater Accra and Ashanti. In terms of cooking fuel, wood (55.8 per cent) and charcoal (30 per cent) are the two major sources at the national level. At the regional level, with the exception of

Greater Accra and Ashanti, more than half of the households use wood as cooking fuel. This is an indication of increased workload on children who are responsible largely for fetching firewood for household cooking.

### **Waste Disposal**

With liquid waste disposal, only 4.5 per cent of households in Ghana have an adequate facility. In the 95.5 per cent of households, women and children have to dispose of the household's waste into areas around the house such as gutters or in the open spaces. Apart from the tedious job of carrying liquid waste out of the house to be disposed of, children become prone to contracting diseases from this situation. With such poor facilities, women and children in large households tend to suffer more than those in smaller ones of the same socio-economic status and ecological zone. Those in polygamous families also face serious problems of survival, especially where the support base of the extended family system is no longer available.

In terms of solid waste disposal, 16.5 per cent of households in 2000 have an adequate means of burning or burying their waste, or have it collected for disposal. For 82.6 per cent of the households, the facility is either a public dump site or elsewhere at their convenience, which could be a stream or open gutter with serious environmental and health consequences to children who are more likely than adults, to pick contaminated items from refuse dumps for use.

### **Health Service Delivery to Women and Children**

The medium term health service strategy which sets out the direction for guiding health sector reform, addresses issues of access, quality, efficiency and capacity building in the health sector. It also addresses priority health services including prevention and control of infectious disease, malaria, child health and reproductive services, and micronutrients efficiencies. It seeks to reach targets set to promote exclusive breast feeding, to give pregnant women access to prenatal care, trained delivery attendants and referral facilities and to reduce:

- incidence of vaccine preventable disease,
- prevalence of anemia in pregnant women, and
- incidence of infant mortality, under five mortality and maternal mortality

The achievement of these health sector goals has implications for children's welfare.

The under-five mortality rate declined from 119 deaths per 1,000 live births in 1993 to 108 in 1998. The infant mortality rate also decreased from 66 to 56 deaths per 1,000 live births during the same period. There are however regional and rural-urban variations in mortality outcomes. The rate of Northern is about 2 times that of the national average and 3 times that of Greater Accra. Mortality is highly concentrated among infants and neonates. Approximately half of all deaths of children under five occur during the first year of life. Neonatal mortality contributes to 50 per cent of these infant deaths. It means that a quarter of all the deaths occurring during the first five years of life takes place during the first 28 days of life. Between 1993 and 1998, neonatal mortality declined by 24 per cent while post-neonatal mortality increased slightly by about 5 per cent (Ghana Statistical Service, 1999).

Disparities between urban and rural mortality rates exist because health facilities are unevenly spread in the country. Of the 175 hospitals in Ghana, 39 (22 per cent) are located in Accra alone (MOH, 1997). Though the Maternal and Child Health/Planning Section of the MOH has facilities and services throughout the country to promote mother and child health, access to health care is still poor for the majority of Ghanaian children. Approximately 40 per cent of the population have to walk more than 15 kilometres to receive medical attention (MOH, 1996). Health outreach programmes are therefore necessary in the rural areas, especially where settlements are scattered and means of commuting is poor.

Affordability of health care services is also an important factor in attaining a good standard of health. As a result, the poor parents are less inclined to report a child's illnesses and seek treatment than those who are more able to afford it (MOH, 1996). Health officers have reported that many of the children they see at the clinics come to receive medical attention long after the onset of the illness and disease and for some this comes too late. The cost and type of treatment required at this point is therefore far more expensive than if medical attention had been sought earlier. The GLSS 3 reports that the poorest quintile in 1992 spent 12 per cent of their income on health as compared to the national average of 9 per cent.

In many districts, many parents do not register the birth and death of their children, with such under registration higher in rural than in urban areas. This affects coverage of immunization programmes. In recent years, a higher proportion of children has been immunized but still fewer than half of babies born are immunized against measles and polio (MOH, 1997). The 1993 GDHS reports that 17.6 per cent of children do not receive any form of immunization. (Ghana Statistical Service, 1993). Lack of transport, under-staffing of health facilities and poor community participation in educational programmes account for the set back in the immunization coverage in most districts.

### **Malnutrition**

The crucial determinant of the nutritional status of children is household food security – the ability of households to produce or purchase an adequate amount of food to meet its biological requirements throughout the year. These factors are related to morbidity patterns, food and nutrition related factors, care practices, environmental factors, the level of education of mothers and the access/utilization of health care services.

It is estimated that Malnutrition contributes to 45 per cent of all children's death beyond early infancy, with 80 per cent of these deaths due to mild and moderate forms of malnutrition. Protein energy malnutrition (PEM) is the most widespread and serious nutritional disorder in Ghana among children. The 1993 GDHS estimates that among children aged 3-36 months, 30 per cent are stunted, 31 per cent under-weight and 8 per cent wasted. This did not change substantially in 1998, and the GDHS 1998 estimates the incidence of stunting as 26 per cent, under-weight 31 per cent and wasting 12 per cent. In general, 30 per cent of children in rural areas and 14 per cent of children in urban areas have stunted growth, with children in the three northern regions several times more likely to be stunted (35-40 per cent).

Census data over the years indicate that the predominant economic activity of the adult population, agriculture, is rain fed. The low level of educational attainment of the adult population and the large informal sector consisting largely of one-person enterprises are a reflection that incomes are low and food production inadequate. The small manufacturing sector without a strong agro processing base has led to a large amount of post-harvest loss during periods of good harvest. The inability of households to store excess food due to their lack of capital to acquire storage facilities has also not helped with child and maternal nutrition. As a result, many children, pregnant women and mothers are only able to meet 75 per cent of their dietary requirements (MOH, 1997). Children may be receiving a substantial amount of food on a regular basis, but they may not contain the vitamins and minerals necessary for their proper growth and development.

### **Children's Economic Activity**

There are a variety of reasons why children work. These include refusal of parents to support them through school, poverty, loss of both parents, and supplementing the family income. Some of the children are only supported by their mothers whose incomes are meagre and therefore cannot provide adequate maintenance. Most children who work do so because they do not have a choice.

Children learn from a reasonable level of participation in household chores because of the sense of self worth that is derived from the work they do. Part time work for pupils, however, can be a problem. Head teachers complain that some children who do strenuous work, such as farming or housework that takes them late into the night, come to school exhausted and unable to concentrate and participate actively. On market days, farming, harvesting and fishing seasons, as many as 40 per cent of pupils do not attend school (1997 Country Report on Ghana's Children).

The 2000 Census collected information on children aged seven years and older who worked during the seven days preceding the census. A child is regarded as having worked if he/she put in at least one hour of work for pay or profit during the seven days before the census. Children who had jobs to return to but did not do any active work are regarded as having worked. Working children includes all children who worked as well as those who were actively looking for work.

Of the total number of 5,049,354 children aged between 7 and 17 years, 1,135,666 (22.5 per cent) are working children. This is consistent with the results of the Ghana Child Labour Survey (GCLS) which indicates that in 2001, 4 out of every 10 children aged 5-17 years were usually engaged in economic activity. It implies that twice the number of children engaged in current economic activity is likely to be engaged in usual economic activity. Of all the working children, there are more males (52 per cent) than females (48 per cent). Economically active children are also predominantly in rural areas (72.2 per cent) and indicated in Table 3.33. The highest proportion is in the 10-14 age group for both boys and girls. On the other hand, the proportion is highest in the 15-17 age group in urban and in the 10-14 age group in rural areas.

**Table 3.33: Economically Active Children by Age, Sex and Locality of Residence, 2000**

Age	Sex			Residence	
	Total	Male	Female	Urban	Rural
Total	1,135,666	585,002	550,664	315,626	820,040
7 - 9	323,024	164,166	158,858	78,618	244,406
10 - 14	424,180	221,522	202,658	102,701	321,479
15 - 17	388,462	199,314	189,148	134,307	254,155

Source: Ghana 2000 Population and Housing Census.

Of all economically active children, Northern contributes the highest proportion (20.2 per cent), followed by Ashanti (16.8 per cent), Brong Ahafo (9.9 per cent) and Greater Accra (9.6 per cent). These four regions together contribute 56.5 per cent of the economically active children. (Table 3.34). The male proportions are higher in Volta, Eastern, Northern, Upper East and Upper West while they are higher for females in Western, Central, Greater Accra, Ashanti and Brong Ahafo.

**Table 3.34: Economically Active Children by Region and Sex**

Region	Working Children	Regional Share	Male		Female	
			N	per cent	N	per cent
Total	1,135,666	100.0	585,002	100.0	550,664	100.0
Western	91,284	8.0	46,363	7.9	44,921	8.2
Central	58,650	5.1	29,339	5.0	29,311	5.3
Greater Accra	109,391	9.6	48,780	8.3	60,611	11.0
Volta	85,787	7.6	45,249	7.7	40,538	7.4
Eastern	86,400	7.6	45,899	7.8	40,501	7.4
Ashanti	190,471	16.8	92,828	15.9	97,643	17.7
Brong Ahafo	113,013	9.9	57,826	9.9	55,187	10.0
Northern	229,735	20.2	124,425	21.3	105,310	19.1
Upper East	93,800	8.3	51,565	8.8	42,235	7.7
Upper West	77,135	6.8	42,728	7.3	34,407	6.2

Source: Ghana 2000 Population and Housing Census.

The 2000 Census data also indicate that 61.4 per cent of working children have never attended school; 17.0 per cent are currently attending school, while 21.6 per cent attended school in the past (Table 3.35). The proportion never attended school decreases with age, while that of past attendance increases with age.

**Table 3.35: Economically Active Children by Age and School Attendance**

Age	Total		Never		Now		Past	
Ghana								
Total	1,135,666	100.0	697,956	(61.4)	192,591	(17.0)	245,119	(21.6)
7 - 9	323,024	100.0	223,236	(69.1)	58,088	(18.0)	41,700	(12.9)
10 - 14	424,180	100.0	271,302	(64.0)	82,364	(19.4)	70,514	(16.6)
15 - 17	388,462	100.0	203,418	(52.4)	52,139	(13.4)	132,905	(34.2)

Source: Ghana 2000 Population and Housing Census.

The 2000 Census data (Table 3.36) indicate that much (81.4 per cent) of the activities of working children is in three areas, agriculture and related activities (62.8 per cent), trading activities (10.7 per cent) and manufacturing activities (7.9 per cent). These three appear to be

the same activities for both boys and girls and for both urban and rural areas. The order changes only in urban areas where trading and agriculture reverse positions.

**Table 3.36: Industry of Economically Active Persons (7-17 years) by Sex and Locality of Residence**

Industry	Both Sexes		Male		Female	
	N	per cent	N	per cent	N	per cent
<b>All Localities</b>						
Total	1,135,666	100.0	585,002	100.0	550,664	100.0
Agriculture, Hunting and Forestry related workers	713,173	62.8	388,839	66.5	324,334	58.9
Fishing	49,578	4.4	30,931	5.3	18,647	3.4
Mining and quarrying	38,197	3.4	19,314	3.3	18,883	3.4
Manufacturing	89,410	7.9	40,404	6.9	49,006	8.9
Electricity, gas and water	2,685	0.2	1,454	0.2	1,231	0.2
Construction	18,628	1.6	10,237	1.7	8,391	1.5
Wholesale and related	121,428	10.7	52,885	9.0	68,543	12.4
Hotels and restaurants	16,677	1.5	5,392	0.9	11,285	2.0
Transport, Storage and Communication	8,485	0.7	4,989	0.9	3,496	0.6
Financial intermediation	846	0.1	421	0.1	425	0.1
Real Estate and Business Activity	3,184	0.3	1,597	0.3	1,587	0.3
Public Administration	1,107	0.1	458	0.1	649	0.1
Education	4,257	0.4	2,010	0.3	2,247	0.4
Health and social work	905	0.1	393	0.1	512	0.1
Other community Service	28,876	2.5	11,264	1.9	17,612	3.2
Private Household	35,288	3.1	13,054	2.2	22,234	4.0
Extra-territorial Organization	178	0.0	93	0.0	85	0.0
New workers seeking employment	2,764	0.2	1,267	0.2	1,497	0.3
<b>Urban</b>						
Total	315,626	100.0	143,854	100.0	171,772	100.0
Agriculture, Hunting and Forestry related workers	72,414	58.9	37,201	25.9	35,213	20.5
Fishing	14,028	3.4	7,618	5.3	6,410	3.7
Mining and quarrying	19,500	3.4	9,496	6.6	10,004	5.8
Manufacturing	49,801	8.9	22,282	15.5	27,519	16.0
Electricity, gas and water	1,063	0.2	571	0.4	492	0.3
Construction	12,294	1.5	6,295	4.4	5,999	3.5
Wholesale and related	85,779	12.4	36,931	25.7	48,848	28.4
Hotels and restaurants	10,288	2.0	3,216	2.2	7,072	4.1
Transport, Storage and Communication	6,300	0.6	3,512	2.4	2,788	1.6
Financial intermediation	601	0.1	297	0.2	304	0.2
Real Estate and Business Activity	2,332	0.3	1,145	0.8	1,187	0.7
Public Administration	960	0.1	401	0.3	559	0.3
Education	2,833	0.4	1,252	0.9	1,581	0.9
Health and social work	661	0.1	270	0.2	391	0.2
Other community Service	17,905	3.2	6,936	4.8	10,969	6.4
Private Household	16,632	4.0	5,431	3.8	11,201	6.5
Extra-territorial Organization	120	0.0	61	0.0	59	0.0
New workers seeking employment	2,115	0.3	939	0.7	1,176	0.7
<b>Rural</b>						
Total	820,040	100.0	441,148	100.0	378,892	100.0
Agriculture, Hunting and Forestry related workers	640,759	78.1	351,638	79.7	289,121	76.3
Fishing	35,550	4.3	23,313	5.3	12,237	3.2
Mining and quarrying	18,697	2.3	9,818	2.2	8,879	2.3
Manufacturing	39,609	4.8	18,122	4.1	21,487	5.7
Electricity, gas and water	1,622	0.2	883	0.2	739	0.2
Construction	6,334	0.8	3,942	0.9	2,392	0.6
Wholesale and related	35,649	4.3	15,954	3.6	19,695	5.2
Hotels and restaurants	6,389	0.8	2,176	0.5	4,213	1.1
Transport, Storage and Communication	2,185	0.3	1,477	0.3	708	0.2
Financial intermediation	245	0.0	124	0.0	121	0.0
Real Estate and Business Activity	852	0.1	452	0.1	400	0.1
Public Administration	147	0.0	57	0.0	90	0.0
Education	1,424	0.2	758	0.2	666	0.2
Health and social work	244	0.0	123	0.0	121	0.0
Other community Service	10,971	1.3	4,328	1.0	6,643	1.8
Private Household	18,656	2.3	7,623	1.7	11,033	2.9

Extra-territorial Organization	58	0.0	32	0.0	26	0.0
New workers seeking employment	649	0.1	328	0.1	321	0.1

Source: Ghana 2000 Population and Housing Census.

Half (50.5 per cent) of working children are self employed without employees, while 28.7 per cent are unpaid family workers. As many as 719,390 (80.0 per cent) of the 899,483 self employed and unpaid family working children reside in rural areas (Table 3.37). Not only do more boys (173,533) than girls (152,342) work as unpaid family labour but the proportion is also higher for boys (29.7 per cent) than for girls (27.7 per cent). On the other hand, more girls (26,775 or 4.9 per cent) than boys (21,476 or 3.7 per cent) work as domestic employees.

**Table 3.37: Employment Status of Economically Active Persons (7-17 years) by Sex and Locality**

Locality						
Region / Employment Status	Total		Urban		Rural	
Both Sexes						
Total	1,135,666	100.0	315,626	100.0	820,040	100.0
Employee	77,794	6.9	45,851	14.5	31,943	3.9
Self Employed without employee	573,608	50.5	141,303	44.8	432,305	52.7
Self Employed with employee	12,193	1.1	6,335	2.0	5,858	0.7
Unpaid family worker	325,875	28.7	38,790	12.3	287,085	35.0
Apprentice	74,204	6.5	47,847	15.2	26,357	3.2
Domestic Employee	48,251	4.2	21,765	6.9	26,486	3.2
Other	23,741	2.1	13,735	4.4	10,006	1.2
Male						
Total	585,002	100.0	143,854	100.0	441,148	100.0
Employee	39,494	6.8	20,852	14.5	18,642	4.2
Self Employed without employee	295,486	50.5	63,844	44.4	231,642	52.5
Self Employed with employee	5,999	1.0	2,860	2.0	3,139	0.7
Unpaid family worker	173,533	29.7	17,730	12.3	155,803	35.3
Apprentice	37,283	6.4	23,737	16.5	13,546	3.1
Domestic Employee	21,476	3.7	8,434	2.9	13,042	3.0
Other	11,731	2.0	6,397	4.4	5,334	1.2
Female						
Total	550,664	100.0	171,772	100.0	378,892	100.0
Employee	38,300	7.0	24,999	14.6	13,301	3.5
Self Employed without employee	278,122	50.5	77,459	45.1	200,663	53.0
Self Employed with employee	6,194	1.1	3,475	2.0	2,719	0.7
Unpaid family worker	152,342	27.7	21,060	12.3	131,282	34.6
Apprentice	36,921	6.7	24,110	14.0	12,811	3.4
Domestic Employee	26,775	4.9	13,331	7.8	13,444	3.5
Other	12,010	2.2	7,338	4.3	4,672	1.2

Source: Ghana 2000 Population and Housing Census.

Table 3.38 shows that a significant proportion (71.6 per cent) of economically active children did actually work during the census reference period, with 75.5 per cent of them working for 5 days or more a week. There is not much difference between boys (76.0 per cent) and girls (75.0 per cent) in the proportion that worked 5 days or more, but it is positively and highly related with age. Less than a tenth (8.5 per cent) had a job but did not work during the reference period, while about one-fifth (19.9 per cent) were out there looking for work.

**Table 3.38: Working Children (7-17 years) by Days Worked, Age and Sex**

Days Worked	All Working		Sex				Age Group					
	Both Sexes		Male		Female		7-9 years		10-14 years		15-17 years	
	N	per cent	N	per cent	N	per cent	N	per cent	N	per cent	N	per cent
All Days	813,548	100.0	421,078	100.0	392,470	100.0	228,050	100.0	302,702	100.0	282,796	100.0
One	20,376	2.5	10,318	2.5	10,058	2.6	7,827	3.4	8,271	2.7	4,278	1.5
Two	36,921	4.5	18,740	4.5	18,181	4.6	13,527	5.9	14,908	4.9	8,486	3.0

Three	61,593	7.6	31,066	7.4	30,527	7.8	20,986	9.2	24,852	8.2	15,755	5.6
Four	80,536	9.9	41,280	9.8	39,256	10.0	24,028	10.5	31,957	10.6	24,551	8.7
Five	245,955	30.2	126,665	30.1	119,290	30.4	55,309	24.3	75,848	25.1	114,798	40.6
Six	270,549	33.3	142,176	33.8	128,373	32.7	69,143	30.3	96,441	31.9	104,965	37.1
Seven	97,618	12.0	50,833	12.1	46,785	11.9	37,230	16.3	50,425	16.7	9,963	3.5

Source: Ghana 2000 Population and Housing Census.

According to parents of 93 per cent of the children interviewed in the 2001 GCLS, child work contributes to the economic welfare of households, either to supplement household income (58 per cent) or to help in household enterprises (34.2 per cent). Parents of 44 per cent of the children reported that household living standards would fall and household enterprises could not operate in 21 per cent of the cases if the children did not work.

If parents had the choice, they would have their children to be schooling or in training and to complete their education. Most of the children themselves (70.3 per cent) also preferred to complete their education before starting work if they could help it. It has therefore been suggested that some policy measure could help to enrol and keep more children in the classroom as expected of their age group (Ghana Statistical Service, 2003).

According to the 1998 Children's Act, children under 15 years are not supposed to be employed but can do light work if they are 13 or 14 years old. Light work is defined as an activity which is not likely to be harmful to the health or development of the child and does not affect the child's attendance at school or capacity of the child to benefit from school work.

The Act also stipulates 18 years as the minimum age for the engagement of a person in hazardous work. The 1998 Children's Act therefore prohibits the engagement of a child (under 18 years) in exploitative or hazardous labour; it is exploitative if it negatively affects the health or education of the child and hazardous if the activity involves going to sea, mining and quarrying, portorage of heavy loads, manufacturing activities where chemicals are produced or used, work in places where machines are used and work in places such as bars, hotels, and places of entertainment where a person may be exposed to immoral behaviour. Any child who engages in night work between the hours of eight o'clock in the evening and six o'clock in the morning is also regarded as engaging in child labour.

It is not possible to estimate child labour from the census data, because the detailed questioning involving nature of work and specific activities necessary to determine what is exploitation, hazardous and harmful or detrimental to child development is not the focus of a census information gathering. On the basis of age alone, however, the census data indicate that 345,489 children aged under 13 years were engaged in economic activities. This is much lower than the 1,031,220 under 13 years olds estimated from the 2001 GCLS. The difference may be due to the reporting methodology used (the census reporting was done mainly by heads of household while individual children were interviewed separately in the child labour survey).

Using data of working children under 13 years, it is observed that regional variations in child labour exist, with Northern recording the highest number of children engaged in child labour (Table 3.39).

**Table 3.39: Working Children (7-12 years) by Region and Sex, 2000**

Region	Total	Male	Female
All Regions	345,489	181,209	164,280
Western	25,317	12,863	12,454
Central	15,904	8,120	7,784
Greater Accra	26,715	12,108	14,607
Volta	26,476	14,267	12,209
Eastern	23,821	13,098	10,723
Ashanti	52,923	25,760	27,163
Brong Ahafo	33,539	17,316	16,223
Northern	80,689	44,022	36,667
Upper East	33,073	18,468	14,605
Upper West	27,032	15,187	11,845

Source: Ghana 2000 Population and Housing Census.

### **Children and the threat of HIV/AIDS**

Children, particularly adolescent children, are at risk of contracting HIV/AIDS and so are the adults who are responsible for their welfare. The consequences of this disease impact immensely on the human rights of children, because apart from affecting the health of children, the negative societal perceptions accompanying the disease affect the access of the victims to health services.

It is estimated that about 30-40 per cent of infants born to infected mothers will themselves be infected. The other 60-70 per cent will not be infected but will be at risk of becoming orphans. A phenomenal increase in child orphans has been predicted by the World Health Organization due to loss of one or both parents due to HIV/AIDS related causes (WHO, Source: Ghana 2000 Population and Housing Census.1998). Given the primacy of heterosexual transmission in spreading the virus, many children are expected to loose both parents. Many of these children are likely to become heads of their households if they are not fortunate to be cared for by older relatives. The 2000 Census records 15,620 children (15-17) as household heads. The data indicate that Ashanti (3,088) has the largest number of children heading households, followed by Eastern (1,843) and Western (1,847). These children may be street children living together in single rented rooms or acted as temporary heads at a time when no adults were available.

The chances of children contracting HIV/AIDS depend very much on their sexual habits. The marital status of children, number of adolescent pregnancies and the number of children giving birth within a period of one year are indicators of the extent to which children engage in sexual activities. Data from the 2000 Census indicate that of the 2,479,549 children aged 10 and 17 years, 123,420 (5 per cent) were married. The greater proportion of the married children is female (54.1 per cent) and in the 15-17 year age group (77.9 per cent); a total of 22,095 children had been born to female children aged between 12 and 17 years in their life time. To female children in the 12 to 14 age group, 553 babies were born in the last twelve months preceding the census.

Adolescent children need to be protected from the threat of sexually transmitted infections through longer duration of education (both formal and informal) to reduce the risk of exposure and therefore the rate of infection. Special attention needs to be given to children,

particularly girls in the streets and girls in low income households, since they are most vulnerable.

A study conducted by the GNCC in 2000 indicated that communication between adolescents and their parents or guardians on the subject of sex is poor. This stems from cultural norms and so parents do not know how to lead the discussion. From the study, teachers constitute the highest of all educators on sexual matters. Mothers tend to be more accessible than fathers to children on sex education, whereas relatives, including grand-parents and siblings account for far less. Just a little more than half of the sample children aged between 8 and 17 years had heard of HIV/AIDS as a problem and only a third of the children knew something about sexually transmitted infections. Nationwide, HIV prevalence among the population segment aged 5-19 years is estimated at 2.3 per cent, with the female rate (3 per cent) being higher than the 1.3 per cent for males (GNCC, 2000 Country Report).

### **3.8 Demographic Implications of Data on Women and Children**

#### **The Population**

The statistical data on proportions of females in the total population shows that since 1970, there has been a slight excess of females in the total population. In both 1970 and 1984, the proportion of females was 50.4; this increased marginally to 50.5 in 2000.

The 1960 figure of 49.5 per cent was clearly the result of the preponderance of males in the large migrant population which then constituted almost 7 per cent of the population enumerated. The marked deterioration in the economic situation in the 1970s and early 1980s and the expulsion of many migrants from the country as a consequence of the Aliens Compliance Order of 1969 are likely to be the main factors accounting for the increase in the proportion of females in recent censuses.

It is a well-known fact that although the sex ratio at birth is around 104-106 for most populations, higher male mortality especially at the older ages tends to produce a slight excess of females in the total population in most countries. The sex-ratios for 1984 and 2000 generally follow the world-wide pattern with males out-numbering females in the younger age groups while the situation is reversed starting at ages 20-24 up to 40-44 and again at age 60 years and older. The dramatic reversals at younger ages, such as 20-24, clearly denote the importance of the migration factor while the demographic phenomenon of higher male mortality is clearly evident at the higher ages of 60 years and older.

It may be argued that the preponderance of females in the reproductive ages has demographic implications if it leads to a situation where females in these age groups who want to marry cannot find partners. Such non-marriage can have a significant effect on marital fertility, but for a country whose growth rate is considered too high at 2.7 per cent, any such reduction in marital fertility as a result of non-marriage may be deemed desirable.

The preponderance of females in the total population has some implications for social policy issues such as household formation, family welfare, pensions and also for broader issues such as politics, governance and the economy. The differences in male-female populations are

however not large and have little demographic significance unlike the large imbalances which occur in war-affected or labour migration prone areas. Classic examples of the latter are Botswana and Lesotho a few decades ago where heavy out-migration of males to the mines of South Africa seriously distorted the sex-ratios of the sending countries.

It is also clear that the numerical difference between the sexes is too small to provide any statistical justification for either the practice of polygamy or female political supremacy as some commentators often assert.

### **Urban-Rural Disparities**

The change in male-female parity is also observable for the population by urban-rural residence. In 1960, urban residence was predominantly male, largely because of the dominance of men in the urban working population. Since 1970, however, the situation has gradually reversed with 51.1 per cent of the population being female in 2000. The increasing participation of women in the informal sector of the economy largely accounts for this phenomenon. An additional reason is the fact that male migration changed from being largely internal to destinations outside the country, and this explains why in the rural areas, there is very little change in male-female parities over the period. Differences in sex ratios for particular age groups are largely a reflection of these demographic and economic forces.

### **Changes in Age Structure and their Demographic Implications**

The significant decline in fertility which Ghana has experienced over the past decade or so has resulted in a significant shift in the age structure of the population. The proportion of the population under 15 has declined from 45.0 per cent in 1984 to 41.3 in 2000. The proportion of the working population correspondingly increased from 51.0 in 1984 to 53.5 per cent in 2000. This is of great demographic significance because as the example of the so-called “Asian Tigers” has shown, these changes presage the opening of the “demographic window of opportunity” which can have considerable impact on the economy by reducing the size of the “consuming” or dependent population while increasing the relative size of the “producing” population.

The expansion in the size of the “producing” also means an increase, in relative terms, of the number of women in the reproductive ages 15 to 49. If the fertility per woman does not change over a period, this increase in the child-bearing population will raise the total fertility or the number of children born to the population.

### **Demographic Implications of Marital Structure**

A distinctive feature of the data on marriage is the increase in non-marriage or late marriage. In 2000, a quarter of the female population aged 15 and older reported being “never married” compared to only 8.5 per cent in 1960. A “never-married” status does not necessarily mean that one does not have a child, although in most cases this would be so, since a woman with a child out of wedlock is more likely to classify herself as married or living in consensual union to protect her child.

The dramatic increase in the proportion of “never-married” from 8.5 in 1960 to 25.2 per cent in 2000 can be taken as having significant demographic implications in terms of the level of fertility, as it implies a decline in the segment of the female population which actually produces children for the nation. A later age at marriage, especially for females, implies a shorter reproductive span which can also affect the level of fertility. It is evident from the available data that changes in nuptiality indices are increasingly becoming a dynamic factor in the fertility paradigm of the population. Other nuptiality indices, such as incidence of widowhood or divorce, also have demographic implications, but changes in these have not been significant over the years.

### **Policy Implications**

Although a lot has been achieved over the years, many children still suffer from the consequences of poverty and social and economic deprivation. The analysis highlights some of the problems children face in gaining access to their basic rights to healthcare, education, welfare and family life. Problems relating to children vary throughout the country, based on geographical location and sex. The nation must therefore work towards the enhancement and expansion of facilities to improve and promote children’s survival, development and protection.

As a fundamental requirement to improve on children’s school attendance, District Assemblies must review their scholarship schemes and must use a method that identifies needy children for financial assistance. Schools must be built with adequate water and toilet facilities for children and accommodation must be provided for teachers not too far from the schools, just as health posts are currently being provided with accommodation for staff.

Health sector interventions should focus more on the factors contributing to the state of child and maternal mortality and malnutrition. Agricultural policies should target improvements in the production of cereals which was very low and growing at a rate of 0.2 per cent per annum over the period from 1994 to 1998, a rate far below the annual population growth rate of about 2.6 per cent.

Awareness programmes for children should be intensified with particular attention to the rural areas and girls. There is some indication from studies that most children in rural communities have flawed knowledge of HIV/AIDS.

## Appendix

**Table A3.1: Marital Status by Age and Sex, 1993 and 1998**

Age	Male						Female					
	Never Married	Married	Consensual Union	Separated	Divorced	Widowed	Never Married	Married	Consensual Union	Separated	Divorced	Widowed
<b>1993</b>												
15-19	98.3	0.4	1.3	-	-	0.0	77.6	10.5	9.5	1.4	1.0	-
20-24	72.5	12.6	11.0	1.7	2.2	0.0	24.7	46.4	20.0	4.0	4.3	0.6
25-29	37.0	39.5	15.5	2.5	5.5	0.0	5.9	69.5	13.4	3.3	6.7	1.2
30-34	9.6	69.5	13.8	4.2	2.4	0.5	1.3	78.2	10.6	2.8	5.5	1.6
35-39	6.4	74.3	9.9	2.3	7.1	0.0	0.3	76.8	8.8	3.3	8.4	2.4
40-44	4.6	78.7	6.5	2.8	4.6	2.8	0.0	77.9	6.2	2.1	8.9	4.9
45-49	1.1	82.8	4.7	1.1	10.3	0.0	0.0	78.3	5.0	3.6	8.0	5.1
50-54	1.1	89.4	-	4.3	3.1	2.1	-	-	-	-	-	-
55-59	4.3	81.3	1.4	5.8	1.4	5.8	-	-	-	-	-	-
<b>Total</b>	<b>35.5</b>	<b>49.4</b>	<b>8.1</b>	<b>2.4</b>	<b>3.8</b>	<b>0.8</b>	<b>19.5</b>	<b>58.7</b>	<b>11.6</b>	<b>2.9</b>	<b>5.6</b>	<b>1.7</b>
<b>1998</b>												
15-19	97.0	0.7	1.9	0.4	0.0	0.0	83.6	6.5	6.9	2.9	0.1	0.0
20-24	74.4	12.5	11.3	1.8	0.0	0.0	29.0	42.3	19.0	7.6	1.8	0.3
25-29	41.9	32.6	16.0	8.7	0.8	0.0	11.2	60.2	17.6	6.2	4.2	0.6
30-34	14.1	58.3	18.8	6.5	1.7	0.6	2.3	72.8	11.6	6.2	5.3	1.8
35-39	3.5	78.7	12.0	3.8	1.1	0.9	0.9	71.5	12.1	5.1	8.2	2.2
40-44	2.4	77.8	6.5	4.0	9.3	0.0	0.2	74.9	10.1	4.0	7.1	3.7
45-49	1.5	82.6	6.1	1.2	7.5	1.1	1.4	66.6	7.4	3.9	11.8	8.9
50-54	0.0	85.0	8.0	0.0	4.6	2.4	-	-	-	-	-	-
55-59	0.0	81.8	4.0	3.2	5.9	5.1	-	-	-	-	-	-
<b>Total</b>	<b>40.9</b>	<b>43.0</b>	<b>9.8</b>	<b>3.4</b>	<b>2.2</b>	<b>0.7</b>	<b>23.7</b>	<b>51.9</b>	<b>12.7</b>	<b>5.3</b>	<b>4.6</b>	<b>1.8</b>

Source: 1993 and 1998 GDHS

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## **CHAPTER FOUR**

### **EDUCATION AND LITERACY<sup>4</sup>**

#### **Executive Summary**

##### **Introduction**

A nation's most treasured and dynamic assets are its human resources. In order for a country to grow and sustain development, it ought to develop its human population through the provision of quality education. Countries that paid enough attention to providing quality education have made considerable strides in economic and social development and raised the quality of life of their people. This chapter assesses the education system of Ghana. It provides a historical overview of education in Ghana and a discussion of population trends and the implications for education. This has involved the discussion of enrolment trends from pre-school to the tertiary level, teacher education, technical/vocational education, and science/technology education and their role in economic development in relation to demographic data from several sources. Inequities inherent in the education system, including gender inequities, regional and district inequities and infra-structural deficiencies have also been discussed.

##### **Traditional Education**

A major characteristic of traditional education is its holistic approach to the development of the individual, making individuals a part of the totality of the society in which they live, with the community in general serving as an educational environment and every adult being a teacher of every child. The emergence of nation states also introduced a new system of education with the state assuming responsibility for the training and education of the population. This means that the size, structure and distribution of the population have important consequences for the educational system.

##### **Introduction of Formal Education in Ghana**

European missionaries and traders introduced formal education into Ghana from the late 15<sup>th</sup> and early 16<sup>th</sup> centuries. These early schools were located at the forts and castles along the coast, where these Europeans resided and which also served as trading posts for the European merchants.

While the traders concentrated their activities on the coast, the missionaries moved into the interior. From the second decade of the 19<sup>th</sup> century, Christian missionaries such as the Basel, Bremen and Wesleyan Methodists actively began to convert and educate the indigenous people. The Basel Mission's educational effort began in 1843 when they opened a boys' school at Akropong, Akwapim followed by a girls' school in 1847 and a teacher training college and catechist's seminary in 1848, all at Akropong. The Wesleyan Methodist missionaries first reached Cape Coast in 1835. The Methodist Church's educational work

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started in 1838. The girls' school, Wesley Girls Primary School, grew to become a secondary school in 1884, alongside Mfantshipim School which was established in 1876 under the name Wesleyan High School and later as Wesleyan Collegiate School in 1891.

By 1850, the Basel and Wesleyan Methodist missions had provided the main educational drive in the coastal area of the Gold Coast with over 1000 pupils enrolled in their schools. The Wesleyan Methodists also opened a training college at Aburi in 1922, which was transferred to Kumasi in 1924 to become Wesley College. The North German (Bremen) missionaries working beyond the Volta River from 1847 established their first school at Peki.

Through the efforts of the missionaries, the spoken local languages were reduced into writing. In addition, they placed emphasis on crafts such as carpentry, metalwork, building technology and printing. They also established model farms where they gave practical demonstrations of scientific farming.

Unlike the Methodists and Presbyterians, the educational efforts of the Roman Catholic Mission were relatively late and slow in taking off. After the early short-lived castle schools in Elmina and Axim Castles in the 16<sup>th</sup> and 17<sup>th</sup> centuries, the first real attempt at education and mission activity by the Catholic Church started with the arrival of Dr. Barrow, a Catholic priest in Elmina and Cape Coast in 1844. The mission collapsed and it was not until 37 years later that the Roman Catholic Church took up missionary work again. Alongside academic and moral training, the Catholic mission also embarked upon industrial, agricultural and other artisanal training. Despite its late arrival on the scene, the Catholic Church grew very rapidly, together with its schools and colleges and, by 1934, was the largest Christian denomination in the country. Although the country was under British rule, the Anglican Mission did not make much of an impact on education in the country, and by 1925, had only 6 schools.

### **Education under the Colonial Government**

The first real effort by the colonial administration to regulate education took place in 1882 when an Education Ordinance was enacted and applied generally to British West Africa. This ordinance proved unworkable, and was replaced with that of 1887, which remained in force till 1925. The appointment of a Director of Education in 1890 solely for the colony gave an impetus to the development of the Education Department, which directed educational development until it was merged into the Ministry of Education in 1956. By 1902 when both Ashanti and the Northern Territories had also come under British rule, there were 124 primary schools. The Colonial Government had 7 schools and assisted 117 schools with grants. By 1950, there were 19 pre-university training colleges offering a variety of teacher-training certificate courses. By that same year, there were 2,529 qualified certificate 'A' teachers, 762 qualified certificate 'B' teachers and 5,000 unqualified teachers in the elementary schools system.

On assumption of duty as the Governor in 1919, Guggisberg felt the need to reform the educational system to conform to the developmental needs of the country. He eventually introduced the Education Ordinance of 1925 with 16 principles of education, among which were the use of vernacular as the medium of instruction in the lower classes of the primary

school and the accelerated establishment of co-educational institutions at secondary level to train high-class students who will in subsequent years pursue higher education. Notwithstanding the substantial increases in budgetary allocations for education by Governor Guggisberg, the budgetary allocations as well as facilities for the delivery of post-elementary education, especially teacher education, remained totally inadequate.

By 1937, interest in education had become so great that the Colonial Government was obliged, after several deliberations and agitations, to appoint a committee to make recommendations for the evolution of a system of education that would suit the social, economic and political needs of the country. A major outcome of all the developments was that by 1950, 41 of 2,904 primary schools, were directly run by the Colonial Government while 1,551 received government grants. The total enrolment in these schools had risen from 29,640 in 1927 to 271,954 within a 25-year period.

By 1950, there were 57 secondary schools 2 of which were Government-owned (Achimota School in Accra and Government Secondary Technical School in Takoradi), 11 Government-assisted mission schools and 44 unassisted; four of the assisted secondary schools were for girls only.

### **University Education**

The idea of university education in West Africa dates back to 1871, when christian missionaries in Sierra Leone called for a launch of university education in Fourah Bay College, then a theological seminary. In 1876 Fourah Bay College was affiliated to Durham University. Around the same period, suggestion of the beginnings of medical education in Sierra Leone was also mooted. J.E. Casely-Hayford of the Gold Coast, in his book ***Ethiopia Unbound***, also advocated what he called “***Mfantshipim National University***”, which he envisaged would be “a university thoroughly conscious of, and adapted to its environment, but simultaneously maintaining an international standard”. The characteristics of such a university would include “loving and promoting one’s own language, customs and institutions”.

By far the fiercest drive for university education in Africa took place with the establishment in 1927 of Achimota College. When Governor Guggisberg suggested in 1927 that Achimota College should be linked with London University, however, the idea was rejected. It was agreed instead for the College to adopt the University of London Matriculation and Intermediate Examinations and to prepare students for the external intermediate examinations of London University in the arts, science and engineering, and the London External Bachelor of Science Degree in engineering.

In 1939 the Conference of British West African Governors proposed only one university in the whole of West Africa, which generated considerable furore all over the colonies. Following the decision of the Colonial Government for only one university in West Africa to be based in Ibadan, the people of the Gold Coast indicated in 1946 their intention to build their own university that they themselves would finance.

In 1943, the British Colonial Secretary Oliver Stanley set up a committee to work out modalities for establishing university colleges in West Africa to be in special relationship with the London University. Another committee submitted two reports, a majority report that recommended three centres of higher education to be located in Nigeria, the Gold Coast and Sierra Leone, and a minority report that recommended only one University College to be located in Ibadan. While arrangements were proceeding to implement the recommendations of the majority report, the Labour Party came into office in Britain and A. Creech Jones, a member of the Committee that had submitted the minority report, became the new Secretary of State for the Colonies and changed the previous acceptance of the majority report and opted for the minority report. Unrest flared up, particularly in Sierra Leone and the Gold Coast.

A Gold Coast youth conference of 1945 protested against the adoption of the minority report by the new Secretary of State for the Colonies. In 1946, the Gold Coast Legislative Council adopted a proposal to set up another commission, which recommended to the British Government to concede to the establishment of the University College of the Gold Coast, provided the people of Ashanti would not also agitate for yet another separate university.

### **Pre- and Post Independence Educational Policies-1951-1980**

Following the first democratic party-based elections of 1951, the Government introduced the Accelerated Development Plan for Education in August 1951 and started its implementation in January 1952. Among its provisions were free tuition at elementary education level for children between ages 6 and 12 years and continued subsidization of mission schools by Government to ensure efficiency.

The implementation of the plan saw primary and middle schools enrolment doubling from about 200,000 in 1950 to 483,425 in 1959. Similarly, enrolment at the middle school level rose by 133.2 per cent from 59,960 in 1950 to 139,801 in 1959. Between 1952 and 1957, more secondary schools and teacher training colleges were also established to absorb the increased number of elementary school leavers, and also provide the required teachers to teach in the increased numbers of elementary schools.

By January 1949 the number of students in the University College of the Gold Coast had risen to 108, of whom 57 (52.8 per cent) were arts and 51 (47.2 per cent) science students. In October 1949, additional 64 students (60 male and 4 female) were admitted. By 1957, three halls of residence and several academic facilities had been completed on the main Legon campus. This, coupled with the establishment of the Kumasi College of Technology in 1951, saw the country record an impressive enrolment of 1,134 students at the higher education institution level. The number of teacher training colleges increased from 19 in 1950 to 30 in 1959, with corresponding enrolment increasing from 1,777 (1950) to 4,274 (1959).

In 1959, a Commission on University Education was appointed to advise on the future development of university education. Following the report of the Committee, it was announced in July 1960 that the two existing University Colleges, the University College of Ghana and the Kumasi College of Technology, would be granted full university status one after the other in September and October 1961. In 1962 the University College of Science

Education was established at Cape Coast as an affiliate of the University of Ghana, with the responsibility of training graduate teachers for secondary schools, training colleges and polytechnics. The name of the College was later changed to the University College of Cape Coast, and in 1972, it became a fully-fledged university.

To promote and co-ordinate research activities, the National Research Council was established in 1958 and a year later the Ghana Academy of Learning was created to promote science and scholarship. It was later broken into the Ghana Academy of Arts and Sciences, a purely learned society, and the Council for Scientific and Industrial Research, which was merged with the National Research Council to concentrate on science and technology research.

The Education Act of 1961 (Act 87) established the legal basis for compulsory primary education and also specified the structure and role of local educational authorities, including the determination of the working conditions of teachers. The Government in 1969 presented a one-year educational development plan, which placed emphasis on the expansion of secondary schools to absorb the increasing number of middle school leavers and to strengthen the secondary level to facilitate university expansion. An effort was made to diversify curriculum with the introduction of practical subjects such as commerce, agricultural science, metalwork, technical drawing and home science as examinable subjects in schools that did not already run such courses.

Realizing that cost of university education was becoming a strain on Central Government expenditure, the Government decided as a policy to introduce the Students Loan Scheme to enable parents cater for the non-tuition aspects of their wards' education. The policy, unfortunately, could not be implemented due to strong student agitation and protests. The military administration that assumed power in 1971 decided not to implement the scheme. The financial constraints on Government in absorbing all forms of non-tuition expenditure grew worse over the years, but no subsequent government had the political will to address the situation until 1988, when the loans scheme was re-introduced by another military government, financed through the Social Security and National Insurance Trust (SSNIT).

In 1974, the Government adopted proposals for a new education structure with emphasis on vocational and technical subjects throughout the entire pre-university level, particularly at the basic level. This new structure was to shorten the pre-university education from a maximum of 17 years to a maximum of 12 to 13 years for all pupils. Effort to implement the new education system collapsed somewhere along the line, due to lack of commitment and considerable opposition, and the perception that the system might actually result in considerable lowering of standards, especially at the primary school level in the rural and depressed urban areas.

### **Changes in Education Policy (1981-2002)**

The most significant reform introduced by the military government was the implementation in 1987 of the provisions of the 1975 new structure and content of education, albeit with significant modification. The major elements of the proposed reforms involved the restructuring of the educational system to provide nine years of basic education (six years of

primary followed by three years of junior secondary school) for all children, three years of senior secondary school and four years of tertiary education.

The replacement of the common entrance examination with the BECE as the selection examination into secondary and technical schools, and the abolition of the old Middle School Leaving Certificate (MSLC) as the terminal examination for elementary school pupils, resulted in large increases in the numbers of children seeking admission into senior secondary and technical schools at any given time. Implementation of the new system, in spite of its many potentially positive aspects, has therefore created several problems within the entire education system. For example, as the enrolments in the Junior and senior secondary schools increased, there was no corresponding timely provision or expansion of facilities at the tertiary level.

In addition to the three existing polytechnics in Accra, Kumasi and Takoradi, three senior technical schools in Ho, Cape Coast and Sunyani were upgraded to polytechnics while four new polytechnics were created in Koforidua, Tamale, Bolgatanga and Wa, to bring the number of polytechnics to ten, one in each region. All the polytechnics were upgraded to tertiary status to train personnel for the much-needed middle level manpower by running higher national diploma (HND) and degree courses.

The University for Development Studies, with campuses at Tamale, Kintampo, Navrongo and Wa, was also established to fulfill a long-standing plan dating back to the 1960s. This University was to give the country its third medical school, but the plan for the medical school has run into serious difficulties due to lack of facilities for teaching the basic sciences and running clinical programmes. The Advanced Teacher Training College and the National Academy of Music at Winneba, the Kumasi Technical Teachers Training College, and the School of Agriculture at St. Andrews Training College, Ashanti Mampong, were combined into a new University College of Education, Winneba (UCEW), affiliated to the University of Cape Coast. In addition, a few private universities have been established over the past ten years mainly by religious bodies. How the output of these new institutions will affect the country's development programmes need to be urgently addressed.

### **The School-going and Pre-school Population (Age 3-24)**

The 2000 Census shows that almost 60 per cent of Ghana's population is below 25 years. The age group 3 to 24 is the population that is either still in school, or has just completed, or is about to complete education at a particular exit level, including the tertiary level. The age group 25 to 64 is the group that may be working to support children or wards in one form of educational institution or the other. Thus, in Ghana, just about 30 per cent of the population caters for the education of over 60 per cent of the population. This has major policy implications with regard to resource mobilisation, financial outlay to support education, and human resource development for future economic development. If the country does not adopt sound long-term policies to educate this population and reduce the current unacceptably high illiteracy rate, the country's economic development 10-20 years hence will be seriously compromised.

### **Literacy Rate**

The 2000 Census shows that 41.1 per cent of all Ghanaians aged 3 years and older have never been to school, while only 2.1 per cent have had some form of tertiary education. The cumulative per centage of those with education beyond the junior secondary level is only 12.8 per cent. Of the adult population of 15 years or more, 42.1 per cent are totally illiterate. Ghana's adult illiteracy rate is higher than the average for all developing countries, but lower than the average for sub-Saharan Africa. No matter how one looks at these figures, the illiteracy rate for the country is too high for a country that aspires to be a middle-income country within the next 20 years.

The three northern regions of Ghana have the highest illiteracy rates in the whole country, with Northern (76.2 per cent), Upper East (76.5 per cent) and Upper West (73.5 per cent) having over three-quarters of the population of 15 years or more being totally illiterate. Of the seven remaining regions, Brong Ahafo has the highest illiteracy rate (48.5 per cent), followed by the Central (42.9 per cent) and Western (41.8 per cent). Greater Accra has the lowest illiteracy rate of 18.4 per cent.

### **Rate of Decrease in Illiteracy Rate, 1960 to 2000**

Whereas there was rapid decrease in the country's illiteracy rates between 1960 and 1984, the decrease has stagnated in the recent past, and has not kept pace with population growth. The census results of 1960 indicated that 73 per cent of Ghanaians aged 6 years and older had never attended school. By 1970 it had decreased to 57 per cent, and to 44 per cent by 1984. Between 1984 and 2000, however, the per centage fell only slightly to 38.8 per cent, in spite of major educational reforms during the period. Even though the illiterate female population is still higher than that of the male population, the rate of decrease in illiteracy among the female population has been significantly higher than that of the male population. Whereas the level of illiteracy among the female population decreased slightly from 51.9 per cent in 1984 to 44.5 per cent in 2000, corresponding figures for the male population actually showed a marginal decrease in the illiterate population from 35.0 per cent to 33.1 per cent during the same period.

Even though improvements in the country's literacy rates appear not to be keeping pace with population growth, there have been some significant gains in the attainment levels since 1960. Between 1960 and 1984, primary school enrolment continued to be the main level of the education ladder that absorbed most children of school-going age, with relatively insignificant changes, varying between 65 and 71 per cent between 1960 and 1984. But there were significant increases in the share of school enrolment at the secondary and tertiary levels between 1984 and 2000, with tertiary enrolment increasing its share from 0.3 per cent in 1984 to 2.1 per cent in 2000. This was partly due to the upgrading of some of the country's polytechnics to tertiary institutions and to the large increase of persons eligible for university admission as a result of the change in 1987 in the educational policy from the old sixth form to the senior secondary level as the qualifying point for admission into tertiary educational institutions. Tertiary level enrolments rose from 1,395 in 1960 through 7,708 in 1984 to 84,700 in 2000.

### **National and Regional Enrolment in School (3 years and older)**

According to the 2000 Census, there are 4,700,591 aged 3 and older who are currently attending school at various levels from pre-school to tertiary. The total population aged between 3 and 24 years is 9,661,882, with 4,622,242 in full-time education. The per centage enrolment therefore is 47.8 per cent. Those not in school may either never have been to school at all, or may have exited or terminated at various stages of the educational system before age 24.

At the national level, 52.1 per cent of those in school are male and 47.9 per cent are female. There are indications, however, that female enrolment is gradually moving up even at the higher levels where current female enrolments are relatively lower than male enrolments. There is the need to ensure that if this is indeed the trend, it is maintained or accelerated to move towards the ideal norm of parity between the sexes.

Between 1997/1998 and 2001/2002 academic years, public primary schools grew by 9.8 per cent from 11,236 to 12,335, and public junior secondary schools grew by 15.1 per cent from 5,571 to 6,414. On the other hand, the private primary schools grew by 170.6 per cent from 1,090 to 2,950 while the private junior secondary schools grew by 160.1 per cent from 449 to 1,168. In 1999/2000, private primary schools share of total enrolment was 17.4 per cent, while the share of enrolment of the private sector in junior secondary schools was 11.6 per cent. By 2001/2002, the share in primary school had grown only marginally to 18.3 per cent and that of junior secondary schools to 14.3 per cent. This indicates that the large increases in private schools during the period 1999-2001 apparently did not translate into commensurate significant increases in enrolment.

The phenomenal growth in private schools at the basic level is due to their perceived greater ability to prepare pupils for the Basic Education Certificate Examination, the results of which determine entry into the senior secondary school. Performance and criterion reference tests conducted by the Ministry of Education clearly indicate that the private school children have a much higher achievement rates than the public school children. This has created a heavy demand by parents for these private schools, which are usually far more expensive than the public schools.

Performance in English language is generally consistent from primary 1 to primary 6, with both the mean score and the per centage reaching satisfactory performance remaining fairly consistent. But performance in mathematics shows that whereas both the mean scores and per centage reaching satisfactory performance are relatively high at primary 1, there is rapid deterioration in performance as one progresses to higher classes. This is due mainly to poor teaching of the subject as one progresses up the education ladder.

The regional distribution however shows some significant differences. There are differences also in rural and urban localities. It is worth noting that only Upper West recorded higher eligible female enrolment rates at all levels in both the rural and urban areas. This may imply that in spite of its overall generally low school attendance rate, this region is more successful in encouraging female education than other regions.

### **Enrolment bottlenecks at the primary/JSS transition point and their implications**

Since ideally every child in primary school would be expected to enter junior secondary school within the basic school sector of the education system, one would expect every primary school to have a junior secondary section to absorb its own pupils into the junior secondary stream. As it is, there are about twice as many primary schools as there are junior secondary schools, implying that many children would have to change schools from the primary to junior secondary school. This is more so in rural areas, where children have to travel long distances, usually on foot, to attend the nearest junior secondary school. The tendency therefore is for such children to simply drop out after primary school instead of undertaking the hazardous and tiresome trekking from one village to the other to complete their basic school education.

Another pertinent issue is the class enrolment density in schools. The general perception is that available schools are overcrowded, in spite of the fact that many children of school going age who should be in school are not in school. The reality on the ground does not seem to support this perception. The average potential national class density at primary school if all children of school-going age were to enrol, is about 43 pupils per class for 1997/98 and 37 for 1999/2000. Upper East has the highest potential class density of 99 pupils per class for 1997/1998 and 61 for 1999/2000 followed by Greater Accra with 64 for 1998 and 49 for 1999/2000. The lowest is Volta with 33 for 1997/1998 and 31 for 1999/2000.

The official government policy is that at the basic school level, the class size should not exceed 35 pupils, but the actual national average class density for 2000 was about 40 pupils per class for JSS and about 31 pupils per class for primary schools. With the number of primary schools being more than twice the number of junior secondary schools (JSS), one would expect that if all the eligible children from primary were to enter JSS, the class densities would double. The figures however indicate that on the average, the actual enrolment at JSS is just about half of the expected enrolment, and the actual class densities do not change much from those of the primary schools.

The fact that actual class sizes are smaller than predicted, coupled with the use of the shift system and multiple streams to cater for extra pupils, is a clear indication that even though the number of junior secondary schools is only about 50 per cent of available primary schools, children from primary school do not find their way into overcrowded junior secondary schools. There may be some overcrowding in the large cities and urban areas, but the overall national picture seems to be different. A very large proportion of children actually drop out of school entirely.

### **Reasons for Non-Attendance at School**

In addition to the high national illiteracy rate of 42 per cent, the country appears to suffer from high exit or dropout rates among even those who enrol in school. In the 2001 Ghana Child Labour Survey, in all the regions and for all age groups, the most frequent (44.2 per cent) reason cited for non-attendance at school was non-affordability by parents to cater for

children. The next most frequently cited reasons were long distance of place of residence from school (18.4 per cent) and children not being interested in school (17.1 per cent).

It is worth noting that whereas non-affordability was a problem almost equally for both the urban (52.2 per cent) and rural (43.0 per cent) populations, long distance from school was a far more serious problem for the rural population (20.7 per cent) than the urban population (2.7 per cent). This seems to confirm the observation that in the rural areas where many schools end at the primary level, trekking long distances to attend the nearest school is enough to make a child either not go to school at all, or drop out somewhere along the line. In spite of Government's desire to involve local communities more in providing good basic education for children and have a stake in the schools in their localities, community schools still play a relatively minor role in education at the basic level both in the rural and urban areas.

Another reason why children may either drop out of school or move from one school to another is dissatisfaction with the school attended. In rural areas, 39.3 per cent of pupils in primary school reported having no problem with their school, while 59.6 per cent of junior secondary pupils were satisfied with their schools. Of those expressing various levels of dissatisfaction in the rural areas, lack of book supplies (37 per cent), lack of teachers and overcrowding (31.7 per cent) and facilities in bad condition (31 per cent) were the main reasons given. Poor teaching was the least cited reason for dissatisfaction at both the primary (6.2 per cent) and junior secondary (6.9 per cent) levels in the rural areas. The same trends were observed in the urban areas.

### **Senior Secondary Schools**

As at 2001/2002 the total was 504, with 474 public and 30 private. Between 1994 and 2002, the total number of senior secondary schools has remained static. Since the number of senior secondary schools increased from 250 to about 400 in 1990, following the introduction of the new education system, the total enrolment has hovered around 200,000. The number of senior secondary schools has remained around 500 since 1993. Enrolment in the last 15 years has varied between 150,000 and 250,000. The figures show that attendance rates in senior secondary schools are extremely low, with a national average of only about 18 per cent of the eligible age group. Whereas at the JSS level, about 50 per cent of eligible students are enrolled, this falls drastically to below 20 per cent from the JSS to the SSS.

It may be argued that regional distribution of secondary school enrolment has no relationship with the regional population dynamics, since in Ghana most of the secondary schools are boarding schools and students travel from all over the country to attend schools in various regions, depending on their own perception of the quality of the school. In discussing population and educational opportunities, however, this phenomenon and its impact on the local population cannot be ignored. Students in the top schools originate from all over the country. Because of the quality of schools, pressure for places in them is very high, and competition is very intense. In order to introduce equity into this competition, it was the policy that all schools in a given area should assign 30 per cent of places to children of that particular locality or community. Laudable and equitable as this affirmative action regulation

might be, its implementation has been fraught with so many difficulties, and many of the top schools do not even implement the regulation.

#### Teachers, Teacher Education and Teacher Motivation

Ghana has many very well trained teachers. Nation-wide, the per centage of trained teachers in junior secondary schools has risen over a ten-year period from 68.0 per cent in 1988 to 86.5 per cent in 1998. The per centage in the primary schools has risen from 57.4 in 1987/1988 to 80.0 in 1997/1998. At the primary school level, the average number of pupils to a teacher is about 36 and at the junior secondary school level, it is 20.

The problem, however, is that whereas in the urban areas there is an acceptable pupil to teacher ratio, in some of the rural schools, availability of teachers is seriously compromised. In many of these areas, multi-class teaching, in which two or more classes are put together and taught by one teacher, is the norm. In some cases, teachers have to be brought from nearby schools to assist schools experiencing shortage of teachers. There are currently 652 public primary schools in which there is only one teacher for the entire six classes, or no teacher at all.

Ghana has always given due cognisance and attention to teachers and teacher education. Indeed, during the colonial days, teaching was one of the most important and respected professional endeavours in the country. Over the years, however, the dignity and respect that teachers used to command in the Ghanaian society seem to have diminished. Teacher education however continues to be given due attention, and every year trained teachers are released into the system. In spite of sufficient access to training institutions, not enough school leavers are being attracted into the teaching profession. About 2,000 teachers leave the system annually, many of them through retirement. It is estimated that for the Free Compulsory Universal Basic Education (FCUBE) policy to succeed, an additional 33,000 trained teachers are required in the system.

The total number of trained teachers required at the pre-tertiary level is 75,000, but as at the 2001/2002 academic year, only 19,686 teachers were enrolled in the 42 teacher training colleges, with an average annual output of about 6,600. With at least 33,000 more teachers required in the system, this is not the sort of enrolment levels the teacher training institutions should be recording.

In spite of the high percentage of trained teachers, and relatively low pupil to teacher ratio in both primary and junior secondary schools, performance of pupils in the schools does not seem to match up with the level of training of the teachers. Supervision in the private schools is also much more effective, because the proprietors have fewer personnel to deal with.

#### **Technical and Vocational Education:**

Technical and vocational education, together, constitute perhaps the most critical areas of human resource requirement for industrialisation and sustainable economic development. Vocational and technical education have however not received the much deserved attention

in educational policies since independence. Currently, there are 474 public senior secondary schools to absorb pupils from about 7,000 junior secondary schools, but there are only about 25 public technical and vocational institutions to absorb the large mass of basic school leavers who do not make it to the senior secondary schools or would have opted for technical and vocational education. Vocational and technical training are very expensive. Cost of procurement and maintenance of equipment and tools is very high, and requires substantial foreign exchange inputs. This has been a major constraint on implementation of policies on vocational and technical education in Ghana.

One area of vocational and technical education that has been neglected in Ghana is the informal apprenticeship, in spite of the fact that this sector contributes over 70 per cent of self-employment among the total labour force of over 7 million.

### **Enrolment in Ghana's Tertiary Institutions**

From the modest 92 students with which the University College of the Gold Coast started, enrolment at the tertiary level has grown over the years to over 70,000, with the University of Ghana alone having over 20,000 students. During the last ten years there has been an explosion in enrolment in the universities and other tertiary institutions including the polytechnics. Before 1990, only the universities were regarded as tertiary institutions but, in 1993, as part of the education reforms, some non-university institutions were classified as tertiary institutions and mandated to run certain diploma and degree programmes. A number of private universities and "institutes" have also recently sprung up and run various courses in the study of management, accountancy, information technology and other professional courses.

As at 1987, total enrolment in the universities was 8,565. By 2000 enrolment had risen to 40,673, a growth of 375 per cent over the 13-year period. Estimated enrolment for the 2002/2003 academic year is 52,000. All the universities and polytechnics have been forced by pressure of demand for higher education to admit far more than their capacities and permitted quotas may permit. Total enrolment in tertiary programmes in the polytechnics has risen from 1,558 in 1993 when the programmes were started, to 18,459 in 2000, a total growth of 1,085 per cent over the seven-year period. Annual rate of increase has averaged 46.6 per cent. This rate has slowed down from an initial 133 per cent per annum to about 8 per cent in 2002/2003.

The national objective is to achieve a 50:50 male/female ratio of enrolment in all educational institutions. At the tertiary level, the country is far from achieving this objective. The ratio has risen from 17.7 per cent female in 1987/1988 to 29.8 per cent in 2000/2001. At the polytechnics, the ratio has increased from 20.7 per cent in 1996/1997 to 28.4 per cent in 2000/2001. Although these are reasonably good indicators of progress, there is still room for improvement.

The official national objective for subject area enrolment is 60 per cent science and technology to 40 per cent humanities. The various universities and polytechnics have their specific objectives. For example, the University of Ghana Legon is expected to achieve a level equal to the national objective, while KNUST is charged to achieve a 90:10 ratio.

Currently, the national ratio is 36 per cent science to 64 per cent humanities. Even the polytechnics, which are charged to train the country's middle level technological manpower, have their enrolments currently skewed in favour of the humanities. The universities and polytechnics are able to admit on the average only just about 35 per cent of qualified applicants, even though they are all admitting far above their installed capacity. In the 2002/2003 academic year, for example, the University of Ghana enrolled 38 per cent of the original 21,784 applicants. In that same year, KNUST admitted 28.0 per cent of the 13,933 applicants.

The extreme pressure on the universities and some of the polytechnics is due to the perception that once you make the minimum grade, you must endeavour to enter a university. This perception can only change if equally attractive alternative avenues, with attractive post-training employment opportunities, are created through deliberate government policy measures.

### **Science and Technology Education and Manpower Development**

The modern world economy has been shaped by scientific and technological advancement, resulting in the emergence of the *knowledge economy*. Official government policy is for the nation to achieve a ratio of 60:40 sciences to humanities manpower base by the year 2020. Ghana's technological and industrial development planning has in the recent past not seriously recognised the need for strategic forward planning and anticipation of future developments. Except for the immediate post-independence period when there was a definite conscious effort to promote science and technology as a vehicle for economic development, the country has not given much attention to scientific and technological education.

Science and technology education in Ghana is not responding adequately to development needs due to inadequate funding, poor management and obsolete pedagogical strategies, particularly at the middle level manpower training institutions such as the polytechnics and agricultural training institutions. There is also no linkage between tertiary level courses and those offered at the SSS and technical and vocational institutions. There is a gap in the programmes offered in these institutions and the needs of industry. Industry is not adequately involved in the development of programmes of tertiary institutions. There are hardly any practical attachment programmes, because the subvention from government for such attachment courses, which used to exist for all science and technology students, was abolished over 20 years ago. Such programmes are extremely important, particularly for polytechnic students; interaction of the polytechnics with industry is so weak that they are unable to even benefit from staff from industry providing part-time tuition to polytechnics on an official basis.

### **Education and the Creation of Human Capital**

Human capital is one of the keys to reducing poverty. Education opens up opportunities for better health and better nutrition. This is because education normally leads to higher income and greater access to social benefits, as well as greater productivity. Indeed education is central to all aspects of the impact of population and poverty. No programme to ameliorate the adverse effects of poor health, nutrition, environmental degradation, pollution, and other

factors that impact on population can be successfully tackled without education playing a central or pivotal role.

Because the level of education of those in agriculture in Ghana has remained extremely low, agriculture has remained at the small-scale subsistence level. It has not been easy to inculcate scientific methods of agricultural production, which require a certain minimum level of basic education to understand, appreciate and apply. Education can open up a wider range of self-employment options other than farming and fishing, and enable a self-employed person to earn a lot more.

Women play a pivotal role in economic activities in Ghana, particularly in the distributive trade and agriculture. If therefore female education is given the right level of resources, this could have a tremendous impact on agricultural production in Ghana, and alleviate poverty, particularly in the rural areas. This can only happen if those with the minimum basic education will remain in the rural areas where most farming takes place, and will not drift to the urban areas in search of non-existent jobs.

If Ghana therefore has to take its rightful place in economic and social advancement, then it has to have the right type of human resource base for the exploitation of its vast natural resources. In order for Ghana to plan its economic and social development more meaningfully, it is necessary to examine critically, the country's current human and natural resource base.

### **Cost of Education at the Basic Level and its Effects on Access and Progression**

The chance of getting into any type of senior secondary school depends greatly on the type of junior secondary school one attends. Attending a good quality primary or junior secondary school is not easy for majority of children, particularly those in the rural and deprived urban areas. The level of fees paid alone excludes over 90 per cent of children from taking advantage of what these schools have to offer. It is mainly the 10 per cent who attend the private schools who eventually make it further up the education ladder up to the highest possible level.

Quality education is not cheap and if Ghana is to improve the quality of education for the bulk of children who attend the public schools, then there is the need to place emphasis on the public funding of education. The question has to be asked whether to put more money into basic education to support 70 per cent of children in the public schools, or let the 2.6 per cent who are in the tertiary institutions benefit more than the basic school children.

Until the passage of the 1961 education act, which made tuition at the secondary schools free, every school charged both tuition and boarding fees. At the senior secondary level, the better-endowed schools are able to provide some practical training to their students, not because they receive any extra subvention or monies from Government but because of contributions from Alumni and Parent-Teacher Association levies as well as benevolent donations from philanthropists. Many of the top schools have computer centres and other academic facilities established or donated to them through the efforts of their old students and other philanthropists. The less endowed schools are thus even further handicapped.

The fees currently being charged and paid by parents, though quite burdensome on many parents, simply cannot keep these facilities, which are absolutely essential for quality education, running for any reasonable length of time. Some top-quality private senior secondary schools in Accra and Tema function efficiently, pay their staff meaningful salaries that can motivate them, and provide quality education because they charge appropriate fees. On the other hand, if all children in secondary schools were to be made to pay for the full cost of education, the poor rural and urban deprived children, who cannot even cope financially at the primary and junior secondary levels, will not manage to make it to the senior secondary schools. Unless efforts are made to find ways of paying for quality secondary education, only 3.6 per cent of senior secondary schools, which are attended mainly by children from the very expensive private primary and junior secondary schools, will continue to produce 70 to 90 per cent of doctors, engineers, scientists and other professionals and administrators, while the remaining 96 per cent of schools simply go through the motions of providing some semblance of secondary education.

### **Projecting School Enrolment into the Future**

Ghana and many developing countries have in the past been unable to plan effectively because availability of such reliable data has sometimes suffered from serious gaps. There have been periods when very reliable data have been available, followed by long periods of gaps of unreliable data. For example, the seven-year development plan of 1963 to 1970 still stands out as one of the best plans the country has ever drawn up, based on accurate statistical data from the 1960 population census and other primary sources, with relatively reliable projections into the future. But even though there were population censuses in 1970 and 1984, there is a general perception that the data during certain periods of various military regimes were not adequately or effectively utilised for planning purposes.

The Ministry of Education has for several years compiled statistical data for educational planning. These statistics have always served as good primary data sources for educational planning, development and management. The Universities have also on the whole kept accurate statistical data to assist them in managing their institutions. These, particularly the data on enrolment, graduation, and finance, have been extremely useful, and have on many occasions even been relied upon by Government to effect major policy changes.

No matter how reliable projections based on statistical data may be, they can be thrown totally out of gear by several unpredictable events or unforeseen circumstances. Thus, Ghana was not able to achieve its educational targets as envisaged in the seven-year development plan. Some even attribute this to the mass exodus of teachers between 1978 and 1983 to neighbouring countries, particularly Nigeria.

A similar exercise was carried out after the 1984 census. Based on the 1984/1985 school population, projections were made from 1990 up to 2000. By and large, the predicted enrolment levels were achieved by year 2000. The teacher population was however far less than had been predicted, the number of extra classrooms required to cater for the projected increased enrolment also fell far short of the required number, and the quality of the

classrooms was also grossly uneven from district to district, with some of the rural areas having very poor facilities.

Notwithstanding the slight differences in actual figures as reported by the Ministry of Education and the 2000 Census, the country generally achieved the enrolment levels predicted from the 1984 census, by 2000. It appears, however, that the needed policy measures were not put in place quickly enough to meet these expected changes in enrolment, thus resulting in acute teacher shortage and lack of suitable classrooms.

Population projections are intended for educational planners to decide on inputs and resources that would be required to run an efficient and effective national educational system. The impact of education on fertility and mortality, reproductive health, migration, urbanization and other demographic indicators could also be assessed and monitored.

### **Projected School Population**

In projecting school enrolment rates for Ghana, several factors were taken into consideration. It is assumed that the current school enrolment rates would either increase or at worst, remain relatively constant. The school population is however likely to decrease if the current difficult economic conditions in the country worsen over the years, and result in higher school dropout rates among the poor, particularly in the rural and deprived urban areas. Mortality and morbidity due to childhood diseases such as malaria, as well as the potential devastating effects of HIV/AIDS, either through children being orphaned or dying, could also have adverse effect on school enrolment.

To minimise the uncertainties about future long-term enrolments, provision is made for short to medium period projections, using five-year intervals over a twenty-year period, from 2005 to 2020. The projected school population has a number of implications for national education policy evaluation, formulation and implementation.

Assuming that the current pupil teacher ratio would remain fairly constant, and using the average figure of 30:1, the minimum number of teachers required to teach at the basic schools would be 145,224 as compared to a teacher population of just about 102,000 in 2000/2001. This implies that at least 43,000 more teachers would have to be recruited into the system.

Enrolment rates into teacher training colleges however have been dropping, falling from a peak of 7,804 in 1997/98 to only 4,970 per annum in 2000/2001. It is estimated that about 2000 teachers leave the system annually including retirement. This leaves a net maximum possible replacement potential of only about 3,000 teachers per annum. Considering that as at year 2000, there existed already about 20,000 unfilled vacancies in schools, there will have to be drastic, innovative and sustainable policy interventions to ensure that even the current levels are maintained.

It is projected that female enrolment will continue to lag behind male enrolment if current enrolment rates are maintained during the next fifteen years. Therefore if this trend is to be

reversed to ensure that enrolment rates reflect the real gender representation, then policies will have to be evolved that will ensure that female enrolment rates increase more rapidly than male enrolment rates. The deliberate policy measures required should go beyond merely exhorting parents to send their children to school.

Since it is projected that between 2005 and 2020, the school-going population will increase by at least 45 per cent, it is suggested that even to maintain the current unsatisfactory enrolment densities, the number of schools would need to be increased by at least 50 per cent, to increase the number of primary schools to at least 27,930 and JSS to 14,020. This means that considering both the infrastructure and financial implications of building and equipping, twice as many new junior secondary schools as primary schools will have to be built and equipped.

### **Conclusions and Recommendations**

There are about five possible avenues by which education can be a vehicle for escape from rural deprivation and urban depression, provided there is a system in place that provides equal access to all sections of the population. The system currently operating in Ghana does not lead to poverty alleviation because the rural and urban poor are severely handicapped, since they cannot afford the financial investment required for the good basic and secondary education that are required to progress further in the educational system. The system therefore perpetuates poverty, and needs to be drastically overhauled, particularly at the basic level, to ensure equity.

Vocational and technical education could be an avenue for skills development and self-employment and needs to be developed to do so. This will require immense political will, national consensus, and bold decisions.

The following is a summary of recommendations that could be adopted to move the system forward:

- In Ghana, about 30 per cent of the population (25-59 years) caters for the education of over 60 per cent of the population (0-24 years). This has major policy implications with regard to resource mobilisation, financial outlay to support education, and human resource development for future economic development. With over 50 per cent of the population aged under 20 years, it means that the country should adopt sound long-term policies to educate this population and reduce the current unacceptably high illiteracy rate, to ensure that the country's economic development, two decades hence, is not seriously compromised.
- The country's official manpower policy stipulates that by 2020, the tertiary institutions should be producing 60 per cent science-based and 40 per cent humanities-based graduates. It appears, however, that there is no clear-cut government policy or programme to ensure that the output of both the old and newly established universities and other tertiary institutions, are geared towards this official manpower policy objective and therefore they are drifting from these official norms. The effect of the output of the old and new tertiary institutions on the country's manpower projections and development programmes in the long run, will therefore need to be addressed.

- Ghana's adult illiteracy rate of 42 per cent is too high and may impede the programme to become a middle-income country within the next 20 years. In order to lower the illiteracy level, policy measures have to be put in place to increase enrolment rates far above current figures. This will also imply provision of the necessary resources to implement any such programmes.
- Illiteracy rates in the three northern regions are the highest in the country. There can be no retention of personnel and no impact on the literacy rate of these regions if they do not go hand in hand with job creation as well as improvements in the living conditions and infra-structural facilities of the region.
- In rural areas many schools end at the primary six level, or there are no schools at all. Non-affordability and trekking long distances to attend the nearest school are the two major causes of a child either not going to school at all, or dropping out of school. Ensuring that the FCUBE is implemented to the letter may require a deliberate policy of infusing more funds into supporting needy children through a scheme of financial assistance based on need assessment.
- Many resources are expended on grammar-school type of academic education at the expense of skills training for the majority of children who come out of the junior secondary schools. This sector of the education system requires far more attention and injection of substantial capital investment and recurrent resources, than it has hitherto received if it is to make any impact in reducing poverty.
- The recently published report of the Government's Committee on Education Reform, entitled *Meeting the Challenges of Education in the Twenty First Century*, (pages 72 to 91), has made very far-reaching and relevant recommendations on technical and vocational education, which need to be critically assessed and fully implemented to put the country on the right path to solving its middle-level manpower shortage problems.
- The perception that every post-secondary institution must be equated in status and content to a university is counterproductive and ought to change. But it can only change if alternative avenues, with attractive post-training employment opportunities, are created through deliberate government policy measures.
- Assuming that things would not get worse, and that the current pupil teacher ratio of 33:1 would remain fairly constant, the minimum number of teachers required to teach at the basic schools would be 145,224 compared to a teacher population of just about 102,000 in 2000/2001. There will have to be drastic, innovative and sustainable policy interventions to ensure that even the current levels are maintained.
- The current tendency where highly trained and very experienced teachers are drafted into administrative duties on promotion should also be critically reappraised to enable a trained and experienced teacher to stay in the classroom and earn even higher salary and fringe benefits than the counterpart in the office.
- Female enrolment will continue to lag behind male enrolment if current enrolment rates are maintained during the next 15 years. Therefore policies will have to be evolved that will ensure that female enrolment rates increase more rapidly than male enrolment rates.

## **4.1 The Historical Perspective of Formal Education in Ghana**

### **Introduction**

A nation's most treasured and dynamic assets are its human resources. In order for a country to grow and sustain development, it ought to develop its human population through the provision of quality education. A country may be endowed with all the natural resources necessary for socio-economic growth and development, but without the requisite human resource to transform these natural resources into useful production, development would remain elusive. Countries that have put enough resources into, and paid enough attention to providing quality education have made considerable strides in economic development and social transformation, and raised the quality of life of their people.

As has been aptly stated by O'Sullivan and Sheffrin (1998), "the poorest developing countries in the world lack many things; good sanitation systems, effective transportation systems and capital investment for agriculture and industry. However, the best use of investment funds may not be for bridges, sewer systems and roads but for human capital and education. Studies demonstrate that the returns from investing in education are extremely high in developing countries". The observation of the 1998/1999 World Employment Report (1999), that "For developing countries that are not on the technological frontier, larger initial stocks of human capital enable them to adapt any new ideas readily and acquire technological capability...Growth theorists claim that the main engine of growth is the accumulation of human capital...and the main source of differences in living standards among nations is differences in human capital" is further support for investment in human resources development.

### **Traditional Education**

During the pre-colonial times education was cherished and deeply rooted in the Ghanaian society as it was in most other African societies. A major characteristic of traditional education is its holistic approach to the development of the individual. Even though it is generally perceived as informal and unstructured, the content includes culture, history, geography, music, philosophy, religion, sociology, medicine, science, art and craft, and life skills. Within the home and outside it, character building, sociability, courage, endurance, ethics and honour, which are associated with human development, form the objectives of traditional education. This kind of education is effective because it is closely related to functional life in the community. In general, traditional education has the sole purpose of making individuals a part of the totality of the society in which they live.

Within the traditional setting, before the age of 6, the child is educated at home, mostly by the mother with the support of the father. From about 10 years onwards, the child gradually assumes a certain amount of independence, increased responsibilities and may then begin to learn a trade. Around the age of 15 the child passes through puberty, during which he/she may undergo certain traditional rights that signify the coming of age, becomes an adolescent and is prepared for life. He/she completes his/her training after graduating from learning a trade, accumulating experience and assuming more responsibilities as a man or woman in the

society. The methods of instruction are basically informal. The community in general serves as an educational environment. Every adult is a teacher to every child.

In the past, traditional education fulfilled the economic, political, social and cultural objectives of traditional societies. Within the economic sphere, it trained and supplied enough farmers and artisans to produce goods and services. It provided personnel to perform political, security and social roles and also contributed to the cultural life of the people through the development of literature, works of art and music. However, with the introduction and expansion of colonial empires and European culture and values, the strong and rich traditions of Ghanaian civilization began to gradually crumble or be mixed up with Euro-American civilization and education.

### **Introduction of Formal Education in Ghana**

The European traders, namely, the Portuguese, Dutch, Germans, the Danes and the English introduced formal education into Ghana from the late 15<sup>th</sup> and early 16<sup>th</sup> centuries. These early schools, known as the "Castle Schools", were located at the Forts and Castles along the coasts of the Gold Coast (Ghana) where these Europeans resided, which also served as trading posts for the European merchants. The Portuguese opened one such school in 1529 in Elmina Castle, which they had built in 1492. The Dutch, who ousted the Portuguese from the West African coast, also established a school in Elmina Castle in 1644, which lasted for 200 years. The English too founded a school in Cape Coast in 1694 (Boahen, 1975).

While the traders concentrated their activities on the coast, the missionaries moved into the interior and took interest in the local people. Catholic Augustinian Missionaries initially worked in Elmina (1752) and opened stations in Efutu (8 miles north of Cape Coast) and Komenda (13 miles west of Cape Coast) later in the sixteenth century. The Catholic Castle School at Elmina, started by the Portuguese in 1572, and a later one at Fort St Anthony in Axim, started by two French missionaries, Fathers Colombin and Cyrille of the Order of Capuchins in 1638, suffered considerably from inconsistency and frequent interruptions. Indeed, the longest period of continuity that the school at Elmina experienced was from 1742 to 1746, when it was run by a Ghanaian (Fante) Chaplain-Schoolmaster of the Dutch Reformed Church, Elisa Johannes Capitein (1717-1747). Capitein had been taken to Holland as a slave boy by a Dutch trader, Van Goch, at the age of 9 and been given the best education that the Dutch could provide. He returned to the Gold Coast in 1742 after graduating from the University of Leiden. Capitein is credited with reducing the Fante language into writing, and publishing the commandments and the catechism in the language (Prah, 1989).

The Moravians established a mission at Christiansborg around the mid-18<sup>th</sup> century. From the second decade of the 19<sup>th</sup> century, Christian missionaries such as the Basel and Bremen missionaries and the Wesleyan Methodists actively began to convert and educate the indigenous people against considerable odds at their own expense, the greatest being the high rate of mortality among the missionaries. Indeed the first four Basel Missionaries who arrived at Christiansborg in 1828 all died within three years. The same fate befell the second batch of three who arrived at Christiansborg in March 1832. Within three months of arrival, two of them were dead; the third, Andreas Riis, would also have died a few weeks later but for the intervention of a local herbalist recommended to him by the resident Europeans of the Castle. Riis fully recovered a few months later and moved to settle at Akropong, Akuapem in

January/March 1835. The move marked the major beginning of Basel missionary and educational work in the Eastern part of the Gold Coast.

The Basel Mission's main educational effort began in 1843 when they opened a boys' school at Akropong Akwapim followed in 1847 by a girls' school and then a teacher training college and a catechists' seminary in 1848, all at Akropong. By 1852, Akropong Presbyterian Training College had a total enrolment of 22 students, between the ages of 16 and 24 years. They later also established the Ramseyer Centre, an elementary boarding school and a teacher training college at Abetifi, on the Kwahu scarp.

The Wesleyan Methodist missionaries, led by the Rev. J.R. Dunwell, first reached Cape Coast in 1835. Even though by 1836, Mrs. Harriet Wrigley, wife of Rev. George Wrigley, the successor to Rev. Dunwell, had established a girls' school in Cape Coast to "teach the girls reading and sewing", the Methodist Church's main educational work started in earnest in 1838. Wesley Girls Primary School, which was the girls school, was headed in 1837 by Elizabeth Waldron. The school grew to become a secondary school in 1884, run alongside Mfantipim School which was established in 1876 under the name Wesleyan High School, and later Wesleyan Collegiate School (1891). Both Mfantipim and Wesley Girls High School now stand among the country's top twenty schools.

By 1844 the Methodist Mission had schools along the western part of the coast (including Winneba, Saltpond and Anomabo). The mission also made a short-lived attempt to establish itself in Kumasi. By 1850, the Basel and Wesleyan Methodist missions provided the main educational drive in the coastal area of the Gold Coast (Ghana), and had over 1000 pupils enrolled in their schools, receiving instruction in arithmetic, reading and writing. The pupils attending these primary and secondary schools all paid for their education, and are said to have been willing to "defray the cost" of establishing these schools. The Wesleyan Methodists also opened a Training College at Aburi in 1922, which was transferred to Kumasi in 1924 and became Wesley College.

The North German (Bremen) missionaries in 1847 established their first school at Peki in an area that later came under British influence. The Bremen missionaries taught in the vernacular. In linguistic studies, the Bremen mission led in Ewe, the Basel in Twi, Ga/Dangme and, in the 20<sup>th</sup> century, in Dagbani. Development of the Fante language is attributable mainly to Johannes Capitein (1717-1747) of the Dutch Reformed Church of Elmina Castle, Christian Protten (1715-1769) of the Christiansborg Castle School at Osu, Accra, and later, the Methodist Missionaries, including Ghanaian missionaries, teachers and priests such as Rev. Gaddiel R. Acquah, Rev. F.C.F. Grant and Mr. J.A. Annobil. Through the efforts of the missionaries, the spoken local languages were reduced into writing. They translated the Bible, produced pamphlets and devotional literature, hymns and songs in the languages of the people among whom they worked. In addition, the Basel missionaries in particular placed emphasis on crafts such as carpentry, metalwork, building technology and printing. They also established model farms where they gave practical demonstrations of scientific farming.

The Wesleyan Methodists were able to develop a system of day schools with both the vernacular and English as the media of instruction. In addition to the missionary enterprise, the British Government inherited from the company of merchants, a semi-official school at Cape Coast, which remained the principal centre of the British Government's educational activity in the colony. By 1880-81 there were 139 schools in the colony of which only 3 were Government schools. The Basel missionaries had 47 schools, the Wesleyans 84, the Bremen 4 and the Roman Catholics 1.

Unlike the Methodists and Presbyterians, the educational efforts made by the Roman Catholic Mission were relatively late and slow in taking off. After the early short-lived castle schools in Elmina and Axim Castles in the 16<sup>th</sup> and 17<sup>th</sup> centuries, the first real attempt at education and mission activity by the Catholic Church started with the arrival of Dr. Barrow, in Elmina and Cape Coast in 1844. Twelve other missionaries, five of whom died within a very short time, accompanied Barrow. The mission collapsed and it was not until 37 years later that the Roman Catholic Church took up missionary work again in the Gold Coast. They opened a primary school at Elmina in 1881, and by 1886, two more primary schools had been opened at Komenda and Shama. In 1890 a senior boys' school was opened at Cape Coast. The mission extended its work to Keta in 1893 by establishing a primary school there. Alongside academic and moral training, the Catholic mission also embarked upon industrial, agricultural and other artisanal training. By 1900 the Church had established boat building at Saltpond, printing and carpentry at Cape Coast and woodwork at Elmina. Catholic education went to the North of the country much later. A missionary society known as the Roman Catholic Society of the White Fathers worked in the north around 1900. The first primary school was opened in Navrongo in 1907. Despite its late arrival on the scene, the Catholic Church grew very rapidly, together with its schools and colleges, and by 1934, was the largest Christian denomination in the country (Table 4.1).

**Table 4.1 Membership of Various Christian Denominations in the Gold Coast, 1934**

Denomination	Estimated Membership	Number of Churches/Chapels
Roman Catholic	167,036	911
Methodist	125,225	767
Presbyterian Church of Ghana	58,454	286
Ewe (later evangelical) Presbyterian	27,000	137
Anglican	24,000	270
African Methodist Episcopal (AME) Zion	7064	87
Salvation Army	6386	160
Baptist	6000	54

Source: Bartels 1965, *The Roots of Ghana Methodism*, Cambridge University Press.

Although the country was under British rule and the Anglican Church or the Church of England was the “official religion of the King of England”, the Anglican Mission did not make much of an impact on education in the country, and by 1925, had only 6 schools in the country. By 1944, the Christian Churches in Ghana controlled the bulk of the responsibility for the provision of education in Ghana. The Methodists managed 24 per cent of education institutions in the country, the Presbyterians 30 per cent, the Catholics 14 per cent, other protestant churches 10 per cent and the government only 22 per cent, most of which were under the Local Government Authorities. Notwithstanding their greater control and management of educational institutions in the country, the churches became increasingly

dependent on government financial support for their activities, particularly the payment of salaries, and at the post primary level, even the provision of infrastructure. Some of the churches, particularly the Catholics, and a considerable number of the African Priests of the Methodist Church, felt that this situation threatened their autonomy in deciding on what type of educational policies should be enforced in their mission schools.

### **Education under the Colonial Government**

The first real effort by the colonial administration to regulate education took place in 1882 when an Education Ordinance was enacted and applied generally to British West Africa. Before then there had been an 1852 ordinance, which failed to have any significant impact because the local people refused to pay the poll tax for financing it. The 1882 ordinance envisaged that the educational system would be modelled on the English pattern. The Education Ordinance of 1882 provided for government financial assistance to the religious denominational schools. The denominational schools were to receive grants-in-aid according to their efficiency. Rev. Metcalfe Sunter who was the Principal of Fourah Bay College in Freetown, Sierra Leone, was appointed as the Inspector of Schools to be in charge of all British West African settlements. Annual Reports were produced to enable the colonial authorities assess the schools' performances and plan for the future (Bartels, 1965). Some of the provisions of the ordinance were:

- (i) the establishment of a Central Board of Education to supervise the educational system;
- (ii) the establishment of Local Boards to inspect schools and certify teachers and assist in the administration of grants-in-aid;
- (iii) two types of primary schools - government schools and assisted mission schools were to be established;
- (iv) a compulsory curriculum of writing, reading, arithmetic and english language, as well as needlework in the case of girls, formed the syllabus;
- (v) the staffs of the schools were to be made up mainly of trained certificated teachers;
- (vi) buildings and equipment were, to a large extent, to be provided by the Colonial Government;
- (vii) industrial schools were to be established in each of the principal towns in the country to train artisans.

The ordinance of 1882 proved cumbersome, rigid and unworkable, and was therefore replaced with that of 1887, which remained in force till 1925. In addition to some of the provisions of the 1882 ordinance, the 1887 Education Ordinance contained the following provisions:

- a) the administration of Assisted schools was given to Local Managers instead of Local School Boards; and
- b) there was to be a Central School Board to formulate rules for the inspection of schools and the certification of teachers.

Apart from the above two provisions, there was no serious departure from the 1882 provisions. The appointment of a Director of Education solely for the colony in 1890 gave an impetus to the development of the Education Department, which directed educational development until it was merged into the Ministry of Education in 1956. By 1902 when both

Ashanti and the Northern Territories had also come under British rule, there were 124 primary schools. The Colonial Government had 7 schools and assisted 117 schools with grants totalling £3,875. By 1950, there were 19 Pre-university Training Colleges offering a variety of teacher training certificate courses. These included:

- two-year post-middle school Teachers Certificate B
- two-year post-certificate 'B' Teachers Certificate A
- four-year post-middle school Teachers Certificate A
- two-year post-Secondary school Teachers Certificate A

By that same year, there were 2,529 qualified certificate 'A' teachers, 762 qualified certificate-'B' teachers and 5000 unqualified teachers in the elementary schools system. The total educational budget was roughly 1.75 per cent of the total Government expenditure of £532,000.

On assumption of duty as the Governor of the Gold Coast in 1919, Governor Guggisberg felt the need to reform the educational system to meet the developmental goals of the country. Apart from his own driving force, Governor Guggisberg drew on the experience of his predecessors. In his review of events of 1923, Governor Guggisberg pointed out that Education was the keystone of the "edifice forming the Government's main policy". Accordingly, in 1923 he budgeted £120,000 for education alone, an increase of £14,000 over the previous year's budget, exclusive of buildings. Guggisberg introduced the Education Ordinance of 1925, which had far-reaching consequences for educational reforms in Ghana. Among Guggisberg's famous 16 principles of Education were:

- i. raising the status of teachers by increasing their salaries and their training;
- ii. emphasis on character and skill in industrial and professional training;
- iii. the use of vernacular as the medium of instruction in the lower classes of the primary school;
- iv. co-educational institutions at secondary level to be established and accelerated to train high-class students who will in subsequent years pursue higher education; this led to the opening of Achimota School in 1927.

During Guggisberg's Administration, which ended in 1927, provision of education was primarily in the hands of two agencies, namely the religious missions and the Government in that order of importance. Table 4.2 shows the number of schools in the country and the organizations running them.

**Table 4. 2: Government and Assisted Schools in Ghana (Gold Coast) 1925-1927**

Education Unit	1925	1926	1927
A.M.E. Zion	7	7	7
English Church Mission (Anglican)	6	6	7
Ewe Presbyterian (later Evangelical Presby.)	22	31	36
Roman Catholic Mission	29	29	32
Presbyterian (Basle) Mission	98	96	99
Wesleyan Methodist Mission	47	48	49
Non-denominational	1	1	1
Islamic	-	1	1
Total Assisted Schools	210	219	232
Government Schools	17	17	18
Grand Total	227	236	250

Total Enrolment	29,573	29,332	29,640
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Source: Gold Coast, Report on the Education Department for the period April 1927 - March 1928 (Accra, Government Printing Office, 1928), p. 10

The Table indicates that by 1925, the total number of Government and assisted elementary schools was 227 which increased marginally to 236 in 1926 and 250 in 1927; of these only 17/18 were Government-owned. Within the same period 1925 -1927, total enrolment in the elementary schools increased from 29,573 in 1925 to 29,640 in 1927.

Even though enrolment within the three-year period 1925-1927 stabilized around 29,000, grants-in-aid to the schools almost tripled, from £24,300 4s.6d. in 1925 to £69,738 14s 6d. in 1927. This increase in subvention was certainly influenced by the change in Government policy by Governor Gordon Guggisberg.

Enrolments in the three major teacher's colleges for the 1927-1928 school period were relatively low, with total enrolment in these three colleges standing at 446 (Table 4.3). The budgetary allocation as well as facilities for the delivery of post-elementary education, especially teacher education, was totally inadequate. Provision for education beyond the primary level was very low, particularly at the teacher training level on which the entire educational programme was to be built.

**Table 4.3: Enrolments at Teacher Training Colleges, 1927-1928**

College	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	Total
Akropong Presby.	50	45	53	47	195
Wesley College	32	32	29	24	117
Achimota	30	30	26	48	134

Source: Gold Coast Report on the Education Department for the period April 1927-March 1928 (Accra, Government Printing Office, 1928), p. 12

By 1950 there were only 19 teacher training colleges in the country. Even though there were some co-educational teacher colleges such as Achimota and Komenda, very few training colleges had been established solely to cater for females. These included the Roman Catholic Church's facilities at the school of Our Lady of the Apostles at Cape Coast for training 12 female teachers annually, and the teachers college wing of St. Monica in Ashanti Mampong.

One remarkable development that took place during the period was the writing of textbooks with local or African background material for schools. One could also mention the Lacombe and Longmans (H. A. Harmans) Arithmetic series and Oxford English Readers used for the 10-year elementary school programme.

Within this colonial period, Ghanaian languages were included in the curricula of the secondary schools, following the acceptance by the Cambridge Local Examinations Syndicate. Twi and Fante became examinable subjects for the Overseas School Certificate Examination in 1932. Three years later, Ewe and Ga were added to the list of examinable subjects by the same examining authority.

By 1937, the interest in education had become so great that the Colonial Government was obliged, after several deliberations and agitations, to appoint a committee to make recommendations for the evolution of a system of education that would suit the social, economic and political needs of Gold Coasters. Following the publication and the adoption of the report of the Education Committee of 1937-41, a Central Advisory Committee on Education was established under the chairmanship of the Director of Education to advise the Government. Until its abolition in 1959, the Committee formulated proposals upon which the Colonial Government based its changes to education policy. A major outcome of all the developments was that by 1950, 41 of 2904 primary schools were directly run by the Colonial Government while 1551 received government grants. The total enrolment in these schools had risen from the 1927 figure of 29,640, to 271,954 over the 25-year period. By 1950, there were 57 secondary schools of which 2 were Government-owned (Achimota and Government Secondary Technical School (Takoradi.)), 11 Government-assisted, but mainly established by the Churches, and 44 unassisted, some of which were designated as "Government-encouraged". Four of the assisted secondary schools were for girls only.

### **University Education**

University education was considered as one of the most important instruments for developing a viable and dynamic education system in the Gold Coast. But the idea of University education in West Africa dates back to the 19<sup>th</sup> century. In 1871, Christian Missionaries in Sierra Leone wrote to Henry Venn, a Church Missionary Society visionary leader who championed African education and advancement, to call for a launch of university education in Fourah Bay College, then a theological seminary. In 1872, Dr. Edmund Wilmot Blyden, a Liberian, launched a campaign for a West African University which he insisted must be "native controlled" and be a "means of unfettering the Negro mind in expiation of past wrongs to the African Race" (Ashby, 1966).

In 1876 Fourah Bay College was affiliated to Durham University, thus enabling the first University courses in West Africa. Around the same period, Dr. James Africanus Horton, a Sierra Leonean Military surgeon, suggested the beginnings of medical education in Sierra Leone, with preliminary courses in anatomy, physiology, chemistry and biology. J.E. Casely-Hayford of the Gold Coast, in his book *Ethiopia Unbound*, also advocated what he called "*Mfantshipim National University*", which he envisaged would be "a University thoroughly conscious of, and adapted to its environment, but simultaneously maintaining an international standard". The characteristics of such a university would include "loving and promoting one's own language, customs and institutions" (Nduka, 1971). In the 1920s, the Congress of British West Africa, led by Casely-Hayford, asked the British Government to establish a British West African University, but the British Government would not support the idea.

By far the fiercest drive for university education in Africa took place in the Gold Coast, with the establishment in 1927 of Achimota College. This College was regarded as the best in Africa, most endowed with facilities that could easily grow into becoming a credible and viable university institution. It had spacious grounds, which were endowed with excellent buildings and beautiful vegetation. It had a library with over 16,000 books, and was adjudged the best College Library in West Africa in 1940. It had a small museum that could be expanded to meet the needs of higher education. But when Governor Guggisberg

suggested in 1927 that Achimota College should be linked with London University, the Gold Coast Education Advisory Committee rejected the idea, fearing that it might make Achimota lose the opportunity to develop an indigenous higher education system in Africa. They, however, agreed to the College adopting the University of London Matriculation and Intermediate Examinations. (Agbodeka, 1998). Achimota therefore had Kindergarten, Primary, Secondary and Teacher Training Departments. It also embarked on university courses to prepare students for the external intermediate examinations of London University in arts, science and engineering, and the London External Bachelor of Science degree in Engineering. Achimota College achieved these landmarks because it operated as an autonomous institution under its own Council, established by the Achimota College and School Ordinance of 1930 (Akussah, 1981).

In 1939, at a conference of British West African Governors, it was decided that the West African colonies could duplicate courses to the intermediate level, but beyond that, studies should be distributed among the colleges as Achimota (Gold Coast) Engineering, Yaba (Nigeria) Medicine and Fourah Bay (Sierra Leone) Theology. The Conference of Governors proposed only one University in the whole of West Africa. They suggested that the proposed Institute of West African Culture at Achimota could be the nucleus or means for achieving such a university. This proposal generated considerable furore all over the colonies. Apart from the nationalistic desire of the general population to develop their own universities, it was also considered practically unacceptable for the existing colleges to be permitted to run courses up to the intermediate level, but be restricted from continuing these courses up to the degree level, something Achimota had proved was achievable with its engineering courses.

The period after the Second World War saw indications of gradual acceptance of the need to accede to demands for higher education in the British West African colonies. But it was sometimes not clear whether this sudden interest in the development of higher education was driven by a genuine desire for advancement of the colonial people, or the fear of political upheavals whose repercussions might affect the British Empire. Secondly, after the decision of the Colonial Government that there should be only one university in West Africa to be based in Ibadan, the people of the Gold Coast clearly indicated in 1946 their intention to build their own university that they themselves would finance. The Secretary of State insisted that if the Gold Coast was intent on having its own University, then it should still be the only one in West Africa. Nigeria, with a population of 20 million, as opposed to less than five million in the Gold Coast, could not be so easily ruled out in its right to have a university; failure to satisfy Nigerian aspirations could provoke unrest in Nigeria. When Britain finally reconciled itself to the idea that there could indeed be two universities in the two countries, however, the idea was packaged as if it was their plan to fulfill a carefully laid out plan to self-government in the two colonies.

### **Programme to Establish Universities in West Africa**

In 1943, the British Colonial Secretary Oliver Stanley set up a committee under the Hon. Sir Cyril Asquith to work out modalities for establishing university colleges in West Africa. These colleges were to be in special relationship with London University for generally good reasons including maintenance of international standards through the system of examining. Another committee, the Elliot Committee, set up at the same time as the Asquith Committee,

submitted two reports, (the majority and a minority one), in 1945. Initially, the Conservative British Government accepted the majority report that there should be three centres of higher education to be located in Nigeria, the Gold Coast and Sierra Leone, with Ibadan becoming the University College. The minority report however recommended only one University College to be located in Ibadan. Instead of University Colleges in the other colonies, there should be colleges of arts, science and technology, or “territorial colleges” in the other colonies, to serve as feeders to a single West African University. The territorial colleges were also to pursue higher vocational training. While arrangements were proceeding to implement the recommendations of the majority report, there was a change in Government in Britain. The Rt. Hon. A. Creech Jones, who was a member of the Elliot Committee and had signed the minority report, became the new Secretary of State for the Colonies. He changed the previous acceptance of the majority report and opted for the minority report, which had recommended the establishment of only one University College for the whole of British West Africa. Unrest flared up, particularly in Sierra Leone and the Gold Coast.

A Gold Coast youth conference of 1945, in which Dr. J.B. Danquah played a decisive role, protested against the adoption of the minority report by the new Secretary of State for the Colonies. Between December 1945 and July 1946, at least 12 memoranda were sent by various bodies such as the Achimota Council, the Advisory Committee on Education, the Standing Committee of the Joint Provincial Council of Chiefs, the Ashanti Confederacy, the Gold Coast Bar Association, old students associations, the Rodger Club of Accra, the Hudson Club of Kumasi and the Gold Coast Teachers Association. One such petition described the plan to turn Achimota into a so-called “territorial college” instead of a University, as an “educational monstrosity”. In 1946, the Gold Coast Legislative Council adopted a proposal by the Hon. C.W. Tachie-Menson, a member of the Council, which led to the setting-up of another commission under the chairmanship of the acting Colonial Secretary Mr. Kenneth Bradley. The support of the protest by the Achimota Council, the Central Advisory Committee on Education and the Joint Provincial Council of Chiefs compelled the Bradley Committee to recommend to the British Government to concede to the establishment of the University College of the Gold Coast, provided the people of Ashanti would not also agitate for a separate university. A delegation was sent to Kumasi to meet the Asantehene. After initial difficulties, the Asantehene agreed to the establishment of the university in Accra on condition that a tertiary institution, not necessarily a university, should be set up in Kumasi. This proved to be a very astute move by the Asantehene, because in 1951, the Kumasi College of Technology was established, eventually becoming the second University College for the Gold Coast, and later as the Kwame Nkrumah University of Science and Technology.

Following the acceptance of the Bradley Commission report, Drs. J.B. Danquah and C.G. Baeta strategically decided to levy an amount of two shillings and six pence on each load of cocoa to enable the people of the Gold Coast establish their University. The British Government, in agreeing to the establishment of the University, had insisted that the Gold Coast should finance the project themselves. The Bradley Committee had recommended that the University College should grow out of Achimota College, to provide courses for the external degree of London University. However in December 1946 a delegation from London University, which visited the country, managed to convince the people of the Gold Coast to rather go into special relationships with the University. It also recommended that the

University College, rather than growing out of Achimota College, should be a completely new entity, independent of Achimota, but located in close proximity. In the absence of an appropriate legal instrument to implement this recommendation, the first Principal of the new University College was appointed under the Achimota Ordinance, to facilitate the transfer of the 90 students then in the Achimota Intermediate Class, as well as their staff, to be the nucleus of the new University College. The then Chairman of the Achimota Council, Sir Leslie McCarthy, became the first Chairman of the new University College. By March 1948, a special committee of the Senate amended the draft ordinance of the new University College of the Gold Coast, and by June 1948, had applied for special relationship with London University. The College was eventually opened for classes on 11<sup>th</sup> October 1948 by the then Governor, Sir Gerald Creasey, to provide degree courses in the humanities, agriculture and the sciences.

### **Pre- and Post Independence Educational Policies-1951-1980**

The Government introduced the Accelerated Development Plan for Education in August 1951 and started its implementation in January 1952. Among its provisions were free-tuition at elementary education level for children aged 6-12 years and continued subsidization of mission schools by Government to ensure efficiency. The implementation of the plan saw a tremendous increase in primary and middle schools enrolment between 1950 and 1959. Primary school enrolment before the implementation of the plan was 211,994 in 1950. Between 1950 and 1959, however, enrolment more than doubled, bringing the total enrolment to 483,425 in 1959. Similarly, enrolment at the middle school level rose by 133.2 per cent from 59,960 in 1950 to 139,801 in 1959. Between 1952 and 1957 more secondary schools and teacher training colleges were also established to absorb the increased number of elementary school leavers, and also provide the required teachers to teach in the increased numbers of elementary schools.

The most phenomenal increase however, took place in the higher education institutions. The University College of the Gold Coast started in October 1948 with 92 students (90 male and 2 female). By January 1949 the number had risen to 108, (57 arts and 51 science) students. In October 1949, 60 male and 4 female students more were admitted. Growth was initially slow due to a number of circumstances including non-completion of permanent facilities on the main campus at Legon, and by 1954, the total number of students was only 349, the lowest among the eight university colleges appraised that year by the Colonial Government's Inter-University Council (IUC). By 1957, three Halls of Residence had been completed on the main Legon campus, and several academic facilities had also been completed. This, coupled with the establishment of the Kumasi College of Technology in 1951, saw the country record an impressive enrolment at the higher education institution level; enrolment had risen to 1,134.

The number of teacher training colleges increased from 19 in 1950 to 30 in 1959, with the corresponding enrolment increasing from 1,777 in 1950 to 4,274 in 1959. Because of the inadequate number of trained tutors to cater for the phenomenal increase in enrolment at primary and secondary schools within the period under consideration, the Government set up the National Teacher Training Council in 1958. The Council was charged with the responsibility of looking into certain important issues including:

- the examination and selection of students for teacher training education,
- the content of teacher education courses,
- the examination and certification of student teachers,
- in-service training and
- research in education.

In 1959, a Commission on University Education, chaired by Hon. Kojo Botsio, was appointed to advise on the future development of university education. Following the report of the Botsio Committee, it was announced in July 1960 that the University College of Ghana and the Kumasi College of Technology would be granted full university status in September and October 1961. In 1962 the University College of Science Education was established at Cape Coast as a College of the University of Ghana, with the responsibility of training graduate teachers for secondary schools, training colleges and polytechnics. The Department of Education at the University of Ghana was transferred to this new College. The name of the College was later changed to the University College of Cape Coast, and in 1972, it became the independent University of Cape Coast.

To promote and co-ordinate research activities, the National Research Council was established in 1958 and a year later the Ghana Academy of Learning was created to promote science and scholarship. After 1966, the Academy of Learning was separated into the Ghana Academy of Arts and Sciences, a purely learned society, and the Council for Scientific and Industrial Research, which was merged with the National Research Council to concentrate on scientific and technological research.

The Education Act of 1961 (Act 87) established the legal basis for compulsory primary education and also specified the structure and role of local educational authorities, including the determination of the working conditions of teachers. Government continued to be responsible for the provision of educational facilities such as tuition and school buildings. The Education Act of 1962 further boosted the enrolment of students at all levels of education in the country. Available statistics indicate that the enrolment ratio for the first level of education in Ghana rose from 38 per cent in 1960 to 49 per cent in 1965. The corresponding figure for the second cycle level rose from 2 per cent to 6 per cent, while at the tertiary level, the increase was from 0.18 per cent to 0.65 per cent .

The Government in 1966 appointed two bodies to inquire into some aspects of the educational system. One of them, the Kwapong Committee, which submitted its report in 1967 made 285 recommendations, including the following:

- school-going age should be 6 years;
- ten years of elementary school, but at the end of the eighth year, pupils could be selected for secondary school;
- those who do not make it would do two years of continuation school with a pre-vocational bias;
- five years of secondary school plus two years of sixth form;
- minimum of three years for a first degree at the university;
- a long term objective of a six-year primary followed by four years of secondary, two years of sixth form leading to a minimum three year university degree course;

- two-year continuation schools in two middle schools in each region, to be established as a pilot scheme, to teach farming and pre-vocational courses to meet agricultural and industrial needs;
- retention of experimental schools to present candidates for the common entrance in classes six;
- some good middle schools should be allowed to take the common entrance in middle form one.

The Government in August 1969 presented a one-year Educational Development Plan, which placed emphasis on the expansion of secondary schools to absorb the increasing number of middle school leavers and to strengthen the secondary level to facilitate university expansion. This led eventually to the conversion of a number of teacher training colleges into secondary schools, an action which was later to affect educational standards at the primary and middle school levels. An effort was made to diversify curriculum with the introduction of practical subjects such as commerce, agricultural science, metalwork, technical drawing and home science as examinable subjects in schools that did not already run such courses.

Realizing that cost of university education was becoming a strain on Central Government expenditure, the Government decided as a policy to introduce the Students Loan Scheme to enable parents cater for the non-tuition aspects of their wards' education. Unfortunately, the policy could not be implemented due to strong student agitation and protests. The Prime Minister's 1971 address to Parliament in which he outlined this scheme to be implemented during the following academic year in 1972, was followed by a lot of student agitation against the scheme. On 13<sup>th</sup> January 1972, the Government was overthrown and the military junta simply announced that it was not going to implement the scheme. The financial constraints on Government in absorbing all forms of non-tuition expenditure grew worse over the years, but no subsequent government had the political will to address the situation until 1988, when the loans scheme was re-introduced to be financed by the Social Security and National Insurance Trust (SSNIT). As part of the measures to make higher education more efficient, the National Council for Higher Education was established in 1969 under the office of the Head of Government to advise on staff recruitment, conditions of service of staff of university institutions and the financial needs of such institutions.

The history of education in Ghana has been characterized by several reform committees, dating back to the colonial days, all aimed at making education more relevant and more accessible to every section of the society. One such committee, the Dzobo Committee, was mandated to examine the following aspects of the education system:

- The continuation school system in which pupils who were unable to enter the grammar-school type of secondary schools during their 6<sup>th</sup> to 8<sup>th</sup> year of a ten-year elementary school programme, entered "continuation schools" to train in less academically demanding pre-vocational skills, or continued to their 10<sup>th</sup> year of elementary school and took the Middle School Leaving Certificate Examination as a terminal examination. Laudable as this scheme originally was, its implementation proved rather unsatisfactory, because very few such schools were established, and the products of these institutions were rather erroneously perceived as "less capable".

- The private high-fee-paying preparatory and “international” schools, which were more successful than the public schools in preparing their pupils for the common entrance examination for entry into the country’s best secondary schools, during the 6<sup>th</sup> or 7<sup>th</sup> year of the 10-year elementary school programme. This in turn enabled such children to progress further more easily into the universities and other tertiary institutions.
- The Common Entrance Examination as a selection mechanism for secondary schools, whose structure and content were considered or perceived by many as being discriminatory against and unfair to the public school pupils.
- What opportunities exist or can be evolved for the large majority of pupils who fail to enter secondary schools.
- Possible ways to shorten the number of pre-tertiary school years from 17 to 12 years for all pupils.

In 1974 the Government approved the Dzobo Committee’s proposals for a new education structure. A ten-page Government Green Paper entitled *The New Structure and Content of Education for Ghana*, in which the basic principles underlying the proposals were stated, was issued. Emphasis was to be placed on vocational and technical subjects throughout the entire pre-university course, particularly at the basic level. This new structure was to shorten the pre-university education from a maximum of 17 years to a maximum of 12 to 13 years covering

- 6 years Primary School
- 2 or 3 years Junior Secondary School
- 2 years Senior Secondary School Lower
- 2 years Senior Secondary School Upper

Every child was to have 18 to 24 months of pre-school (Kindergarten) education.

In 1975 an effort was made to implement this new structure and content of education, which was expected to come into force in 1980–81, by setting up experimental junior secondary schools. Some of the “pilot scheme continuation schools” previously referred were to be converted to these experimental junior secondary schools. A new teacher education programme was introduced to prepare specialist teachers over a period of three years in three subject areas in 24 post-secondary teacher-training colleges. In addition, six colleges were assigned to offer diploma courses over a three-year period for teachers in Home Science, Art, Physical Education, Science Education, Music, Agricultural Education, Technical Education and Ghanaian Languages (Agbenyega, 1975). In December 1973, the Ghana Education Service was established. The Government also established the Book Development Council in 1975, but the effort to implement the new education system collapsed somewhere along the line, ostensibly due to lack of commitment and considerable opposition, and the perception that the system might actually result in considerable lowering of standards, especially at the primary school level in the rural and depressed urban areas. Most of the teachers who were specially trained for this new system left the country for other countries, as they could neither

fit into the old primary/middle school system, nor were they accepted as qualified to teach in the normal five-year/seven year secondary/sixth form system.

### **Recent Changes in Education Policy (1981 - 2002)**

The Provisional National Defence Council (PNDC) Government also undertook significant reforms in education. Prior to their assumption of office, the democratically elected Government had undertaken a thorough review of the education system and had submitted a very comprehensive new Education Bill to Parliament for consideration and adoption. This new Bill had certain elements that eventually found their way into the new policies of the PNDC. The Bill also sought to transfer certain powers and authority over educational management back to the religious organizations, at least at the primary and secondary school levels, while Government limited itself to policy issues only.

The PNDC had, as part of its objectives in educational reforms, encouraged the setting up of more Day Senior Secondary Schools in accordance with the recommendations of the Dzobo Commission Report of 1974 and its accompanying “Green paper”. Many of the existing boarding secondary schools were also permitted to admit a certain per centage of day students as a means of expanding access to more students. The most significant reform introduced by this government however was the implementation in 1987 of the provisions of the Dzobo Committee report on the new structure and content of education, albeit with significant modification. The major elements of the proposed reforms involved the restructuring of the educational system to provide nine years of basic education (six years of Primary followed by three years of Junior Secondary School) for all children, three years of Senior Secondary Schools and then four years of tertiary education.

The proposed reforms were also expected to increase access to education, especially in the rural areas, by increasing the number of existing basic and senior secondary schools, expanding tertiary institutions by upgrading and increasing the number of polytechnics to enable them take Higher National Diplomas and Bachelors Degrees in specified areas of technology. District Assemblies were also encouraged to grant financial assistance to bright students from poor homes. A major component of the policy was the introduction of Free Compulsory Universal Basic Education (FCUBE), which was to include the provision of free tuition, textbooks, furniture and teaching aids, and to increase the relevance and efficiency of the educational system by expanding the curriculum of the Junior Secondary School to provide for academic, cultural, technical, vocational and commercial subjects. It was also to ensure effective and efficient management of resources by adopting certain measures including the reduction of non-teaching staff, and training of head-teachers, teachers and other managerial staff of schools in basic techniques in accounting/book-keeping, purchasing & supply, work and maintenance, principles and procedures of resources management. Laudable as these objectives may have been, many of them still remain to be implemented, partly because of lack of political will, and partly because of financial constraints.

The first batch of the Junior Secondary School leavers passed out in 1990, after taking the Basic Education Certificate Examination (BECE), which, though terminal for some pupils, also replaced the old common entrance examination for selection of students into the senior secondary schools. Although the performance of the first batch of students was rather poor,

performance gradually improved, particularly in the private schools. The performance situation in the public schools, though slightly improved over the years, still leaves much to be desired.

The replacement of the old Common Entrance Examination with the BECE as the selection examination into secondary and technical schools, and the abolition of the old Middle School Leaving Certificate (MSLC) as the terminal examination for elementary school pupils, resulted in large increases in the numbers of children seeking admission into Senior Secondary and Technical Schools at any given time. Implementation of the new system, in spite of its many potentially positive aspects, has therefore created several problems within the entire education system. As the enrolments in the Junior and Senior Secondary Schools increased, there was no corresponding timely provision or expansion of facilities at the tertiary level, such that there has been a population explosion without commensurate adequate financial and material support, which has put considerable pressure on the universities and other tertiary institutions. In order to minimize the impact of higher enrolment and completion rates at the JSS level, a number of new senior secondary schools were established. To date, however, enrolment into these new schools has been most disappointing because parents still preferred to send their children to the older, better endowed and more tested schools where they believe, and rightly so, that their wards stand a better chance of progressing to the highly competitive tertiary level.

In addition to the three then existing polytechnics in Accra, Kumasi and Takoradi, three senior technical schools in Ho, Cape Coast and Sunyani were upgraded to polytechnics while four new polytechnics were created in Koforidua, Tamale, Bolgatanga and Wa, to bring the number of polytechnics to ten, one in each Region. All the polytechnics were upgraded to tertiary status to train personnel for the much-needed middle level manpower by running higher national diploma and degree courses. Eight of the polytechnics are fully functional while two, at Bolgatanga and Wa, are still in the process of being made fully functional.

The University for Development Studies, with campuses at Tamale, Kintampo, Navrongo and Wa, was also established to fulfil a long-standing plan dating back to the 1960s. This University was to give the country its third medical school, but the plan for the medical school has run into serious difficulties due to lack of facilities for teaching the basic sciences and running clinical programmes. This has resulted in the transfer of the students to the schools at the KNUST and the University of Ghana, thus putting further pressure on the already overcrowded and overstretched facilities at these two universities. The Advanced Teacher Training College and the National Academy of Music at Winneba, the Kumasi Technical Teachers Training College, and the School of Agriculture at St. Andrews Training College, Ashanti Mampong, were combined into a new University College of Education, Winneba (UCEW), as a College of the University of Cape Coast. This was to ease pressure on the existing universities, as well as provide the necessary manpower for the junior and senior secondary schools. By an act of Parliament, the University College of Education, Winneba has since October 2002, achieved full university status. In addition, a few private universities have been established over the past ten years mainly by religious bodies.

All these new universities are required by law to first seek special relations with the existing universities for the conduct of examinations and award of degrees. Their establishment however has raised fresh problems requiring urgent attention. For example, virtually all of them run courses in only business administration, religion and a few other subjects and disciplines in the humanities. For the country to achieve the desired critical mass of science and technology, human resources and efficiency in all aspects of production that are crucial for economic development, the country's official manpower policy stipulates that by 2020, the tertiary institutions should be producing 60 per cent science-based and 40 per cent humanities-based graduates. It appears though that there is no clear-cut government policy or programme to ensure that the output of these new universities, and even the existing government tertiary institutions, are geared towards this official manpower policy objective. For example, the University of Ghana, which has an official mandate of 60 per cent science to 40 per cent humanities, has drifted from an initial 47 per cent science in 1949, to its current 17 per cent science to 83 per cent humanities. The KNUST, whose official mandate is 90 per cent science to 10 per cent humanities, is currently doing much better than Legon, with 83.5 per cent science and technology to 16.5 per cent social sciences. The Polytechnics, on the other hand, have drifted during the last five years, from a predominantly science and technology tertiary enrolment ratio to a greater than 50 per cent humanities enrolment ratio. In effect, short of aiming at achieving the national mandate, the universities and polytechnics are rather drifting away from these official norms. How the output of these new institutions will affect the country's development programmes in the long run, will therefore need to be urgently addressed.

## **4.2 Population Growth and Education Trends in Ghana-1960 to 2000**

### **Source of Data, Adequacy, Accuracy and Limitations**

One of the most important sources of data for studying the interrelationship between population and education in Ghana is the population censuses carried out over the years. In the present study, the major source of data is the 2000 Population and Housing Census. Other primary sources of data are previous censuses, periodic nation-wide surveys carried out by the Statistical Service, annual statistical data from the Ministry of Education, publications of the National Council on Tertiary Education, the universities and polytechnics, and various research findings and publications as indicated in the references.

Data collection in Ghana, as in most developing countries, still faces several serious constraints. It is usually difficult to carry out meaningful analytical studies for policy decisions and planning because of lack of reliable, accurate and up-to-date statistical data from primary sources. Very often, collection, collation and final publication of statistical data can take months or years, to the extent that by the time such data are available in print for official use, they may be already two to three years old. For example, official publication of the summary of the final results of the 2000 census was in March 2002. Data used in the present studies may therefore contain certain gaps and uncertainties, which may affect interpretation.

The year 2000 Census, like many censuses, used very short and simple questions which did not make provision for certain aspects of education, such as cost at the various levels, types

of schools, types of school buildings and other forms of infrastructure, characteristics of teachers, academic performance of students, age and class specific drop-out or exit rates, and others. The authors have therefore also used primary and secondary sources of data, which do not necessarily cover periods up to year 2000.

Where such data are used, the authors have tried to analyse the situation in-as-much as it relates to, or is relevant to the current situation, and cross-checked the data to ensure that the story that is told reflects the true situation regarding education in Ghana as at the time of the 2000 Census and thereafter, and the policy implications of the data are presented as broadly and as accurately as possible. Where the authors have had reason to suspect any major discrepancies in data, these have been pointed out and attempts made to offer plausible explanations and possible solutions.

### **National Population Distribution**

The 2000 census results give Ghana's total population as 18,912,079. Table 4.4 shows the regional as well as male and female population distribution, rural and urban distribution, and the population growth rate since the last census in 1984. Ashanti has the highest proportion (19.1 per cent) of the population, followed by Greater Accra (15.4 per cent), Eastern (11.1 per cent) and Western (10.2 per cent); Upper West (3.0 per cent) is the least populated.

**Table 4.4: National and Regional Population Distribution.**

Region	Area sq. km	Tot. Pop.	Sex		Locality of Enumeration		Share of Pop.	Urban Share	Pop. Density per sq. km	Sex ratio Males to 100 Females	per cent Inter- censal Growth Rate
			Male	Female	Rural	Urban					
All Regions	238,533	18,912,079	9,357,382	9,554,697	10,637,809	8,274,270	100.0	43.8	79.3	97.9	2.7
Western	23,921	1,924,577	978,176	946,401	1,226,159	698,418	10.2	36.3	80.5	103.4	3.2
Central	9,826	1,593,823	760,221	833,602	995,418	598,405	8.4	37.5	162.2	91.2	2.1
Greater Accra	3,245	2,905,726	1,436,135	1,469,591	358,042	2,547,684	15.4	87.7	895.5	97.7	4.4
Volta	20,570	1,635,421	790,886	844,535	1,194,337	441,084	8.6	27.0	79.5	93.6	1.9
Eastern	19,323	2,106,696	1,036,371	1,070,325	1,378,782	727,914	11.1	34.6	109.0	96.8	1.4
Ashanti	24,389	3,612,950	1,818,216	1,794,734	1,759,885	1,853,065	19.1	51.3	148.1	101.3	3.4
Brong- Ahafo	39,557	1,815,408	911,263	904,145	1,136,628	678,780	9.6	37.4	45.9	100.8	2.5
Northern	70,384	1,820,806	907,177	913,629	1,337,016	483,790	9.6	26.6	25.9	99.3	2.8
Upper East	8,842	920,089	442,492	477,597	775,807	144,282	4.9	15.7	104.1	92.6	1.1
Upper West	18,476	576,583	276,445	300,138	475,735	100,848	3.0	17.5	31.2	92.1	1.7

Source: Ghana Statistical Service, 2000 Population and Housing Census

The total land area of Ghana is 238,533 square kilometres. Northern, with an area of 70,384 square kilometres, is the largest in area, but is only the fifth most populated region, with a population of 1,820,806 or 9.6 per cent of the total population. It is, as a consequence, the least densely populated, with only 25.9 persons per square kilometre, compared with Greater Accra, as the most densely populated, (895.5 persons per square kilometre), followed by the Central Region (162.2 persons per square kilometre).

Table 4.5 shows the regional population densities and changes in population densities between the inter-censal period 1984-2000. The most significant growth in population density occurred in Ashanti (72.9 per cent) and Western (66.2 per cent), moving Ashanti

from the fifth to the third most densely populated, and Western from the seventh to the sixth most densely populated. What happened in Ashanti and Western could be attributed to changes in economic activity. The two

**Table 4.5: Increase in Population Density 1984/2000.**

Region	Population Density		per cent increase in Population Density
	1984	2000	2000/1984
All Regions	51.5	79.3	53.8
Western	48.4	80.5	66.2
Central	116.3	162.2	39.5
Gt. Accra	441.0	895.5	103.0
Volta	58.9	79.5	34.9
Eastern	87.0	109.0	25.3
Ashanti	85.7	148.1	72.9
Brong Ahafo	30.5	45.9	50.4
Northern	16.5	25.9	56.3
Upper East	87.4	104.1	19.0
Upper West	23.7	31.2	31.6

Sources: Ghana Statistical Service, 1984 & 2000 Population Censuses

regions contain the bulk of the country's natural resources, particularly gold, cocoa and timber. There was very significant investment and growth in these sectors of the economy between 1984 and 2000, resulting in a significant shift of migrant labour to these areas. The extent to which these changes in population densities in the various regions have been reflected in the availability and distribution of social services, including a commensurate increase in educational facilities will be examined later.

### **The School-Going and Pre-School Population (0 to 24 years)**

The 2000 Census shows that Ghana's population is very young, with almost 80 per cent below 40 years, and a median age of 19.4 years. Table 4.6 shows the age distribution of the population, arranged in 10-year groups.

**Table 4.6: Population by 10-Year Age Group**

Age group.	Population	Proportion	Cumulative Per centage
<1-9	5,544,627	29.3	29.3
10-19	4,145,969	21.9	51.2
20-29	3,088,119	16.3	67.6
30-39	2,236,574	11.8	79.4
40-49	1,607,288	8.5	87.9
50-59	924,211	4.9	92.8
60-69	625,060	3.3	96.1
70-79	369,988	2.0	98.0
80-89	248,405	1.3	99.4
90-99+	121,838	0.6	100.0
Total	18,912,079	100.0	100.0

Source: Ghana Statistical Service, 2000 Population and Housing Census

The relatively young age structure of the population is a direct consequence of the fertility rate of the country. With about 60 per cent of the population falling within the educable population (3-24 years), and 51 per cent are 19 years and younger, it means that if the country does not now adopt sound long-term policies to reduce the fertility rate and hence reduce the percentage of the population in the educable age group, and also educate the current young population to improve their potential earning power, the country's economic development 20 years hence could be seriously compromised.

Slightly over two thirds (67.5 per cent) of the population is under 30 years, with about 60.0 per cent being 24 years and younger. Table 4.7 shows the age distribution of those 30 years and younger and their potential or real educational status, assuming a zero dropout rate for all the age groups.

The age group 3 to 24 years is that portion of the population still in school (from pre-school/primary to post-secondary/tertiary) or has just completed or is about to complete education at the tertiary level or in some post-secondary professional training (teaching, nursing, technical/vocational, informal apprenticeship). The age group 25-64 is the group that may be working to support children or wards in one form of educational institution or the other. These figures imply that in Ghana, just around 35 per cent of the population caters for the education of the 60 per cent younger ones. This has major policy implications with regard to resource mobilisation, financial outlay to support education, and human resource development for future economic development.

**Table 4.7: Population (0-30 years) and Education Status by Age Range**

Age Range	Population	Proportion of National Population	Cummulative Per centage	Potential/Real Education Status
<1-2	1,629,534	8.6	8.6	Toddlers/crèche/potential school attendants`
3-5	1,702,004	9.0	17.6	Pre-school/Kindergarten
6-11	3,154,146	16.7	34.3	Primary
12-14	1,321,159	7.0	41.3	Junior Secondary
15-17*	1,158,390	6.1	47.4	SSS/Voc./Tech/Apprenticeship
18-19*	725,363	3.8	51.2	
20-24	1,600,820	8.5	59.7	Tertiary/Professional/Vocational/Higher Tech./Apprenticeship
25-30	1,977,050	10.5	70.2	Post-grad./working/seeking employment

Source: Ghana Statistical Service, 2000 Population and Housing Census

\* The official age range for senior secondary school attendance is 15-17. There is no official age range for technical and vocational school attendance. But the reality is that a very large proportion of students in SSS, vocational, technical and apprenticeship institutions fall outside the maximum age of 17 years. Most of them are in the 15 to 19 year age range.

### **Educational Attainment and Literacy Rates**

The 2000 Census shows that 41.1 per cent of the population aged 3 years and older have never been to school and an additional 4.2 per cent with pre-schooling, while only 2.1 per cent have had some form of tertiary education. The cumulative per centage of those with education beyond the junior secondary level is only 12.8 per cent (Table 4.8).



**Table 4.8: Highest Level of Education of Persons Aged 3 Years and Older by Region**

Region	All Levels	None/Pre-school	Primary	Middle/JSS	SSS	Voc/Tech	Post Sec/Professional	Tertiary
All Regions	17,282,545 100.0	7,827,923 45.3	3,464,081 20.0	3,770,120 21.8	1,053,806 6.1	456,579 2.6	345,744 2.0	364,292 2.1
Western	1,753,776	43.2	22.3	23.5	5.2	2.4	1.7	1.8
Central	1,451,202	41.4	23.7	24.2	4.7	2.0	1.9	2.0
Greater Accra	2,714,517	22.7	18.8	28.8	12.4	6.3	2.7	4.2
Volta	1,502,430	43.6	22.3	22.1	5.6	2.3	2.4	1.8
Eastern	1,925,640	37.9	23.6	27.1	5.2	2.2	2.2	1.8
Ashanti	3,271,788	40.1	21.4	26.2	6.0	2.3	2.0	2.0
Brong Ahafo	1,645,323	48.5	20.6	20.8	4.9	1.6	2.0	1.6
Northern	1,639,327	75.8	12.1	5.2	3.2	1.1	1.2	1.3
Upper East	848,222	72.8	14.8	6.0	3.1	1.2	1.2	1.0
Upper West	530,320	73.3	12.5	6.4	3.4	1.5	1.5	1.4

Source: Ghana Statistical Service, 2000 Population and Housing Census

Table 4.9 gives a comparison of Ghana's educational attainment indices with a group of selected countries.

**Table 4.9: Progress in Educational Attainment by selected groups of Countries- 1997**

Groups of Countries	Net enrolment ratio in Primary ( per cent) 1997	Combined first, second-, and third level gross enrolment ratio ( per cent) 1997	Adult Illiteracy Rate >23yrs. 1997 figs.
Ghana	43.4	42	33.6 (45.9 for >14yrs)
Medium Human Dev. Countries	90.7	64	26.2
Sub-Saharan Africa	56.2	44	42.4
All developing countries	85.7	59	28.4
High Human Dev. Countries.	99.3	89	4.7

Source: UNDP, Human Development Report (1999)

### **Literacy**

Literacy is defined in terms of persons 15 years and older who can read and write in English, a Ghanaian language or both. Of the adult population of 15 years and older, 42.1 per cent is totally illiterate. Table 4.10 shows the literacy rates of this age group for the various regions. Ghana's adult illiteracy rate is higher than the average for all developing countries, but lower than the average for sub-Saharan Africa. No matter how one looks at the above figures, the illiteracy rate for the country is too high for a country that aspires to be a middle-income country within the next 20 years.

The three northern regions of Ghana have the highest illiteracy rates in the country, with Upper East having 76.5 per cent of the population 15 years and older being totally illiterate. The corresponding rates for Northern and Upper West are 76.2 per cent and 73.4 per cent. The three northern regions are very seriously handicapped in almost every human development indicator including education. Of the three least literate regions, Northern has one of the worst educational records, falling behind the Upper East and Upper West in many literacy and enrolment criteria from primary to the tertiary levels. Of the seven remaining southern regions, Brong Ahafo is the only one with an illiteracy rate very close to 50 per cent; Greater Accra has the lowest illiteracy rate of 19.4 per cent.

**Table 4.10: Literacy Rates of Adult Population (15 years and older) by Region**

Region	Total pop. 15yrs+	Not literate	Literate in Ghanaian language only	Literate in English only	Literate in English and Ghanaian language	Literate in other languages
All Regions	11,105,236	4,675,585	280,197	1,825,384	4,235,080	88,990
		42.1	2.5	16.4	38.1	0.8
Western	1,108,272	41.8	1.8	18.7	36.9	0.8
Central	904,579	42.9	2.0	16.6	37.9	0.6
Greater Accra	1,945,284	18.4	2.3	30.0	48.2	1.2
Volta	963,811	41.7	4.5	8.3	44.5	1.0
Eastern	1,227,612	36.4	3.3	13.4	46.4	0.5
Ashanti	2,096,121	35.0	3.2	12.9	48.1	0.8
Brong-Ahafo	1,033,609	48.5	2.0	11.7	37.3	0.5
Northern	978,774	76.2	1.5	13.4	8.3	0.6
Upper East	520,863	76.5	1.3	14.4	7.0	0.8
Upper West	326,311	73.4	1.1	13.4	10.9	1.2

Source: Ghana Statistical Service, 2000 Population and Housing Census

Table 4.11 shows the sex differentials in levels of illiteracy for the various regions. The census figures indicate that in all the regions, illiteracy among females is far higher than among males. Male illiteracy rate at the national level is 33.6 per cent while the female rate is 50.2 per cent. Even in Greater Accra with the lowest illiteracy rate, the proportion of illiterate females (24.6 per cent) is twice as high as that for males (12.1 per cent). Upper East, with the highest national illiteracy rate (76.5 per cent), has 70.2 per cent illiterate males 15 years or older, and 81.8 per cent illiterate females in the same age group, with Northern closely behind.

**Table 4.11: Illiteracy Rates by Region by Sex, 2000**

	All Regions	Region									
		Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
Both Sexes	42.1	41.8	42.9	18.4	41.7	36.4	35.0	48.5	76.2	76.5	73.4
Male	33.6	32.0	30.2	12.1	31.3	26.4	27.6	41.1	69.7	70.2	66.9
Female	50.2	52.1	53.7	24.6	50.9	45.6	42.4	56.0	82.6	81.8	78.8

Source: Ghana Statistical Service, 2000 Population and Housing Census

At the national level, the 2000 Census figures indicate that 16.4 per cent of the population aged 15 years or older are literate in the English language only, and that 38.1 per cent are literate in both English and a Ghanaian language. The major problem is the relatively high percentage of persons literate in English only. Greater Accra has the highest proportion (30.0 per cent) of this category of persons, followed by Western (18.7 per cent), Central (16.6 per cent) and Upper East (14.4 per cent). The reason for the high proportions for the three northern regions is not far-fetched. About three quarters of the population are illiterate. The one quarter who had the opportunity of schooling may have studied under teachers who were not literate in the northern languages, which means that there was little choice in learning more of English than languages peculiar to the north. Only recently have many of the northern languages been written up. The major languages of the south do not have this problem and there is therefore no excuse. This has very serious implications for the future development and survival of indigenous languages and culture, which are extremely

important for national economic and social development. It has implications for the recently announced policy change to use English as the medium of instruction in all schools, with the Ghanaian languages taught just as another subject.

The following may be some of the reasons:

- The influence of pre-schools and kindergartens that teach in only English, and discourage children from undertaking activities including play, in their various local dialects or languages.
- Parents who communicate with their children in only the English language even in the home.
- Parents who take pride in their children being more fluent in English than in their own mother tongues.
- Parents and children who even feel shy or are ashamed to identify themselves as belonging to or speaking a particular local language.

Unfortunately, this is leading to a situation where one cannot determine what the mother tongue of these children is and this adversely affects the cognitive development of the children; they find it extremely difficult to make the transition from the syncretic to the cognitive level of learning. The old system of education, where children are taught in their mother tongues or in the local languages they grow up speaking, for the first three years of their primary education while English is taught to them as any other subject, before being made the medium of instruction from the fourth year onwards did not create a similar problem.

### **Trends in School Attendance-1960 to 2000**

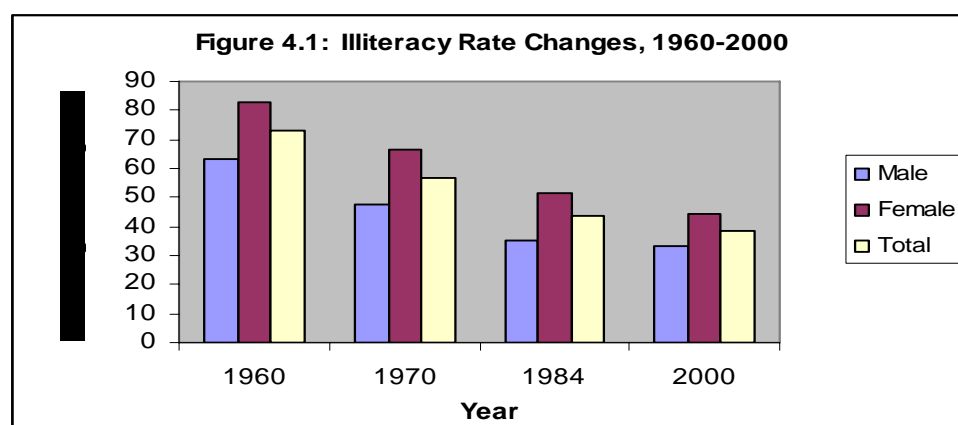
Whereas there was rapid decrease in the country's illiteracy rates between 1948 and 1960, and between 1960 and 1984, the decrease has stagnated in the recent past, and has not kept pace with population growth. The census results of 1948 indicated that 96 per cent of Ghanaians aged 6 years and older had never attended school. This had reduced to 73 per cent by 1960 then to 57 per cent in 1970 and to 44 per cent by 1984. But between 1984 and 2000, the percentage fell only slightly to 38.8 per cent (45.2 per cent for those 15 years and older). Table 4.12 shows school attendance levels for 1960 to 2000, for the population aged 6 years and older.

**Table 4.12: Non-School Attendance (6years and older) by Sex**

	1960			1970			1984			2000		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total Pop.	5,198,747	2,642,962	2,555,785	6,671,500	3,306,029	3,365,471	9,837,568	4,831,936	5,005,650	15,580,541	7,694,902	7,885,639
No Schooling per cent of Total Pop.	3,794,415	1,672,115	2,122,300	3,791,762	1,564,393	2,227,369	4,282,787	1,692,402	2,590,385	6,052,208	2,546,422	3,505,786
	73.0	63.3	83.0	56.8	47.3	66.2	43.5	35.0	51.8	38.8	33.1	44.5

Source: Ghana Statistical Service, 1960, 1970, 1984 & 2000 Population Censuses

The figures in Table 4.12 show very interesting trends with significant policy implications. Between 1960 and 1984, there were very significant decreases in the proportions of persons who had never attended school, but in spite of major educational reforms between 1984 and 2000, there appears to be stagnation in proportions of persons aged 6 and older who had never attended school in the country (from 43.5 per cent in 1984 to 38.8 per cent in 2000). The differences between the male and female populations show even more significant patterns. Even though the proportion of females is still higher than that of males, the rate of decrease in females who had never attended school has been significantly faster than that of the male population. A graph of proportion of non-school attendance over time clearly illustrates the steeper gradient of the female population as compared to the male population (Figure 4.1).



Source: Ghana Statistical Service, 1960, 1970, 1984 & 2000 Population Censuses

One very pertinent observation is that whereas the level of illiteracy among the female population decreased slightly from 51.8 per cent in 1984 to 44.5 per cent in 2000, that of the male population decreased only slightly from 35.0 per cent to 33.1 per cent over the period. This may seem rather insignificant, but if this is a manifestation of a trend that has now begun to show and might continue, then it appears the country is moving from a situation where affirmative action for female education is giving way to a new situation that might require the adoption of a similar affirmative action for males.

Even though improvements in the country's literacy rates appear not to be keeping pace with population growth, there have been some significant gains in the attainment levels at various levels of education between 1960 and 2000. Table 4.13 indicates that between 1960 and 1984, primary school enrolment continued to absorb between 65 and 71 per cent of school-going age children. There were significant increases also in the share of school enrolment at the secondary and tertiary levels between 1984 and 2000, with tertiary enrolments in particular increasing from 0.3 per cent in 1984 to 2.1 per cent in 2000.

This was partly due to the upgrading of some of the country's polytechnics to tertiary institutions and, more significantly, to the large increase of persons eligible for university admission as a result of the change, in 1987, in the educational policy from the old sixth form to the senior secondary level as the qualifying point for admission into tertiary educational institutions. Tertiary level enrolments therefore rose from 7,708 in 1984 and 84,700 in 2000.

**Table 4.13: School Attendance (6 years and older) by Highest Level and Sex**

Highest Level		1960	1970	1984	2000
Pre-school & Primary school	Total	70.6	65.9	67.6	63.8
	Male	67.9	62.5	65.0	61.9
	Female	76.0	70.5	70.9	65.9
Middle/Junior Secondary	Total	25.2	27.6	24.1	22.3
	Male	27.1	29.3	25.1	22.6
	Female	21.5	25.4	22.9	21.9
Secondary (SSS & 6 <sup>th</sup> .Form)	Total	2.7	4.0	6.2	8.3
	Male	3.3	5.1	7.4	8.9
	Female	1.5	2.4	4.6	7.6
Commercial/Technical	Total	0.7	1.0	1.3	1.9
	Male	0.8	1.3	1.5	2.1
	Female	0.4	0.7	0.9	1.7
PostSec. Teacher Training/Nursing/Agric.	Total	0.6	1.2	0.5	1.7
	Male	0.7	1.4	0.6	1.9
	Female	0.6	0.9	0.6	1.4
Tertiary/University	Total	0.2	0.3	0.3	2.1
	Male	0.2	0.4	0.4	2.6
	Female	0.03	0.1	0.1	1.5

Source: Ghana Statistical Service, 1960, 1970, 1984 & 2000 Population Censuses

In spite of the policy of free education at all levels for the three northern regions, instituted in the early 1950s, no impact seems to have been made on the literacy levels of these regions. There could be several reasons, perhaps the most plausible is that once the children of the north get educated, they migrate to the south to seek jobs because of the lack of opportunities for them in those regions. Secondly, even though the facility for free education may be available, it is also possible that the level of poverty is such that the indigenous populations of the north cannot even afford the initial investment to send the children to school, and these children are also needed for economic activities necessary to keep the family going. No matter the involvement in education in the northern regions, there can be no retention of personnel and no impact on the literacy rate of these regions if they are not accompanied by job creation, job opportunities and improvements in living conditions and in infra-structural facilities of the area.

Table 4.13 also shows that for each of the census years considered, there are higher proportions of females than males enrolled in pre-school and primary levels. The situation changes by the time pupils reach the junior secondary school level, from where the proportion of attendance is higher for males than females at all levels.

#### **Attendance at Various Levels of Education**

Having examined the illiteracy levels of the country over the forty-year period from 1960 to 2000, the actual enrolment levels in the country's schools in relation to population, and their policy implications, will now be examined.

### ***National and Regional Enrolment in School (Age 3 Years or Older)***

According to the 2000 Census, there are 4,700,591 persons aged 3 years or older who are currently attending school at various levels from pre-school to tertiary. Table 4.14 is a summary of enrolments at the various educational levels in the ten regions.

**Table 4.14: Current School Attendance ( 3 years and older) by Level and Region**

Region	Total	Pre-school	Primary	JSS	SSS	Voc/Tech	Post-sec/ Professional	Tertiary
All Regions	4,700,591	680,076	2,547,441	906,655	338,280	76,096	67,343	84,700
	100.0	14.5	54.2	19.3	7.2	1.6	1.4	1.8
Western	523,167	16.1	57.0	18.2	5.5	1.2	0.9	1.1
Central	466,904	15.9	55.1	19.4	5.1	1.1	1.2	2.1
Greater Accra	783,222	14.0	46.4	20.6	11.1	2.6	1.8	3.5
Volta	432,651	11.8	54.5	20.7	7.9	1.9	1.8	1.4
Eastern	586,312	13.8	56.4	20.2	6.1	1.2	1.0	1.3
Ashanti	938,293	15.3	56.1	19.0	5.9	1.1	1.1	1.4
Brong Ahafo	469,892	15.0	55.6	19.3	6.3	1.3	1.2	1.2
Northern	267,153	14.0	54.3	15.7	8.8	2.4	2.7	2.0
Upper East	147,145	12.2	56.5	17.0	8.4	2.1	2.2	1.5
Upper West	85,852	11.6	53.3	18.6	9.2	2.6	2.8	1.9

Source: Ghana Statistical Service, 2000 Population and Housing Census

About 49 per cent of children who ought to have been in full-time schooling at the time of the census were not in school. They have either never been to school at all, or may have exited or terminated at various stages of the educational system before age 24. Of those in school, Ashanti region has the highest absolute number, 938,293 (20.0 per cent). The three northern regions have the lowest attendance figures.

At the national level, 52.3 per cent of those in school are male and 47.7 per cent are female. The gender distribution at various levels of education are as shown in Table 4.15. At all levels the absolute numbers are more for males than females.

At the lower levels of the educational ladder, pre-school and primary, proportions of female enrolment are slightly higher than those of males, while the reverse is true at higher levels (JSS and upwards). There are indications, however, that female enrolment is gradually moving up even at the higher levels. There is the need to ensure that this trend is maintained or accelerated to move towards the ideal norm of a 50/50 sex ratio.

**Table 4.15: Current School Attendance (3 years and older) by Education Level and Sex**

Sex	All Levels	Pre-school	Primary	JSS	SSS	Voc./Tech	Post sec./ Professional	Tertiary
Both Sexes	4,700,591	680,076	2,547,441	906,655	338,280	76,096	67,343	84,700
	(100.0)	(14.5)	(54.2)	(19.3)	(7.2)	(1.6)	(1.4)	(1.8)
Male	2,458,820	340,077	1,302,931	484,215	191,191	43,965	41,183	55,258
	(52.3)	(13.8)	(53.0)	(19.7)	(7.8)	(1.8)	(1.7)	(2.2)
Female	2,241,771	339,999	1,244,510	422,440	147,089	32,131	26,160	29,442
	(47.7)	(15.2)	(55.5)	(18.8)	(6.6)	(1.4)	(1.2)	(1.3)

Source: Ghana Statistical Service, 2000 Population and Housing Census

### Primary and Junior Secondary Schools

The census data were collected in March 2000, while the Ghana Education Service (GES) of the Ministry of Education data were collected in November 1999. At the primary school level, there was an overall lower enrolment figure from the census, as compared with the figures from the Ghana Education Service. The overall difference (104,176) in enrolment between the time of the GES census and the national population census is 4.1 per cent (Table 4.16). At the junior secondary school level, the opposite was the case, with the Ministry of Education recording 73,636 pupils less than the census figure.

**Table 4.16: Enrolments in Primary Schools by region**

Table A10: Enrolments in Primary Schools by Region								
Region	Population- Age group 6-11	Enrolment Level				Difference in Enrolments Level		Per cent Difference between GES/Census
		2000 PHC		1999/2000 GES		No.	per cent	
		No.	per cent	No.	per cent			
Western	331,628	287,598	86.7	271,709	81.9	15,889	4.8	5.8
Central	276,246	249,678	90.4	251,217	90.9	-1,539	-0.5	-0.6
Greater Accra	387,616	351,954	90.8	342,341	88.3	9,613	2.5	2.8
Volta	277,231	228,158	82.3	241,848	87.2	-13,690	-4.9	-5.7
Eastern	353,528	320,371	90.6	334,127	94.5	-13,756	-3.9	-4.1
Ashanti	612,894	510,004	83.2	487,253	79.5	22,751	3.7	4.7
Brong Ahafo	306,447	251,982	82.2	253,542	82.7	-1,560	-0.5	-0.6
Northern	333,352	134,299	40.3	204,265	61.3	-69,966	-21.0	-34.3
Upper East	169,006	78,870	46.7	112,283	66.4	-33,413	-19.7	-29.8
Upper West	106,198	43,790	41.2	62,295	58.7	-18,505	-17.5	-29.7
Total	3,154,146	2,456,704	77.9	2,560,880	81.2	-104,176	-3.3	-4.1

Sources: Ghana Statistical Service, 2000 Population and Housing Census  
Ministry of Education, Education Census, 1999/2000

A closer examination of the regional distribution shows some very interesting trends. At the primary level, the three northern regions all recorded huge decreases in enrolment between November 1999, when the GES census was carried out, and March 2000 when the national population and housing census was carried out; Volta and Eastern also recorded moderately low differences while Central and Brong Ahafo recorded significantly low differences. Western, Greater Accra and Ashanti are the only regions that recorded higher differences. Similar trends were observed in the differences in the proportion of enrolment for the two sources of data. The differences in the case of the three northern regions were as much as about a third less than the GES figures. It is possible that in the three northern regions children enrolled during November, which is the beginning of the dry harmattan season, when no active farming activities took place. School attendance may however decrease around March with the approach of the farming season for school children to work on their parents' farms, including cattle ranching and herding.

Similar trends were observed for these same regions in both the 1970 and 1984 census, and the corresponding GES figures for those years. In 1983/84 the Northern recorded a 7.2 per cent decrease in combined primary and middle school enrolments between the GES census in October 1983 and the national population census in March 1984, while Upper East (5.6 per cent) and Upper West (7.3 per cent) recorded modest increases compared with increases for

Greater Accra (23.8 per cent) and Brong Ahafo (17.8 per cent). In 1970, Northern (6.5 per cent) and Upper (6.8 per cent) recorded decreases between GES and population census periods. In both 1970 (12.7 per cent) and 1984 (6.7 per cent), the GES figures had overall national shortfalls.

A special arrangement had been made for basic schools to go on vacation earlier than scheduled in order to release teachers at that level to be used as enumerators and it is possible that some children may have been recorded as not currently in school. This could explain why most regions recorded lower attendance than enrolled at the beginning of the school year.

The situation is markedly different at the junior secondary (JSS) level (Table 4.17). Here enrolment as recorded in November 1999 by the Ghana Education Service is slightly lower than that captured by the March 2000 population census. The regional pattern shows that except Northern (-2.4 per cent) and Upper West (-5.8 per cent), all other regions recorded higher school attendance from that enrolled in November 1999.

**Table 4.17: Enrolment in Junior Secondary Schools: 2000 census and GES Enrolment Records**

Region	Population Age Group 12-14	Enrolment Level				Difference in Enrolments Level		Per centage Difference between GES and Census
		2000 Census		1999/2000 GES		No.	per cent	
		No.	per cent	No.	per cent			
Western	136,033	95,092	69.9	80,943	59.5	14,149	10.4	17.5
Central	120,201	90,398	75.2	85,668	71.3	4,730	3.9	5.5
Gt. Accra	190,995	161,434	84.5	149,281	78.2	12,153	6.3	8.1
Volta	118,367	89,736	75.8	82,575	69.8	7,161	6.0	8.7
Eastern	158,395	118,360	74.7	108,798	68.7	9,562	6.0	8.8
Ashanti	252,006	177,930	70.6	164,179	65.2	13,751	5.4	8.4
Brong Ahafo	133,406	90,722	68.0	77,491	58.1	13,231	9.9	17.1
Northern	109,217	41,984	38.4	43,034	39.4	-1,050	-1.0	-2.4
Upper East	63,995	25,057	39.2	24,127	37.7	930	1.5	3.9
Upper West	28,544	15,942	55.9	16,923	59.3	-981	-3.4	-5.8
Total	1,321,159	906,655	68.6	833,019	63.1	73,636	5.5	8.8

Sources: Ghana Statistical Service, 2000 Population and Housing Census  
Ministry of Education, Education Census, 1999/2000

There are a number of possible reasons for the differences in current school attendance between the GES and census figures, including the response rate used by the GES in estimating its figures and drop-outs within the school year, but above all differences in methodology. The population census is carried out during a limited period of time and involves actual personal interviews of individuals, who are asked a series of structured questions, including educational background, instead of relying on headcounts from school heads in remote parts of the country over a long period of time. On the other hand, the census definition of current school attendance includes pupils who are awaiting results or on vacation and expecting to continue with their schooling. Thus, pupils who have sat for the BECE examinations and waiting to be admitted into senior secondary would be recorded as still in school, with junior secondary as the highest level at the time of the census. Such children, of course, would not have been recorded by the GES as enrolled JSS students.

The overall national differences of 3.3 per cent in primary and 5.5 per cent in JSS enrolments are lower than the 12.1 and 6.7 per cent overall shortfalls observed in 1984 and 1970 and are not too significant to affect the broad deductions and policy implications that can be obtained from the figures. In discussing the primary and junior secondary school enrolments, therefore, the national population and housing census results are used as the main primary

source, but wherever it is more appropriate, data from the Ministry of Education are used to complement the census data.

As at academic year 1999/2000, there were 14,097 primary schools, of which 2,163 were private, to cater for over 3.1 million children aged 6 to 11 years. There were 6,829 junior secondary schools in 1999/2000, of which 775 were private, catering for the 1,321,159 children aged 12-14 years expected to be in junior secondary school at the time of the 2000 Census. As at 1997/98 only 449 of the 6020 junior secondary schools were private, while 1,090 out of the 12,326 primary schools were private. Table 4.18 gives the regional breakdown of these schools for the 1999/2000 academic year.

Table 4.18: Primary and Junior Secondary Schools by Region and Sector, 1999/2000

Region	Primary Schools			Junior Secondary Schools		
	Public	Private	Total	Public	Private	Total
All Regions	11,916	2,163	14,079	6,054	775	6,829
Western	1,299	230	1,529	679	75	754
Central	1,166	185	1,351	804	71	875
Greater Accra	751	571	1,322	491	288	779
Volta	1,429	88	1,517	737	34	771
Eastern	1,864	235	2,119	977	72	1,049
Ashanti	1,811	600	2,411	985	171	1,156
Brong Ahafo	1,401	192	1,593	679	59	738
Northern	1,368	38	1,406	297	3	300
Upper East	444	15	459	177	1	178
Upper West	363	9	372	228	1	229

\* Source: SRIMPR Division, Ministry of Education EMIS Project.

There were 504 senior secondary schools of which 30 were private, the same total number as at 1997/98. The numbers of primary and junior secondary school for the 2001/2002 academic year from the Ministry of Education are shown in Table 4.19.

Table 4.19: Number of Schools: 2001/2002 Academic Year

Level	Public	Private	Total	per cent Private
Pre-school	6,321	3,133	9,634	34.4
Primary	12,335	2,950	15,285	19.3
JSS	6,414	1,168	7,582	15.4
SSS	474	30	504	6.0

\*Source Min. of Education 2002

Between 1997/98 and 2001/2002 academic years, public primary schools grew by 9.8 per cent from 11,236 to 12,335, and public JSSs grew by 15.1 per cent from 5,571 to 6,414. The private primary schools, on the other hand, grew by 170.6 per cent from 1,090 to 2,950 while the private JSSs grew by 160.1 per cent from 449 to 1,168. By 2001/2002, the share of the private sector in primary school enrolment was 18.3 per cent and that of junior secondary schools to 14.3 per cent. This indicates that the large increases in number of the private schools during the period 1999 to 2001 (36.1 per cent) does not seem to have translated into commensurate significant increases in enrolment.

It is not clear whether these increases are due to construction of new permanent physical structures or accommodation in temporary structures. What is clear is that the phenomenal

growth in private schools at the basic level is due to their perceived greater ability to prepare pupils for the BEC examination, whose results determine whether a child will enter senior secondary school. This has created a heavy demand by parents for these private schools, which are usually far more expensive than the public schools. Performance and criterion reference tests conducted by the Ministry of Education clearly indicate that the private school children have a much higher achievement rates than the public school children. The criterion reference tests (CRTS) give an indication of the percentage of pupils who reach mastery of the English language by obtaining 60 per cent of the score, and mastery of mathematics by obtaining 55 per cent of the total score.

The figures in Table 4.20 show that the performance of private school pupils in the two key subjects is far superior to those in the public schools. This indicates that the public school pupil will be severely handicapped when it comes to success in public examinations for progression from basic to senior secondary school.

Table 4.20: Criterion Reference Test Results 1992-1999

Subject	School	1992	1993	1994	1995	1996	1997	1999
English	Public							
	PRM	2.0	3.0	3.3	3.6	5.5	6.2	8.7
	Mean Score	-	-	31.0	-	33.0	33.9	-
	Private							
	PRM	-	-	51.4	-	56.5	68.7	-
Mathematics	Mean Score			58.8	-	61.0	67.4	-
	Public							
	PRM	1.1	1.5	1.5	1.8	1.8	2.7	4.0
	Mean Score	-	-	27.7	-	28.8	29.9	-
	Private							
	PRM	-	-	31.7	-	31.0	40.4	-
	Mean Score	-	-	47.3	-	47.0	51.7	-

Source Ministry of Education

Notes: 1. PRM percentage reaching mastery.

2. Mean score is average score for all candidates taking test

The performance monitoring tests, which cover both the public and private schools, show that the country really has a serious problem. The percentage of pupils performing satisfactorily in both English and mathematics is generally low. Since the criterion reference tests (CRTs) show that the private schools generally perform far better than the public schools, the performance of the public school candidates in this overall result must be contributing considerably to the generally poor results recorded in the performance monitoring tests.

The performance in mathematics is particularly interesting. Performance in English is generally consistent from primary 1 to primary 6, with both the mean score and the proportion reaching satisfactory performance remaining fairly consistent. The performance in mathematics, however, shows that whereas both the mean scores and proportion reaching satisfactory performance are relatively high at primary one, there is rapid deterioration in performance as one progresses to higher classes. For example, the mean score for English at primary 2 is 32.1 per cent for 1998 and 27.3 per cent for 2000 and the proportion reaching satisfactory performance is 24.9 for 1998 and 20.3 for 2000. For primary 6, the mean score for 1998 is 34.2 per cent and 34.5 per cent for 2000 and the per centage reaching mastery is

21.8 for 1998 and 22.0 for 2000. On the other hand, for mathematics, whereas the mean score for 1998 is 32.7 per cent and 48.6 per cent for 2000, with 30.9 (1998) and 53.8 (2000) per cent performing satisfactorily in primary 2, by primary 6 the mean scores are 13.9 for 1998 and 23.4 per cent for 2000, with only 2.8 and 10.6 per cent performing satisfactorily in the same two years.

This implies that either the subject gets more and more badly taught as one progresses up the education ladder, or the children become less and less able to cope with it as they progress, notwithstanding the quality of teaching. Careful consideration of this result indicates that the former is more likely the case; the subject gets more and more badly taught. The teaching of mathematics, especially at higher levels of the basic schools, and indeed the entire education system, therefore needs to be urgently tackled and improved to make the subject more interesting and more comprehensible to pupils. All the same, there are indications that both the public and private sectors are endeavouring to increase access to the basic school level, but the bottleneck at higher levels continues to persist.

**Table 4.21: Performance Monitoring Tests by Subject and Class (1999-2000)**

Class	English				Mathematics			
	Mean score		per cent satisfactory*		Mean score		per cent satisfactory**	
	1998	2000	1998	2000	1998	2000	1998	2000
Primary 1	21.0	-	12.9	-	39.6	-	42.9	-
Primary 2	32.1	27.3	24.9	20.3	32.7	48.6	30.9	53.8
Primary 3	28.0	34.9	17.3	27.2	23.4	49.0	13.5	56.7
Primary 4	19.6	30.2	8.1	28.1	19.1	32.3	7.4	20.5
Primary 5	28.3	30.8	14.8	22.9	13.9	25.7	4.7	15.9
Primary 6	34.2	34.5	21.8	22.0	13.9	23.4	2.8	10.6

Source: Ministry of Education

\* Per centage of pupils obtaining a score of 55 per cent and above

\*\* Per centage of pupils obtaining a score of 50 per cent and above

It must be stated that even though ages 6-11 and 12-14 are selected for the basic school enrolments in accordance with the Ghana Education Service criteria, there are many children who enter primary one at ages between 5 and 10, and hence there are children in junior secondary school who may be under 14 years, or older than 18 years old by the time they reach the final year in junior secondary school. For the purpose of this analysis, however, the official classification criteria of the Ghana Education Service are used. This is however not without its potential problems. For example, total primary school enrolment in a region could be more than the population of children between 6 and 11 years, giving a gross enrolment of over 100 per cent because some children are enrolled when they are older than 6 years or are older than 11 years in their last years. Because a child has to be 6 years before enrolling in primary one, children who turn 6 years after the school year would be enrolled when they are almost 7 years old. The implication is that such children would be 12 years when they are still at primary level. Such gross enrolment figures give a distorted enrolment rate, giving the impression that the country is experiencing a high enrolment rate for children aged between 6 and 11 years. The trends and conclusions that can be drawn from the data however are not likely to be significantly different as to affect any policy implications that may be drawn.

The 1997 Core Welfare Indicators Questionnaire (CWIQ) survey results (Table 4.22) differ slightly from the GES figures of 1998 and the 2000 Census data, but analysed alongside the census and GES data makes it possible for valid conclusions to be drawn to inform policy decisions. For example, the results show that nationally, at both the primary and junior secondary school levels, girls enrolled in school as a ratio of girls of the appropriate age is higher than that of eligible males. Overall, 88 per cent of eligible children enrolled at the primary level constituted 88.9 per cent of children of primary school going age, with 88.5 per cent for girls and 87.4 per cent for boys. At the junior secondary school level, the enrolled were 42.6 per cent of children of secondary school going age, with 41.2 per cent for boys and 44.2 per cent for girls. What this means is that girls do enrol later (at older ages) than boys.

**Table 4.22: School Gross Enrolment Rates by Sex, Locality and Region, 1997**

Level of Enrolment	Administrative regions									
	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
<b><u>Rural</u></b>										
Primary enrolment	86.9	87.2	80.7	86.6	89.7	88.4	82.3	89.9	89.8	92.2
Male	86.1	87.0	81.0	85.1	90.7	88.1	80.0	91.4	91.4	86.5
Female	87.7	87.5	80.4	88.3	88.8	88.6	85.2	88.1	87.7	96.6
Junior sec. enrolment	41.4	43.6	30.9	43.5	37.4	43.2	33.6	33.3	33.0	26.1
Male	37.6	47.4	29.6	42.8	32.1	45.7	33.7	33.4	35.8	20.9
Female	45.7	39.6	32.3	44.4	46.7	40.3	33.5	33.0	29.0	34.0
<b><u>Urban</u></b>										
Primary enrolment <sup>1</sup>	90.1	86.5	90.2	87.2	94.1	87.9	87.1	89.4	96.9	92.2
Male	91.0	89.6	88.5	83.1	95.5	85.9	87.8	91.8	97.5	84.6
Female	89.1	83.7	91.9	91.3	92.8	90.2	86.4	87.2	96.0	100.0
Junior sec. enrolment	49.6	47.2	50.8	47.7	54.3	52.4	38.1	38.9	58.3	73.2
Male	54.4	53.6	47.9	55.6	52.9	57.0	31.0	38.5	55.1	50.0
Female	45.6	40.5	53.2	41.8	55.6	47.9	44.0	39.5	61.5	90.0

Source: Ghana Statistical Service, Core Welfare Indicators Questionnaire (1998)

Notes: 1. Based on those aged between 6-11 years for primary

2. Based on those of junior secondary age 12-15 years for JSS

The regional and locality distributions show significant differences. In the rural areas, Western, Central, Volta, Ashanti, Brong Ahafo and Upper West all record higher gross enrolment for girls than boys at the primary school level, while the other four regions show higher male enrolment levels than female. At the junior secondary school level, however, only Western, Greater Accra, Volta, Eastern and Upper West have higher enrolment for girls.

For the urban areas, Greater Accra, Volta, Ashanti and Upper West record higher enrolment for girls than boys at the primary level, while Greater Accra, Eastern, Brong Ahafo, Northern, Upper East and Upper West all record higher enrolment for girls than boys at the Junior secondary School level. It is interesting to note that only the Upper West records higher enrolment for girls at all levels in both the rural and urban areas. Indeed, the three northern regions record substantially higher enrolment levels than most other regions at the primary level but the lowest at the secondary level. This appears to support the observation that the higher enrolment levels are more the result of pupils enrolling at much older ages than stipulated for the primary school level than a greater desire for schooling. Many such older girls, particularly from the north, drop out early and therefore do not influence enrolment levels at the higher level. Even though these results differ slightly from the GES figures and 2000 Census results, they all point to the fact that at the lower levels of the education ladder,

enrolment among the two sexes is almost identical, and that differences begin to emerge as one climbs up the education ladder.

### **Enrolment Bottlenecks at the Primary/JSS Transition Point and their Implications**

As at year 2000, there were 14,079 primary schools countrywide to cater for the 3.15 million children aged 6-11 years expected to be in primary school. Since ideally every child in primary school would be expected to enter junior secondary school, one would expect every primary school to have a junior secondary section to absorb its own pupils from the primary level. The fact, however is that as at year 2000, there were only 6,829 junior secondary schools, constituting less than 50 per cent of the total number of primary schools countrywide. There are about twice as many primary schools as there are junior secondary schools, implying that many children would have to change schools from the primary to junior secondary school. This is particularly prevalent in the rural areas, where children therefore have to travel long distances, usually on foot, to attend the nearest junior secondary school. The tendency therefore is for such children to drop out after primary school instead of undertaking the hazardous and tiresome trekking from one village to the other to complete their basic school education.

The terminal class of basic education is JSS 3. This implies that if there were to be full implementation of the Free Compulsory Universal Basic Education (FCUBE) policy, every child who starts primary school would be expected to complete JSS; with the current situation, there would not be enough schools or classroom space to cater for all these children. Classrooms would therefore be overcrowded or that there would be massive dropout of children, leading to a large number of unskilled and untrained children joining the ranks of those seeking employment. Table 4.23 shows that on the average about 72 per cent of children of school-going age in 1998 and about 81 per cent in 1999/2000 were actually enrolled in primary school.

**Table 4.23: Population and Enrolment Densities and Ratios in Primary Schools. 1997/1998 and 1999/2000 GES figures. (No. of private schools in parenthesis)**

Region		Population 6-11 years (a)	*Number of primary schools (b)	Potential enrolment Density/sch if all enroled (a/b)	Actual net enrolment, 6-11 yr. olds (c)	Actual pop. Density/primary school (c/b)	Actual average class size	Average class size if all children in school
All Regions	1997/1998	3,155,758	12,326 (1090)	256.0	2,288,768 72.5	185.7	30.9	42.7
	1999/2000	<b>3,154,146</b>	<b>14,079</b> <b>(2163)</b>	<b>223.7</b>	<b>2,560,880</b> <b>81.1</b>	<b>189.95</b>	<b>31.7</b>	<b>37.3</b>
Western	1997/1998	308,646	1340 (82)	230.3	76.2	175.5	29.3	38.4
	1999/2000	<b>331,628</b>	<b>1,529</b> <b>(230)</b>	<b>216.9</b>	<b>81.9 per cent</b>	<b>177.7</b>	<b>29.6</b>	<b>36.2</b>
Central	1997/1998	261,989	1203 (60)	217.8	86.9	189.3	31.5	36.3
	1999/2000	<b>276,246</b>	<b>1,351</b> <b>(165)</b>	<b>204.5</b>	<b>90.9</b>	<b>185.9</b>	<b>31.0</b>	<b>34.1</b>
Greater Accra	1997/1998	400,936	1040 (297)	385.5	73.2	282.2	47.0	64.3
	1999/2000	<b>387,616</b>	<b>1322</b> <b>(571)</b>	<b>293.2</b>	<b>88.3</b>	<b>259.0</b>	<b>43.2</b>	<b>48.9</b>
Volta	1997/1998	277,023	1419 (32)	195.2	84.8	165.5	27.6	32.5
	1999/2000	<b>277,231</b>	<b>1517</b> <b>(88)</b>	<b>182.7</b>	<b>87.2</b>	<b>159.4</b>	<b>26.6</b>	<b>30.5</b>
Eastern	1997/1998	415,656	1296 (120)	215.8	76.0	164.1	27.3	36.0
	1999/2000	<b>353,528</b>	<b>2119</b> <b>(235)</b>	<b>166.8</b>	<b>94.5</b>	<b>157.7</b>	<b>26.3</b>	<b>27.8</b>
Ashanti	1997/1998	524,134	2175 (362)	241.0	86.1	207.5	34.6	40.2
	1999/2000	<b>612,894</b>	<b>2411</b> <b>(600)</b>	<b>254.2</b>	<b>79.5</b>	<b>202.1</b>	<b>33.7</b>	<b>42.4</b>
Brong Ahafo	1997/1998	336,031	1487 (110)	226.0	72.8	164.6	27.4	37.7
	1999/2000	<b>306,447</b>	<b>1593</b> <b>(192)</b>	<b>192.4</b>	<b>82.7</b>	<b>159.2</b>	<b>26.5</b>	<b>32.1</b>
Northern	1997/1998	329,277	1071 (13)	307.4	45.1	138.5	23.1	51.2
	1999/2000	<b>333,352</b>	<b>1406</b> <b>(38)</b>	<b>237.1</b>	<b>61.3</b>	<b>145.3</b>	<b>24.2</b>	<b>39.5</b>
Upper East	1997/1998	195,242	329 (8)	593.4	42.0	249.3	41.5	98.9
	1999/2000	<b>169,006</b>	<b>459</b> <b>(15)</b>	<b>368.2</b>	<b>66.4</b>	<b>244.6</b>	<b>40.8</b>	<b>61.4</b>
Upper West	1997/1998	106,824	336 (6)	317.9	51.6	164.1	27.4	53.0
	1999/2000	<b>106,198</b>	<b>372</b> <b>(9)</b>	<b>285.5</b>	<b>58.7</b>	<b>167.5</b>	<b>27.9</b>	<b>47.6</b>

Source: Ministry of Education

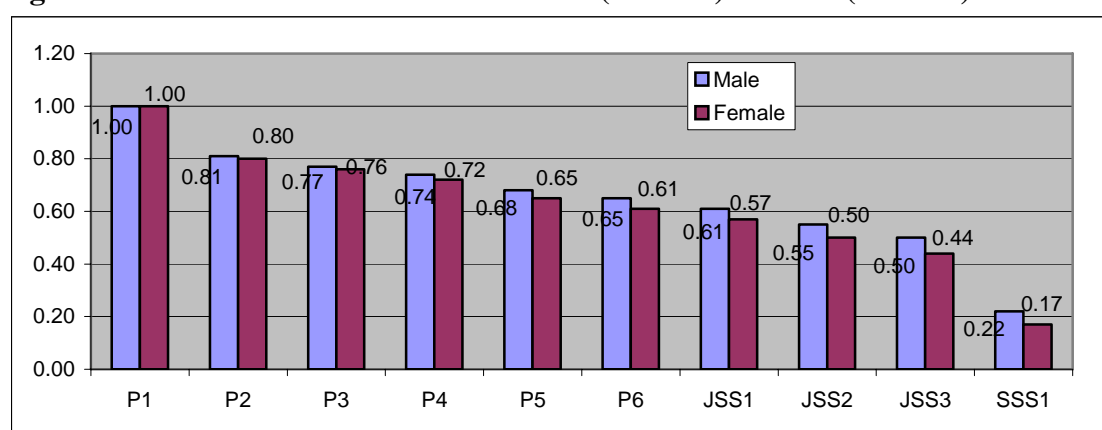
Central has the highest net enrolment rate in primary school, with 86.9 per cent of eligible children enroled in 1997/1998 and 90.9 per cent in 1999/2000. The three northern regions, as has been previously noted, have the lowest net enrolment rates, though there have been improvements between 1997/1998 and 1999/2000: from 45.1 to 61.3 per cent for Northern, 42.0 to 66.4 per cent for Upper East, and from 51.6 to 58.7 per cent for Upper-West.

Another pertinent issue brought out in Tables 4.23 is the class enrolment density in most schools. The general perception is that most schools are grossly overcrowded, in spite of the fact that many children of school going age who should be in school are not. From the figures in Table 4.23, the average national class density at primary school, if all children of school-going age were to enrol, is 42.7 pupils per class for 1997/1998 and 37.3 for 1999/2000. Upper East has the highest potential class density of 98.9 pupils per class in 1997/1998 and 61.4 in 1999/2000, followed by Greater Accra with 64.3 for 1998 and 48.9 for 1999/2000. The lowest is Volta with 32.5 for 1997/1998 and 30.5 for 1999/2000. The official government policy is that at the basic school level, the class size should not exceed 35 pupils as compared with the actual national average class density in 2000 of 30.9 pupils

per class for primary schools. Upper East has 40.8 for primary school while Northern has 24.2 children per class.

Current dropout rate in schools is very high. Of the eligible children enrolled in primary class 1, by primary 2, 20 per cent would drop out of school. By primary 6, about 60 per cent would remain and by JSS 3, only about 50 per cent remain. There is a sharp drop to a little over 20 per cent by senior secondary form 1. The trend is illustrated in Figure 4.2. Even though the Core Welfare Indicators Questionnaire survey seems to suggest that there is a higher gross enrolment ratio for girls, it appears that once children begin to move up the education ladder, female dropout rate begins to increase and it becomes increasingly difficult to keep the girls in school.

**Figure 4.2: Cohort Survival Rates from P1 (1987/88) to SSS1 (1996/97)**



Source: Ministry of Education

Whereas at primary one enrolment ratio of male to female is 1:1, with some regions and districts having even higher female gross enrolment rates, by primary six only 61 per cent of females are still in the system, compared to 65 per cent of males. By JSS three, 50 per cent of males are still in the system, compared to 44 per cent females, and by SSS 1 only 22 per cent male and 17 per cent females are still in the system. Subsequently, issues like where all these children end up and the avenues opened to the 50 per cent of children who leave school after only six years of primary education, and the equally large numbers who leave the system after JSS need to be addressed.

At the national level only 57.7 per cent of eligible children for age 12-14 years were enrolled in junior secondary school in 1997/1998 and 63 per cent in 1999/2000 (Table 4.24).

With the number of primary schools being more than twice the number of junior secondary schools, one would have expected that if all the eligible children from primary were to enter JSS, the class densities would double. The evidence from the Table however is that, on the average, the actual enrolment at JSS is just about half the expected enrolment, and that actual class densities do not change much from those of the primary schools. At the regional level, for example, the actual density at JSS in Eastern is 34.6 children per class whereas the potential is 50.3. At the primary level, the actual is 26.3 children per class whereas the potential is 27.8. In Brong Ahafo, the actual at JSS is 35 while the potential is 60.3.

**Table 4.24: Population and Enrolment Densities and Ratios in Junior Secondary Schools  
(Number of private schools in parenthesis)**

Region	School Year	Pop. 12-14yrs	No of JSS	Potential enrolment Density/ JSS if all enrolled	Actual enrolment 12-14yr olds	Actual enrolment Density/ JSS	Actual Average. Class size	Av. Class size if all children in school
National	1997/1998	1,309,780	6,020 (449)	217.6	755,162 57.7	125.4	41.8	72.5
	1999/2000	<b>1,321,159</b>	<b>6,829 (775)</b>	<b>193.5</b>	<b>833,019 63.1</b>	<b>119.1</b>	<b>39.7</b>	<b>64.5</b>
Western	1997/1998	128,101	655 (33)	195.6	71,510 55.8	109.2	36.4	65.2
	1999/2000	<b>136,033</b>	<b>754 (75)</b>	<b>180.4</b>	<b>80,943 59.5</b>	<b>107.4</b>	<b>35.8</b>	<b>60.1</b>
Central	1997/1998	108,736	775 (21)	140.3	77,677 71.5	100.2	33.4	46.8
	1999/2000	<b>120,201</b>	<b>875 (71)</b>	<b>137.4</b>	<b>85,668 71.3</b>	<b>97.9</b>	<b>32.6</b>	<b>45.8</b>
Gt. Accra	1997/1998	166,409	604 (158) 779 (288)	275.5	126,748 76.2	209.8	69.9	91.8
	1999/2000	<b>190,995</b>		<b>245.2</b>	<b>149,281 78.2</b>	<b>191.6</b>	<b>63.9</b>	<b>81.7</b>
Volta	1997/1998	114,977	720 (30)	159.7	81,380 70.8	113.0	37.7	53.2
	1999/2000	<b>118,367</b>	<b>771 (34)</b>	<b>153.5</b>	<b>82,575 69.8</b>	<b>107.1</b>	<b>35.7</b>	<b>51.2</b>
Eastern	1997/1998	172,516	958 (51)	180.1	103,574 60.0	108.1	36.0	60.0
	1999/2000	<b>158,395</b>	<b>1,049 (72)</b>	<b>151.0</b>	<b>108,798 68.7</b>	<b>103.7</b>	<b>34.6</b>	<b>50.3</b>
Ashanti	1997/1998	217,540	1,026 (97)	212.0	149,564 68.6	145.8	48.6	70.7
	1999/2000	<b>252,006</b>	<b>1,156 (171)</b>	<b>218.0</b>	<b>164,179 65.1</b>	<b>142.0</b>	<b>47.3</b>	<b>72.7</b>
Bromg Ahafo	1997/1998	139,465	678 (37)	205.7	74,721 53.6	110.2	36.7	68.3
	1999/2000	<b>133,406</b>	<b>738 (59)</b>	<b>180.8</b>	<b>77,491 58.1</b>	<b>105.0</b>	<b>35.0</b>	<b>60.3</b>
Northern	1997/1998	136,665	258 (10)	529.7	36,400 26.6	102.3	34.1	176.6
	1999/2000	<b>109,217</b>	<b>300 (3)</b>	<b>364.1</b>	<b>43,034 39.4</b>	<b>143.4</b>	<b>47.8</b>	<b>121.4</b>
Upper East	1997/1998	81,034	131 (3)	618.6	17,561 21.7	134.1	44.7	206.2
	1999/2000	<b>63,995</b>	<b>178 (1)</b>	<b>359.5</b>	<b>24,127 37.7</b>	<b>135.5</b>	<b>45.2</b>	<b>119.8</b>
Upper West	1997/1998	44,337	215 (9)	206.2	16,027 36.2	74.5	24.8	68.7
	1999/2000	<b>28,544</b>	<b>229 (1)</b>	<b>124.6</b>	<b>16,923 59.3</b>	<b>73.9</b>	<b>24.6</b>	<b>41.5</b>

The national average density for junior secondary is 39.7 as against 64.5 as the potential. The three northern regions present a very disturbing scenario. The potential enrolment and potential class densities are very high for the three northern regions but this is because the base for the calculation, numbers of schools available are the least. For instance the highest figure for Northern in 1999/2000 is 300 JSSs which are less than half of those for Greater Accra in 1997/1998 (604). In spite of these inequities, the actual enrolment and class

densities in Northern and Upper East are higher than many regions that are better endowed with school infrastructure. The rather low net enrolment rates are a matter of concern and should be addressed at all levels.

In many of the big urban schools, there is usually more than one stream per class. There are also some schools that run a shift system to enable them cater for larger numbers of pupils. Of the 18,795 primary and junior secondary schools, 1224 (or 6.5 per cent) run the shift system (Table 4.25). These are located mainly in Greater Accra (526 or 34.3 per cent), Central (168 or 8.1 per cent), Eastern (175 or 6.0 per cent), Ashanti (165 or 6.0 per cent) and Western (109 or 5.3 per cent). No schools in Volta and Brong Ahafo are recorded to run the shift system.

**Table 4.25: Number of Schools Running the Shift System**

Region	Primary & JSS	Schools Shift with System	Proportion with Shift System
Western	2,065	109	5.3
Central	2,067	168	8.1
Greater Accra	1,533	526	34.3
Volta	2,188	0	0
Eastern	2,928	175	6.0
Ashanti	2,734	165	6.0
Brong Ahafo	2,366	0	0
Northern	1,838	65	3.5
Upper East	563	16	2.8
Upper West	513	N/A	N/A
Total	18,795	1,224	6.5

Source: Ministry of Education

These observations imply that class sizes per stream could still be even smaller, except perhaps in the very good highly competitive schools, which might have overcrowding problems because of over-subscription. The fact that actual class sizes are smaller than predicted, coupled with the use of the shift system and multiple streams to cater for extra pupils, is an indication that even though the number of junior secondary schools is only about 50 per cent of available primary schools, the children from primary school do not find their way into overcrowded junior secondary schools. A very high proportion of children also do drop out of school entirely and it is important to research into and address the issue of what happens to the relatively large numbers of pupils who drop out of the school system at the various levels.

### **Reasons for Non-Attendance at School**

In addition to the high national illiteracy rate of 45 per cent, the country appears also to experience from high exit or dropout rates. In the 2001 Ghana Child Labour Survey, an attempt was made to find plausible answers to these questions. Table 4.26 gives results of the reasons for school non-attendance by sex, age group, region and locality of residence. In all the regions, and for all age groups surveyed, which cover the primary to senior secondary levels (age 5 to 17 years), the most frequent reason cited for non-attendance at school was non-affordability by parents to cater for children (44.2 per cent). Non-affordability of a child's schooling is therefore a very important reason for pupils/students dropping out of school. At the regional level, it accounts for 63.7 per cent in the Upper East, 62.1 per cent in

Greater Accra and 52.1 per cent in Northern and lowest in Upper West (16.7 per cent). The next most frequently cited reasons were long distance of place of residence from school (18.4 per cent), and children not being interested in school (17.1 per cent).

**Table 4.26: Reasons for School Non-attendance by Sex, Age group, Region and Locality of Residence**

Selected Characteristics		Reasons why Children are not Currently in School								Total	N
		Parents Cannot Afford	School too far	Not Interested In school	Family does not allow Schooling	Illness/ Disabled	Both Parents Not Alive	Father not alive	Mother not alive		
<b>Region</b>											
Western		34.5	27.6	13.1	3.4	2.1	1.4	2.1	0.7	15.2	145
Central		50.5	6.9	21.8	3.0	8.9	0.0	2.0	1.0	5.9	101
Greater Accra		62.1	4.3	6.9	5.2	5.2	0.0	1.7	2.6	12.1	116
Volta		28.5	27.9	15.1	7.0	2.9	0.0	1.7	0.0	16.9	172
Eastern		38.8	24.6	15.8	0.0	5.5	0.0	2.2	0.0	13.1	183
Ashanti		35.1	6.9	20.8	10.9	5.9	0.5	2.0	2.5	15.3	202
Brong Ahafo		30.7	28.4	24.4	1.1	2.8	0.0	0.6	0.0	11.9	176
Northern		52.1	16.8	10.0	6.6	0.5	0.4	0.8	1.5	11.3	1088
Upper East		63.7	9.3	15.6	3.1	0.6	0.0	2.3	0.3	5.1	353
Upper West		16.7	31.2	41.7	2.8	0.9	0.3	0.3	0.9	5.2	324
<b>Age group</b>											
5-9	Male	38.9	22.3	13.2	3.5	2.7	0.3	0.5	1.0	17.7	736
	Female	41.9	23.2	8.9	3.6	1.3	0.3	1.1	1.5	18.2	719
	All	40.3	22.7	11.1	3.6	2.0	0.3	0.8	1.2	17.9	1455
10-14	Male	42.9	17.5	23.9	6.0	2.3	0.2	2.6	1.1	3.6	469
	Female	50.6	12.5	21.1	5.8	2.6	0.2	1.6	1.2	4.4	431
	All	46.6	15.1	22.6	5.9	2.4	0.2	2.1	1.1	4.0	900
15-17	Male	47.2	15.4	23.6	7.7	1.6	0.4	2.0	0.0	2.0	246
	Female	54.8	8.1	25.5	6.9	1.9	0.4	0.4	0.8	1.2	259
	All	51.1	11.7	24.6	7.3	1.8	0.4	1.2	0.4	1.6	505
<b>Residence</b>											
Urban		52.2	2.7	14.2	5.2	4.6	0.3	3.3	0.8	16.7	366
Rural		43.0	20.7	17.5	4.9	1.7	0.3	1.0	1.1	9.8	2494
All		44.2	18.4	17.1	5.0	2.1	0.3	1.3	1.0	10.7	
N		1264	526	488	142	60	8	37	30	305	2860

Source: Ghana Statistical Service, 2003

Long distance from school is a major problem in Upper West (31.2 per cent), Brong Ahafo (28.4 per cent), Volta (27.9 per cent) and Western (27.6 per cent). It is worth noting that whereas non-affordability of cost of a child's schooling is a problem for both urban (52.2 per cent) and rural (43.0 per cent) respondents, long distance from school is a far more serious problem for rural localities (20.7 per cent) than urban (2.7 per cent). This confirms the observation that in rural areas, where many schools end at the primary level or where there are no schools at all, trekking long distances to attend the nearest school is enough to make a child either not go to school at all, or drop out somewhere along the line.

The least important reason for non-attendance in school is being orphaned, with only 0.3 per cent of respondents dropping out of school because both parents were dead or one parent is dead (1.3 per cent in the case of father and 1.0 per cent for mother). This may mean that some other members of the family took up the children's education which is reflective of the extended family support system.

The CWIQ survey also looked at the category of schools attended by children as shown in Table 4.27. The survey is important because other studies have clearly demonstrated that the type and quality of school attended by a child is extremely significant in determining whether the child would make it all the way to the very top of the education ladder. Children from the relatively few private preparatory schools tend to have a considerable advantage over those from public Government/local authority schools. The survey showed that at the national level, 85.5 per cent of children from both the rural and urban localities attend Government public schools, while private schools account for 12.2 per cent. The purely religious schools, receiving no assistance from Government, account for only 1.8 per cent. This is in sharp contrast to the situation in the pre-independence era when the churches were in almost full control of education at the basic and secondary levels.

**Table 4.27: Type of School (Ownership) Pupil Attends by Locality and Region**

Type of School Attended	Administrative Regions									
	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
<b><u>Rural</u></b>										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Government	83.7	92.8	91.6	94.9	90.5	90.4	91.5	98.4	95.4	94.6
Church/Religious	3.3	1.2	0.0	0.9	0.9	0.9	1.4	1.1	2.0	1.1
Private	12.7	5.6	8.4	2.9	7.2	8.5	6.5	0.5	2.0	2.4
Community	0.3	0.4	0.0	1.3	0.3	0.2	0.6	0.0	0.5	1.9
Other	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
<b><u>Urban</u></b>										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Government	78.1	83.4	63.9	90.9	84.8	67.5	71.7	92.6	90.7	93.0
Church/Religious	2.4	4.8	1.1	0.5	2.6	3.3	6.6	4.0	5.3	1.7
Private	19.2	11.0	34.9	8.6	12.6	29.2	21.2	3.3	3.9	5.2
Community	0.2	0.7	0.1	0.0	0.0	0.0	0.5	0.0	0.0	0.0
Other	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Ghana Statistical Service, Core Welfare Indicators Questionnaire (CWIQ) survey (1997)

The regional breakdown shows some interesting trends. In the rural areas, the Western recorded the highest proportion of children attending private schools (12.7 per cent), followed by Ashanti (8.5 per cent) and Greater Accra (8.4 per cent), with the lowest rate (0.5 per cent) recorded in Northern. In the urban areas, however, Greater Accra recorded the highest proportion of children in private schools (34.9 per cent), followed by Ashanti (29.2 per cent) and Western (19.2 per cent).

In spite of Government's desire to involve the local communities more in providing good basic education for their children, and have a stake in the schools in their localities, community schools still play a relatively minor role in education at the basic level both in the rural and urban areas.

Another reason why children may either drop out of school or move from one school to another is dissatisfaction with the school attended. The 1997 CWIQ also sought to find out factors that determine the dissatisfaction or otherwise of pupils with their schools.

At the national level, 39.3 per cent of pupils in primary school reported having no problem with their school, while 59.6 per cent of junior secondary pupils were satisfied with their schools. Of those expressing various levels of dissatisfaction, lack of book supplies (37 per

cent), lack of teachers and overcrowding (31.7 per cent) and facilities in bad condition (31. per cent) were the main reasons given. Poor teaching is the least cited reason for dissatisfaction at both the primary (6.2 per cent) and junior secondary (6.9 per cent) levels. The regional breakdown showed very significant disparities. In the rural areas, at the primary school level, Western reported the least satisfaction with schools (12.1 per cent) followed by Volta (15.6 per cent). Respondents in rural Greater Accra were the most satisfied with their schools (62.4 per cent), followed by Ashanti (43.1 per cent) and Central (42.3 per cent). At the junior secondary level, conditions in Volta are the least satisfactory (14.4 per cent), followed by Western (21.3 per cent). The most satisfied is Greater Accra (54.5 per cent), followed by Central (45.6 per cent) and Ashanti (43.1 per cent). Poor infrastructure, lack of books and lack of teachers are the most important reasons cited for dissatisfaction, while poor teaching is the least cited.

**Table 4.28: Proportion of Pupils who were Satisfied with School Attended by Sex and Region**

Satisfaction with school Attended	Administrative Regions									
	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
<u>Rural</u>										
<b>Primary</b>										
No problem	12.1	42.3	62.4	15.6	37.3	43.1	30.4	23.9	36.6	23.4
Lack of books/supplies	39.9	26.9	17.5	50.2	44.4	42.0	44.0	49.7	36.3	53.2
Poor teaching	9.7	9.9	2.6	8.4	6.4	8.0	4.1	5.3	8.4	12.9
Lack of teachers/overcrowding	38.7	15.7	14.9	28.5	7.8	15.0	10.3	35.3	25.7	37.1
Facilities in bad condition	59.0	29.1	21.3	67.4	28.0	19.0	48.5	27.5	31.3	23.3
<b>Junior secondary</b>										
No problem	21.3	45.6	54.5	14.4	25.6	43.1	30.7	21.7	37.6	40.6
Lack of books/supplies	34.9	29.6	31.9	60.7	55.7	41.5	41.7	55.9	34.3	36.4
Poor teaching	9.4	7.3	0.0	7.5	6.1	10.8	7.4	11.8	9.6	9.5
Lack of teachers/overcrowding	36.3	20.1	18.0	25.8	8.7	15.1	11.1	28.9	20.3	25.8
Facilities in bad condition	46.7	18.1	29.6	62.1	39.4	19.1	37.7	22.0	30.5	15.7
<u>Urban</u>										
<b>Primary</b>										
No problem	66.3	53.3	77.2	43.2	37.8	65.1	40.9	52.3	20.9	69.9
Lack of books/supplies	19.5	31.0	9.1	41.6	42.3	26.7	35.1	38.9	62.5	21.1
Poor teaching	3.1	2.7	3.4	2.5	3.5	4.4	1.6	2.1	5.8	4.1
Lack of teachers/overcrowding	8.6	4.0	3.2	4.1	11.8	2.8	11.3	12.6	10.6	8.9
Facilities in bad condition	9.3	16.2	4.9	26.1	30.5	6.1	28.2	10.4	33.1	13.0
<b>Junior secondary</b>										
No problem	58.9	53.0	75.1	27.6	37.0	56.4	47.3	55.9	30.9	46.9
Lack of books/supplies	26.6	32.2	12.1	48.8	43.1	35.9	28.7	33.0	58.0	31.2
Poor teaching	5.3	3.1	6.0	1.7	1.0	5.4	2.2	3.4	11.7	13.6
Lack of teachers/overcrowding	4.5	4.4	4.3	17.1	8.2	4.2	6.2	16.1	11.8	12.5
Facilities in bad condition	7.3	15.6	6.4	34.9	26.5	7.4	24.0	8.7	24.1	21.9

Source: Ghana Statistical Service, Core Welfare Indicators Questionnaire (CWIQ) survey (1997)

At the primary level, in Western and Volta, the regions with the least satisfied pupils, facilities in bad condition, lack of books and supplies and lack of teachers and overcrowding are cited as areas of dissatisfaction. These incidentally, are also cited as the main areas of dissatisfaction at the junior secondary level in these regions.

In the urban areas, pupils in Greater Accra expressed the greatest satisfaction with both primary (77.2 per cent) and junior secondary schools (75.1 per cent), compared with Ashanti, where 65.1 per cent of pupils for primary and 56.4 per cent for junior secondary school were satisfied. Pupils of Western (66.3 per cent primary and 58.9 per cent JSS) in urban areas also

are fairly satisfied. Whereas infrastructure and accessibility are extremely poor in rural areas, the region has some of the country's very good private primary and junior secondary schools, located mainly in Sekondi-Takoradi and Tarkwa. The most significant reason for dissatisfaction are lack of books and supplies; the least cited reason again is poor teaching. It appears therefore that school children are generally satisfied with the performance of their teachers, but have problem with availability of facilities and poor infrastructure.

A 1999 survey by the Ministry of Education has shown that out of 111,980 school buildings, 50,895 (45.5 per cent) are in good condition, 22,805 (20.4 per cent) need minor repairs, 37,332 (33.3 per cent) need major repairs, while 948 (0.9 per cent) have no structures and organise classes in open space (Table 4.29).

Table 4.29: School Blocks in Basic Education Institutions by Regions

Region	Good Blocks		Blocks Needing Minor repairs		Blocks needing major repairs		Open air classes		N
	No.	per cent	No.	per cent	No.	per cent	No.	per cent	
Western	4,206	37.5	2,545	22.7	4,395	39.2	68	0.6	11,214
Central	3,895	37.3	2,238	21.4	4,289	41.2	14	0.1	10,436
Greater Accra	16,705	64.3	2,131	20.4	1,524	14.6	64	0.7	20,424
Volta	3,003	26.5	2,546	22.5	5,670	50.0	124	1.1	11,343
Eastern	5,601	36.6	3,654	23.9	5,950	38.8	115	0.7	15,320
Ashanti	9,224	46.3	4,936	24.8	5,690	28.6	63	0.3	19,913
Brong Ahafo	3,989	34.1	2,367	20.4	5,149	44.1	181	1.5	11,686
Northern	2,207	34.6	1,204	18.9	2,760	43.3	199	3.1	6,370
Upper East	998	35.7	586	21.0	1,152	41.3	56	2.0	2,792
Upper West	1,067	43.0	598	24.1	753	30.3	64	2.6	2,482
Total	50,895	45.5	22,805	20.4	37,332	33.3	948	0.8	111,980

Source: Education Committee Report Quoting from EMIS, MOE 1999.

The results of the survey are consistent with the CWIQ findings. Except for Greater Accra and, to some extent Ashanti, all other regions have serious problems with infrastructure, with over 30 per cent of buildings needing major repairs. At the basic level, the responsibility for the provision of infrastructure lies with the District Assemblies which, in recent times, have been making serious efforts to improve these facilities. Infrastructural development and renewal through application of funds accruing from the Highly Indebted Poor Countries (HIPC) initiative have also made a considerable impact on the school infra-structural position, particularly in the rural areas, even though a lot still remains to be done. The churches, various non-governmental organizations and foreign embassies have also assisted in the provision of infrastructure, mainly in the rural areas.

### **Senior Secondary Schools**

As at 1996 there were 504 senior secondary schools, (SSS) of which 48 were private. By 1998, there were still 504 SSS in the country, with 36 being private. The number for 2001/2002 remained at 504 schools, but now with only 30 as private. This may be explained by the fact that a number of private senior secondary schools took advantage of government admission and funding concessions to opt to be designated public and absorbed into the public sector.

The age profile of children in senior secondary schools is between 14 and 23 years, with the majority falling in the 15 to 19 year-age group, while the Ministry of Education's official age range is 15-17 years. Using this age category as the reference point, one can calculate the potential population ratio per secondary school in the country. This can then be compared with the actual enrolments, to have an idea of the enrolment densities and participation rates in the various regions.

Available data from the Ministry of Education and the Statistical Services show that between 1996 and 2002, there has been a significant increase in enrolment at the senior secondary school level. Table 4.30 shows that with the introduction of the new education system, the number of senior secondary schools increased from about 240 in 1987 to about 400 in 1990, rising to about 500 in 1994. The number has since remained virtually the same for the past ten years. The private schools among these have however decreased from 51 in 1994 to only 30 in 2000, implying that unlike the private basic schools which have increased in number over the same period, some private senior secondary schools are rather being absorbed into the public system.

**Table 4.30: SSS Enrolment Trends, 1986/1987 to 2000/2001**

Year	No. of SSS		Total
	Total	Private	Enrolment
1986/1987	N/A	N/A	144,441
1987/1988	239	N/A	153,284
1988/1989	245	N/A	154,477
1989/1990	250	N/A	167,640
1990/1991	404	N/A	199,260
1991/1992	453	40	N/A
1992/1993	481	43	257,355
1993/1994	501	49	245,897
1994/1995	503	51	209,190
1995/1996	499	46	199,028
1996/1997	504	48	194,785
1997/1998	504	36	N/A
2000/2001 Min. of Ed.	504	30	204,627

Source: Ministry of Education

Whereas the annual increases in enrolment over the years, as indicated by the Ministry of Education, are consistent with previous trends, and are not so large, the 2000 population census school attendance figure is 65.3 per cent higher than the Ministry of Education figure for 1997 and 2000. The last time there was a major increase in enrolment was in 1991/1992, when the first batch of JSS students joined the old five-year GCE Ordinary Level students at the second cycle level, and this was only from 199,260 to 257,355. Numbers started falling after this, coming down to 194,785 in 1996/97 with the phasing out of the old sixth form. The number of candidates who sit annually for the Senior Secondary School Certificate Examination supports the validity of this level of enrolment. This has varied between 60,000 and 90,000 for the past few years, giving a potential total school enrolment for a three-year SSS course at between 180,000 and 270,000. The difference between the GES figure of 204,627 for the 474 public schools and the census figure of 338,280 cannot be accounted for by enrolment in the 30 private schools. At the SSS level, private school enrolments are relatively low since their quality is not very good. As noted earlier, the possible reason for

the discrepancy may be that since the census was held in March 2000, SSS students who completed their courses in August 1999 and were waiting for their results to enable them enter tertiary institutions, or may have been repeating courses as private candidates to improve their grades and increase their chances of entering university, would have been recorded as SSS students by the enumerators. This could account for the difference of 133,653 in the actual current year enrolment figure. Appendix A4.1 presents data using the census data.

The figures show that participation rates in senior secondary schools (SSS) are extremely low, with a national average of only about 18 per cent of the eligible age group. Whereas at the junior secondary school (JSS) level, more than half of eligible students are enrolled, this falls drastically to about a fifth from the JSS to the SSS. Even if the higher census figure is used, it is 29.2 per cent of the 15-17 year group who are attending or are at the secondary level. While failure to secure admission to the SSS may be a factor, the possibility of many JSS leavers wanting to enter the job market may also contribute to the low enrolment level at the national level. At the regional level, Central recorded the highest enrolment rate of 28.8 per cent, followed by Eastern with 23.2 per cent and Ashanti (18 per cent).

**Table 4.31: Enrolment in Public Senior Secondary Schools, 1999/2000**

Region	Number of Public schools	Total Enrolment	Male		Female		Population Bet. 15-17	Enrolment rate	Potential Enrolment density	Actual Enrolment Density
			No.	per cent	No.	per cent				
All Regions	474	204,627	121,339	59.3	83,288	40.7	1,158,390	17.7	2,443.9	431.7
Western	41	13,562	7,794	57.5	5,768	42.5	112,036	12.1	2,732.6	330.8
Central	49	28,023	16,188	57.8	11,835	42.2	97,338	28.8	1,986.5	571.9
Greater Accra	37	26,847	13,749	51.2	13,098	48.8	190,562	14.1	5,150.3	725.6
Volta	70	22,252	13,310	59.8	8,942	40.2	104,425	21.3	1,491.8	317.9
Eastern	74	30,430	16,789	55.2	13,641	44.8	130,965	23.2	1,769.8	411.2
Ashanti	81	38,277	23,003	60.1	15,274	39.9	212,358	18.0	2,621.7	472.6
Brong Ahafo	53	15,192	9,507	62.6	5,685	37.4	114,344	13.3	2,157.4	286.6
Northern	32	15,886	11,191	70.4	4,695	29.6	107,129	14.8	3,347.8	496.4
Upper East	20	8,869	5,740	64.7	3,126	35.3	54,025	16.4	2,701.3	443.5
Upper West	17	5,289	4,065	76.9	1,224	23.1	35,208	15.0	2,071.1	311.1

The lowest enrolment rate was recorded for Western (12.1 per cent), Brong Ahafo (13.3 per cent) and Greater Accra (14.1 per cent). It is worth noting that Western and Brong Ahafo are among the economically and naturally endowed regions and therefore registering the worst enrolment ratios at SSS level should be a matter of great concern to policy makers. The low level for Greater Accra may be a reflection of the in-migration of JSS graduates in search of jobs.

It is important to monitor and evaluate what happens to the large number of children who do not enter senior secondary schools after completing JSS, and what other avenues exist for their educational and skills advancement. One possible avenue for them would be the vocational and technical schools, but, this branch of the education system caters for a relatively small per centage of school leavers. Majority of the children apparently join the large band of ill-educated unemployable youth.

Notwithstanding the relatively low actual enrolment densities compared with the potential, the reality on the ground is that the distribution of students in the schools is grossly distorted. The best schools, which everybody aspires to attend because of the quality of teaching and facilities, are often overcrowded with some schools running up to 1,000 or more. On the other hand, other schools struggle to obtain their official quotas for admission. Table 4.32 shows the regional distribution of schools that do not enrol more than 100 and their enrolment range in 1997/1998. The highest proportions of the under-enrolled schools are in Brong Ahafo (28.3 per cent) and Western region (28.6 per cent). Greater Accra and Upper West do not have any such schools.

It may be argued that regional secondary school enrolment has no relationship with the regional population dynamics, since most of the secondary schools are boarding schools and students travel from all over the country to attend schools in various regions. The distribution of schools and the impact on the local population however cannot be ignored completely. For instance, Central and Greater Accra have the largest concentration of the country's 50 top secondary schools, accounting for ten each. The population aged 15-19 in Greater Accra (328,570) is more than twice that of Central (152,533), yet Central has the highest enrolment rate (28.8 per cent) of the eligible age group, while it is twice as high as that of Greater Accra (14.1 per cent). Students in the top schools in Central and other regions come from all over the country because of the quality of schools, and this is attested to by the fact that many of the current educated Ghanaians attended one of these top schools. In order to introduce equity into the admission process, Government made a rule that all schools in a given area should assign 30 per cent of places to children of that particular locality or community. Laudable and equitable as this affirmative action regulation might be, its implementation has been fraught with so many difficulties.

Table 4.32: Senior Secondary Schools with less than 100 Enrolment

Region	Total	No. under-enrolled	Proportion of Total	Enrolment range
Western	42	12	28.6	10-87
Central	49	9	18.4	32-91
Greater Accra	37	0	0.0	0
Volta	70	11	15.7	23-90
Eastern	74	12	16.2	37-90
Ashanti	81	13	16.0	40-95
Brong-Ahafo	53	15	28.3	40-89
Northern	31	1	3.2	97
Upper East	20	2	10.0	92-95
Upper West	17	0	0.0	0
Total	474	75	15.8	

Source: Ministry of Education

### 4.3 Educational Training Institutions

#### Teacher Education and Teacher Motivation

In the 1997 CWIQ survey, one major factor that accounted for dissatisfaction in both the rural and urban areas was lack of teachers. The state of the infrastructure and the lack of books and supplies are the two other major factors cited for dissatisfaction with a school.

Poor teaching was the least cited factor for dissatisfaction. Teachers and the conditions under which they work therefore play an important role in determining whether a child will stay in school or not. Any policy measures to improve the country's education system will come to naught if the state of the teaching profession is not given due attention. These should include addressing issues such as the percentage of trained teachers and their distribution throughout the country, facilities for training teachers, teacher motivation and financial compensation, and the turnover or retention rate of teachers in the education system.

Ghana has many very well trained teachers. Table 4.33 shows the proportion of trained teachers and pupil-teacher ratios in the various regions of the country as at 1998. Considering the combined primary and junior secondary school teachers, the region with the highest proportion of trained teachers is Upper East (94.1 per cent) followed by Upper West (92.0 per cent) and Volta (92.0 per cent). Yet Upper East and Upper West have the lowest enrolment ratios in the country. The region with the lowest proportion of trained teachers is Northern (74.6 per cent), followed by Western (75.3 per cent). Nation-wide, the proportion of trained teachers in junior secondary schools has risen over a ten-year period, from 68.0 per cent in 1988 to 86.5 per cent in 1998, while that for primary schools has risen from 57.4 per cent in 1987/1988 to 80.0 per cent in 1997/1998.

**Table 4.33: Trained Teachers in Basic Schools (combined Primary and JSS), 1998**

Region	Total Pupils (Prim.+JSS)	Total Teachers (Prim+JSS)	Proportion Trained (Primary)	Proportion Trained (JSS)	Proportion Trained (Prim.+JSS)	Pupil per Teacher
Western	306,642	10,208	70.8	83.6	75.4	30
Central	305,356	9,991	82.4	83.5	82.8	31
Greater Accra	420,281	11,859	76.2	83.7	79.4	35
Volta	316,164	11,826	93.0	90.2	92.0	27
Eastern	419,605	15,179	85.4	88.0	86.4	28
Ashanti	600,957	20,261	77.3	87.0	80.9	30
Brong Ahafo	319,421	11,947	73.5	87.4	76.8	27
Northern	184,763	5,487	70.4	84.7	74.6	34
Upper East	99,571	2,621	95.8	90.8	94.1	38
Upper West	71,172	2,308	92.2	91.8	92.0	31
National	3,043,932	101,417	80.0	86.5	82.4	30

Source: Ministry of Education

Pupil to teacher ratio in Ghanaian schools compares very favourably with what obtains in other parts of the world. At the primary school level, the national average number of pupils to a teacher is about 36 and at the junior secondary school level, it is 20. Table 4.34 shows the regional breakdown of pupils per teacher for primary and junior secondary schools. At the primary school level, Upper East (47.6) recorded the highest number of pupils per teacher followed by Greater Accra (43.7) while Volta recorded the lowest (31.3). At the junior secondary level, Greater Accra (24.6), has the highest, followed by Northern (22.5) while Brong Ahafo recorded the lowest (17.6). Volta, which recorded the lowest and therefore the best pupil to teacher ratio at the primary level, ranks only fourth at the junior secondary level.

**Table 4.34: Average Number of Pupils per Teacher in Ghanaian Basic Schools, 1998**

Region	Primary Schools			Junior Secondary Schools		
	Pupils	Teachers	Pupils per Teacher	Pupils	Teachers	Pupils per Teacher
National	2,288,786	63,689	35.9	755,162	37,728	20.0
Western	235,130	6,643	35.4	71,510	3,565	20.1
Central	227,697	5,993	38.0	77,677	3,998	19.4
Greater Accra	293,533	6,710	43.7	126,748	5,149	24.6
Volta	234,784	7,511	31.3	81,380	4,315	18.9
Eastern	316,031	9,608	32.9	103,574	5,571	18.6
Ashanti	451,393	12,763	35.4	149,564	7,498	19.9
Brong Ahafo	244,700	7,427	32.9	74,721	4,250	17.6
Northern	148,363	3,870	38.3	36,400	1,617	22.5
Upper East	82,010	1,723	47.6	17,561	898	19.6
Upper West	55,145	1,441	38.3	16,027	867	18.5

Source: Ministry of Education

Ghana has always given due cognizance and attention to teacher education. During the colonial period, teaching and teacher education were among the most important professional endeavours in the country. Unfortunately, over the years, the dignity and respect that the teacher used to command in the Ghanaian society have gone down considerably. Teacher education however continues to be given due attention, and every year trained teachers are released into the system. In spite of sufficient access to training institutes, however, not enough school leavers are attracted into the teaching profession. In the 2000/2001 academic year, there were 19,141 vacancies for teachers for the basic schools, out of which 6,285 (33 per cent) were filled. In 1999/2000, 7,336 out of 15,630 vacancies (47 per cent) were filled, while in the 2001/2002 academic year 6,594 out of 11,628 (57 per cent) of vacancies were filled.

About 2,000 teachers leave the system annually, most of them through retirement. It is estimated that for the FCUBE policy to succeed, additional 33,000 trained teachers are required in the system. The total number of additional trained teachers currently required at the pre-tertiary level is 75,000, but as at the 2001/2002 academic year, only 19,686 teachers were enrolled in the 42 teacher training colleges, with an average annual output of about 6,600. The implication is that taken in conjunction with the attrition rate, it will take at least 12 years to meet the teacher requirement. In addition, specialized teachers for certain categories, such as the blind, the deaf and the autistic, as well as special areas such as the technical and vocational institutions, the nursing and paramedical areas, will need to be trained.

The senior secondary level experiences similar problems of inability to attract enough teachers into the system. During the 2001/2002 academic year there were 10,791 teachers of whom 5,461 or about 50 per cent possessed professional teacher qualifications.

Table 4.35 shows the regional distribution of senior secondary school teachers for the 1999/2000 academic year. The three northern regions have the lowest proportion of trained secondary school teachers, with Upper East recording the least (20.1 per cent) followed by Northern (20.4 per cent) and Upper West (44.9 per cent). Eastern (64.5 per cent) recorded the highest proportion of trained senior secondary school teachers, followed by Ashanti (54.1 per cent) and Central (52.8 per cent). The low proportion of trained teachers in the three

northern regions may be due to the perennial social and ethnic conflicts that are prevalent in many parts of these regions, which tend to discourage trained teachers from accepting postings there, thus forcing the regions to accept available local but untrained teachers. Indeed, the recent disturbances in Bawku (Upper East), Wa (Upper West), Dagbon, Gonja, Kokomba and Nanumba (Northern) resulted in a number of teachers and public servants fleeing their posts and a number of schools closing down.

**Table 4.35: Senior Secondary School Teachers by Region**

Region	Total	Trained	Untrained	per cent Trained
National	10,791	5,461	5,330	50.6
Western	897	464	433	51.7
Central	1,272	672	600	52.8
Greater Accra	1,255	614	641	48.9
Volta	1,345	686	659	51.0
Eastern	1,722	1,111	611	64.5
Ashanti	2,059	1,114	945	54.1
Brong Ahafo	919	467	452	50.8
Northern	671	137	534	20.4
Upper East	388	78	310	20.1
Upper West	263	118	145	44.9

Source. Teacher Education Division, Ghana Education Service

At the senior secondary level, the trained teacher is the person who has either taken a bachelors degree in a given subject, and then taken a post graduate teacher's diploma or a masters degree in education, or taken a bachelors degree in education, specializing in one teaching subject and a specific area of education, (such as educational psychology, methodology, girl child education, primary education). The reality on the ground though is that many graduates first teach in various secondary schools for at least three years before qualifying to obtain study leave to study either full or part time for their teachers diploma or master's degree. Many of these teachers, after obtaining the diploma or masters qualification, rather end up in offices to do administrative work as Directors. Many secondary schools therefore rely heavily on the untrained graduate teachers, or on fresh graduates sent to these schools on national service.

The acute shortage of teachers is forcefully brought home when one considers the situation in many of the rural areas. Multi-class teaching, in which two or more classes are put together and taught by one teacher, is very common. In some cases teachers have to be brought from a nearby school to assist in a school that is experiencing shortage of teachers. Table 4.36 shows that there are currently 652 public primary schools in which there is only one teacher for the entire six classes, or no teacher at all. Of these, 219 are found in the Northern alone. The Table shows that the problem is most acute in the three northern regions, Volta and Brong Ahafo, with all of them having proportions higher than the national average.

**Table 4.36: Public Primary Schools with Only One or No Teacher, 2000/2001.**

Region	Total No. of Public Primary Schools	No of schools with one or no teacher	Proportion
Western	1,333	59	4.4
Central	1,235	38	3.1
Greater Accra	799	10	1.3
Volta	1,428	88	6.2
Eastern	1,897	57	3.0
Ashanti	1,848	48	2.5
Brong Ahafo	1,423	74	5.2
Northern	1,432	219	15.3

Upper East	378	27	7.1
Upper West	452	32	7.1
Total	12,225	652	5.3

Source: Education Committee Report (2002), page 35, quotes from GES 2000/2001 sources.

There are 38 (other sources give 42) post-secondary teacher training colleges offering three-year basic teacher education in the country. Annual turnout of teachers from all the country's teacher training colleges averages about 6,600. Table 4.37 shows annual admissions into teacher training institutes between 1995 and 2001. The figures show that annual admissions have dropped drastically from the peak of 7,804 in 1997/1998 to only 4,970 in 2000/2001. Female admissions have also fallen from about 40 per cent of total admissions in 1998, to just over 25 per cent in 2000/2001. The total enrolment in the 2001/2002 academic year in all the three-year post-secondary teacher training colleges was 19,686. With at least 33,000 more trained teachers currently required in the system, these enrolment levels in the teacher training institutions will aggravate the shortage of teachers and will hamper the success of the FCUBE programme.

In spite of the high proportion of trained teachers and relatively low pupil to teacher ratio in both primary and junior secondary schools, performance of pupils in the schools does not seem to reflect the level of training of the teachers, especially in the public schools. Several reasons, including low motivation and problems with remuneration, account for this situation. Teachers in the public school can work for months without receiving their salaries, especially on first appointment, and particularly in the rural areas where they are most needed.

**Table 4.37: Annual Student Admissions in Teacher Training Colleges, 1995/1996-2000/2001**

Year	Total Admissions	Male	Female	per centFemale
1995-1996	6,363	4,080	2,283	35.9
1996-1997	7,271	4,541	2,730	37.5
1997-1998	7,804	4,687	3,117	39.9
1998-1999	7,160	4,349	2,811	39.3
1999-2000	7,369	4,706	2,663	36.1
2000-2001	4,970	3,650	1,320	26.6

Source: Ministry of Education (SRIMPR Division)

This does not happen in most of the private schools, where the pupils pay economic fees out of which teachers' salaries are regularly paid. The public school teachers are faced to find other ways of survival and this has deleterious effect on the pupils. It therefore takes pupils in public schools about a month to acquire a given body of knowledge or skills that will take just a week for a child in a private school to acquire. By the time many public school pupils reach JSS 3, the total body of knowledge acquired is only a fraction of that of pupils in private schools. Yet the two groups are expected to compete on equal terms at the same examination for places in the senior secondary schools.

Supervision in the private schools is also much more effective because the proprietors have fewer personnel to deal with. Whereas a private school is normally just one school with only ten or twenty teachers and about 150 to 400 children for a Manager or Proprietor to handle, a District Director of Education in a public school system may have over 30 schools scattered over a wide and, in some cases, geographically inaccessible area, with over 15,000 pupils to deal with. The situation is compounded by lack of transportation for staff of the Inspectorate

Division of the Ghana Education Service. Many of them, even in Greater Accra, often have to resort to unreliable public transport systems, sometimes at their own expense, to be able to visit schools under their jurisdiction. Consequently, District Directors and staff of the Inspectorate Division may not be able to closely monitor teaching and learning in the public schools as may be the case in the private schools.

### **Technical and Vocational Education**

Technical and vocational education constitutes perhaps the most critical areas of human resource requirement for industrialisation and sustainable economic development. But vocational and technical education has not received the much-deserved attention in all our educational policies since independence. As at now, whereas there are 474 Government senior secondary schools to absorb pupils from about 7000 junior secondary schools, there are only about 25 Government technical and vocational institutions to absorb the large mass of basic school leavers who do not make it to the senior secondary schools.

As already pointed out, only about 60 per cent of children who should be in junior secondary school are actually enrolled. Only about 20 per cent make it to the senior secondary level, and just about 2-4 per cent eventually make it to the tertiary institutions including the polytechnics. It is generally believed that most of those who fall out end up among the large army of underemployed, unemployed and unemployable youth. One of the methods of harnessing their potential would be to impart skills through vocational and technical training.

The 2000 Census shows that only about 1.6 per cent of the total labour force of Ghana has some vocational or technical qualification. About 30 per cent of the labour force engaged in production, which includes a vast majority of those in the informal sector, has had no formal schooling, and only about 5 per cent have received education beyond the senior secondary level.

In November 1994, a report on how to re-orient this sector of education towards “enhancing skills for self-employment in rural areas and the urban informal sector” was presented to the Ministry of Education on behalf of Government. Although during the past eight years, attempts have been made to implement some of the recommendations, implementation has not been easy because in most instances what is to be implemented is heavily dependent on foreign donor assistance. Vocational and technical training programmes are very expensive, perhaps more expensive than the cost of providing liberal arts education in tertiary institutions. Cost of procurement and maintenance of equipment and tools is very high, and requires substantial foreign exchange inputs. This has been a major constraint on implementation of policies on vocational and technical education in this country.

### **Technical and Vocational Training Institutions (VOTEC) and Informal Apprenticeship**

One area of vocational and technical education that has not been given much attention is the informal apprenticeship, in spite of the fact that this sector provides the training and skills of the large proportion of the self-employed. Whereas a vast majority of institutions concerned with primary and secondary education come under the Ghana Education Service and are thus public institutions, the number of Government vocational and technical schools available to

absorb products of junior and senior secondary schools is extremely small. Of the institutions responsible for vocational and technical education, there are 250 registered private institutions operating alongside 700 unregistered and unrecognised schools and centres spread within the system. Added to this is the vibrant traditional apprenticeship system.

The 1994 report on VOTEC estimates that the private sector accounts for about 94 per cent of total enrolment in the VOTEC system. In contrast, there are only 23 technical institutes managed by the Ghana Education Service and the Ministry of Education. The technical institutes are the formal institutions expected to absorb the large number of youth who, after JSS, do not enter any of the about 500 senior secondary schools. Of the 23 technical institutes, only about 6 are adequately equipped to fulfill the functions for which they were established. This is mainly due to serious budgetary constraints. The technical and vocational sector gets only about 1.6 per cent of government budgetary allocation for education. Table 4.38 compares the number of Government Junior Secondary Schools (JSS), Senior Secondary Schools (SSS), National Vocational Training Institutes (NVTI) and Government Technical Institutes (TI) in the country, as at 2001.

**Table 4.38: Public JSS, SSS, Technical and Vocational Institutions-2001/2002.**

Region	Primary +JSS (2000/2001)	JSS (1998)	JSS (1999/ 2000)	JSS (2002)	SSS (2001/ 2002)	NVTI	Technical Institute (Govt.)
Western	2,065	622	679		41	1	2
Central	2,067	754	804		49	4	2
Greater Accra	1,533	446	491		37	4	4
Volta	2,188	690	737		70	5	3
Eastern	2,928	907	977		74	2	6
Ashanti	2,734	929	985		81	3	1
Brong Ahafo	2,366	641	679		53	2	-
Northern	1,838	248	297		32	3	2
Upper East	563	128	177		20	1	2
Upper West	513	206	228		17	4	1
National	18,795	5,571	6,054	6,414	474	29	23

Source: Ghana Education Service (2001) and NVTI (2001)

The total enrolment in the 23 technical institutions as at 1993 was 24,900, comprising 12,900 full time and 12,000 part time students. As at 1998, whereas there were 695,468 pupils in JSS, 188,908 in SSS, and 2,027,026 in primary schools countrywide, only 14,624 were enrolled full-time in the formal vocational and technical institutes. This gives a cumulative growth of only 13.4 per cent of full time students over the five-year period. In addition to the 23 technical institutes managed by the GES, the National Vocational Training Institute (NVTI) and the Ministry of Employment and Manpower Development manage 19 vocational centres, which teach mechanical and electrical engineering skills, as well as clerical and other vocational trades, such as dressmaking, cookery, leather work, and other artisan skills.

Other centres providing VOTEC education are non-governmental organisations, which manages about 70 community based vocational centres, Opportunities Industrialization Centre (OIC) which has 3, and the co-operative system. The Ghana Regional Appropriate Technology Industrial Service (GRATIS) also has 7 Intermediate Technology Transfer Unit (ITTU) centres. The bulk of VOTEC education is however provided by the private sector, and the high growth rate (7.2 per cent) of enrolment through the VOTEC system between

1987 and 1991 is attributed to expansion in the private sector. Enrolment as at 1991 in the entire private informal vocational training system was 600,000, and is currently estimated at about 1.2 million. This is in sharp contrast to only about 14,000 students enrolled in the Government-controlled (GES) sector as at 1998, and currently estimated to be less than 20,000.

In effect, therefore, Government has concentrated vast resources on grammar-school type of academic education, at the expense of skills training for the majority of children who come out of the junior secondary schools. Fees and other costs in senior secondary schools and the universities are heavily subsidized and yet, it is the relatively well to do in our society who can afford good primary education who make it into junior and senior secondary schools, and eventually the universities. Children who, because they are already of poor background and are financially handicapped, drop out of school and have to learn a trade through the informal apprenticeship system or attendance at unregistered unstructured vocational institutions. These institutions adopt training systems that are in principle, very expensive, but are managed in such a way that beneficiaries are able to cope. If the country is to make any impact on the alleviation of poverty and the creation of wealth, the education system would need to give more attention and injection of substantial capital investment and recurrent resources, into vocational and technical training than before.

### **Tertiary Education- The Universities and Polytechnics**

#### **Enrolment in Ghana's Tertiary Institutions**

During the last ten years, there has been an explosion in enrolment in all of Ghana's Universities and other tertiary institutions, including the polytechnics. The University of Ghana currently has a population of over 20,000. Before 1990, only the Universities were regarded as tertiary institutions. In 1993, as part of the education reforms, some non-university institutions were re-classified into tertiary institutions and mandated to run certain diploma and degree programmes. Currently, institutions classified as tertiary include the polytechnics, the Institute of Professional Studies, and the Ghana Institute of Languages. The Ghana Institute of Management and Public Administration (GIMPA), which was originally established as a United Nations sponsored regional institution for the training of senior public servants in management and public administration, has become a solely Ghanaian institution which runs university courses, including even some post-graduate courses, in addition to fulfilling its original mandate.

Other specialised institutions currently affiliated to various universities and running tertiary programmes are The Ghana Maritime Academy (UG), Ghana Armed Forces Command and Staff College (UG), Ghana Institute of Journalism (UG), National Film and Television Institute (UG), School of Renewable Natural Resources, formerly Forestry Training School Sunyani (KNUST), Agricultural College Kwadaso (UCC). A number of private universities and institutes, some of which claim to be accredited and affiliated to overseas institutions, have also recently sprung up and run limited subject area programmes including, Management, Accountancy, Religion and other Professional courses.

By 1987, total enrolment in the universities which was 8,565 rose to 40,673 in 2000, representing an increase of 375 per cent over the 13-year period. Annual rate of increase averaged about 12 per cent in 2000 (Table 4.39).

**Table 4.39: Enrolment in Universities by Sex, 1987/1988 to 2000/2001**

Year	Male	Female	Total	Proportion Female	per cent annual Increase in Total Enrolment
1987/1988	7,050	1,515	8,565	17.7	-
1988/1989	7,076	1,533	8,609	17.8	0.5
1989/1990	7,864	1,777	9,641	18.4	12.0
1990/1991	7,936	2,061	9,997	20.6	3.7
1991/1992	9,362	2,495	11,857	21.0	18.6
1992/1993	11,111	3,167	14,278	22.2	20.4
1993/1994	11,644	3,539	15,183	23.3	6.3
1994/1995	13,752	4,248	18,000	23.6	18.6
1995/1996*	0	0	0	0	0
1996/1997	16,993	6,133	23,126	26.5	28.5
1997/1998	20,149	6,535	26,684	24.5	15.4
1998/1999	23,235	8,266	31,501	26.7	18.1
1999/2000	26,558	9,663	36,221	26.7	15.0
2000/2001	28,545	12,128	40,673	29.8	12.3

Source: National Council for Tertiary Education.

\*The universities were closed down for the entire academic year due to a prolonged strike by university teachers. This created a serious backlog problem which took a long time to rectify, and whose repercussions still prevail in all the universities.

Official government policy permits an annual rate of increase of not more than 10 per cent. This implies that all the universities and polytechnics have been forced by pressure of demand for higher education to admit far more than their capacities and permitted quotas may allow. Estimated enrolment for the 2002/2003 academic year is 52,000. Total enrolment in tertiary programmes in the polytechnics has risen from 1,558 in 1993 when the programmes were started, to 18,459 in 2000, an increase of 1,085 per cent over the period and an annual rate of increase of 46.6 per cent in 2000. This rate has slowed down from an initial 133 per cent to about 8 per cent in the last year (Table 4.40).

Whereas applicants for tertiary courses in the polytechnics are increasing, the available places are becoming stagnant. An annual rate of increase in enrolment has thus declined from the initial 133 per cent to only 8 per cent by year 2000. The initial large increases in enrolment were mainly due to the upgrading of three existing technical institutes to polytechnics and the creation of four completely new polytechnics, raising the total number of polytechnics from three to ten, one in each region.

For gender equity, the objective is to achieve a male/female balance of enrolment in all educational institutions. Female enrolment has however not grown as fast as desired mainly because of similar low female enrolments at the senior secondary school level. At the tertiary level, the country is far from achieving this objective. The proportion has risen from 17.7 per cent female in 1987/1988 to 29.8 per cent in 2000/2001. At the polytechnics, the proportion has increased from 20.7 per cent in 1996/1997 to 28.4 per cent in 2000/2001. Although these show reasonably good progress, there is more room for improvement. The problem stems from the lower levels of education, where an almost 50:50 male-female ratio of enrolment at primary 1 (in some cases greater female than male enrolment) rapidly

changes to 65:35 by JSS 3 and to about 60:40 at SSS. The tertiary institutions can do no better than their source of students, that is, the senior secondary schools.

**Table 4.40: Polytechnic Enrolment in Tertiary Programmes, 1991/1992-2000/2001**

Year	1991/ 1992	1992/ 1993	1993/ 1994	1994/ 1995	1995/ 1996*	1996/ 1997	1997/ 1998	1998/ 1999	1999/ 2000	2000/ 2001
Male	0	0	N/A	N/A	N/A	5,867	7,903	10,218	13,061	14,373
Female	0	0	N/A	N/A	N/A	1,553	2,039	2,745	3,895	4,086
Total	0	0	1,558	3,634	5,918	7,420	9,942	12,963	16,956	18,459
Proportion Female.	0	0	N/A	N/A	N/A	20.7	20.5	21.2	23.0	28.4
% Annual increase	0	0	-	133.2	62.9	25.4	34.0	30.4	30.8	8.9

Source: National Council for Tertiary Education

The official and national objective for science and technology student enrolment to the humanities is 60 per cent science and technology to 40 per cent humanities. The various universities and polytechnics have their specific norms. For example the University of Ghana Legon is expected to achieve a norm equal to the national objective, while KNUST is charged to achieve a 90:10 ratio. Table.4.41 gives the national science to humanities enrolment ratios for the universities from 1991 to 2000. Currently, the national ratio is 36 per cent science to 64 per cent humanities, compared to almost 50 per cent (47.6 per cent) about ten years ago. There has therefore been a deterioration of the situation over the last ten years, with the country's institutions training increasingly lower proportions of science and technology personnel. Even the polytechnics, which are charged to train the country's middle level technological manpower, have their enrolments currently skewed in favour of the social sciences.

**Table 4.41: Total University Enrolment by Programme Content, 1991/1992-2000/2001**

Programme Content	1991/ 1992	1992/ 1993	1993/ 1994	1994/ 1995	1995/ 1996*	1996/ 1997	1997/ 1998	1998/ 1999	1999/ 2000	2000/ 2001
Science/Tech	5,641	5,930	6,280	7,845	0	9,853	10,510	12,288	16,045	14,809
Humanities	6,216	8,348	9,085	10,155	0	13,273	16,174	19,213	20,176	25,864
Total	11,857	14,278	15,365	18,000	0	23,126	26,684	31,501	36,221	40,673
Proportion Sc./Tech	47.6	41.5	40.9	43.6	0	42.6	39.4	39.0	44.3	36.4

Source: National Council for Tertiary Education.

Currently, the universities and polytechnics are able to admit, on average, only about 35 per cent of qualified applicants, even though they are all admitting far above their installed capacity (Table 4.42).

**Table 4.42: Applications and Admissions into Universities and Polytechnics, 1996/1997 to 2000/2001**

Year	Universities			Polytechnics		
	Number of Applicants	Number Admitted	per cent	Number. of Applicants	Number Admitted	per cent
1996/1997	34,937	8,834	25.3	5,656	4,046	71.5
1997/1998	32,446	10,465	32.3	9,584	5,590	58.3
1998/1999	38,977	12,796	32.8	10,619	6,920	65.2
1999/2000	44,154	13,886	31.4	20,747	7,274	35.1
2000/2001	40,999	16,236	39.6	18,297	7,600	41.4

Source: National Council for Tertiary Education.

It must be noted that most students apply to more than one institution. There is therefore the possibility of double or triple counting, particularly of qualified applicants.

In 2002/2003 academic year for example, the University of Ghana received 21,784 applications, but was able to admit only 11,365, and 8,229 accepted the offer, constituting 38 per cent of the original applicants (Table 4.43). In that same year, KNUST received 13,933 applications, but only 4,936 were offered admission, of whom 3,903 (28 per cent) including 974 females (25 per cent) accepted the offer and were enrolled. In the 2001/2002 academic year, admissions to KNUST were 4,988 out of 14,446 applicants, equivalent to 34.5 per cent of qualified applicants.

**Table 4.43: Admission Figures for the University of Ghana (UG) and Kwame Nkrumah University of Science and Technology (KNUST), 2002/2003**

Sex	University of Ghana						KNUST					
	Applicants	per cent	Admitted	per cent	Enroled	per cent	Applicants	per cent	Admitted	per cent	Enroled	per cent
Total	21,784	100.0	11,365	52.2	8,229	38.0	13,933	100.0	4,936	35.4	3,903	28.0
Male	13,827	63.5	7,087	62.4	5,112	61.7	10,165	73.0	3,621	73.4	2,929	75.0
Female	7,957	36.5	4,278	37.6	3,117	37.6	3,768	27.0	1,315	26.6	974	25.0

Source: 2002/2003 Annual Basic Statistics of the University of Ghana and the KNUST.

If the tertiary institutions were to admit to meet only their installed capacity, it is estimated that only 10 to 15 per cent of qualified candidates would gain admission into tertiary institutions, which would imply a cut-off point of aggregate 7 or 8 in the sciences, and perhaps aggregate 9 or 10 in the humanities. The very competitive courses, such as Engineering, Medicine and Administration may have to admit only students with aggregate 6 or 7. This would be most unfortunate as it will constitute a potential waste of manpower for the nation. On the other hand, it could be argued that those with excellent grades who do not make it to the universities would then make it to other avenues of training and human resource development, thus enriching the quality of personnel that will eventually end up in other sectors of the economy. The question really is whether everybody who makes the grade at the senior secondary level ought necessarily to enter only a university. Currently, the extreme pressure on the universities and some of the polytechnics is due to the perception that once one makes the minimum grade, one must enter a university.

The perception that every post-secondary institution must be equated in status and content to a university is also counterproductive. This perception can only change if equally attractive alternative avenues, with attractive post-training employment opportunities, are created through deliberate government policy measures. For example, it should be possible for a student to exit from senior secondary school with excellent credentials, enter the army or police force and graduate from the police or army training academy both with the necessary professional qualification and an academic qualification equivalent to a university or polytechnic qualification. It should be possible for a police officer who wishes to specialise in forensic science in his profession to graduate from the Police College with a degree in chemistry, biology or physics. Similarly, a soldier who wishes to be an expert in explosives and ballistics, or military engineering, should be able to graduate from the military academy with a basic degree in physics, chemistry or the requisite branch of basic engineering. In this regard, the current policy of the University of Ghana to affiliate institutions such as the Maritime Academy and the Armed Forces Command and Staff College for graduate level

courses, as well as the Ghana Institute of Journalism for undergraduate courses, is in the right direction. The Military Academy and Training School and the Police College, where junior officers are trained, should be similarly affiliated to run undergraduate courses specially tailored for the needs of the Armed Forces and the Police Service.

### **Origin of Schools of University Students**

The problem with the universities is not limited to inadequacy of available places only. Even more serious is the problem of *who are getting into our universities and from what background*. It is natural for any Ghanaian child to aspire to reach the highest level of education. In the system of education that has operated in Ghana for several years, a good primary education has ensured entry into a good secondary education which has, in turn, assured a person the opportunity to proceed to the tertiary level, including university or other higher institution; opportunities for branching off into technical and vocational training are limited. The reality is that those who attend the very expensive private primary and junior secondary schools receive good education, perform far better at the BECE than their counterparts from the less-endowed public schools, (as various criterion reference tests have shown) and compete fiercely for the limited places in the country's best fifty senior secondary schools.

Higher education is one of the best measures to attaining better job placements and social mobility. A study of admissions into the University of Ghana (UG) and the Kwame Nkrumah University of Science and Technology (KNUST), as well as total enrolment in the University of Ghana has been carried out to determine the demography and socio-economic background of persons who eventually make it to the highly competitive tertiary education system, including our universities and polytechnics, and how these persons make it to these institutions of higher learning. The study shows that most of admissions are students from the top 50 schools in the country (Addae-Mensah, 2000).

For the 1998/1999 and 1999/2000 academic years, the University of Ghana admitted students from a total of 350 educational institutions and other backgrounds. These included 338 secondary schools, teacher and agricultural training colleges (305 secondary schools and 33 teacher training colleges). In addition, there were candidates who had studied at various institutions or privately.

For the entire student population of the University of Ghana for the 2001/2002 academic year, there were students from 342 identifiable senior secondary schools, 35 teacher training colleges, 4 agricultural training colleges, 8 workers colleges of the University of Ghana, 2 polytechnics, making a total of 391 identifiable institutions, as well as 11 other categories including private candidates and foreign students.

Table 4.44 shows the number of students admitted into the main disciplines in the University of Ghana, namely Humanities including Law, the Sciences including agriculture and medicine, Administration including accounting and management, and undergraduate diploma courses. For the 1998/1999 and 1999/2000 academic years, and considering only those admitted to Legon from the 338 specifically named or identified educational institutions in Ghana, students who gained admission from the top fifty very well endowed secondary

schools were determined. Some of these are also the most expensive, oldest and exclusive secondary schools in Ghana. These 50 schools constitute only 9.9 per cent of the 504 senior secondary schools in the country. Thirty-eight of them have been participating fairly regularly in the popular television Science and Mathematics Quiz Programme. Even though selection to participate in this programme is normally based on consistently good performance in science in the public examinations, and may change from year to year, selection to participate in the programme is usually also a good indication of the school's overall capabilities and performance as a top class school.

**Eighteen (18) of these fifty (50) schools, have been selected and classified as the *starred schools* on the basis of their consistently excellent performances in the quiz programme.**

Three Stars (***)	Two Stars (**)	One Star (*)
Achimota	Holy Child, Cape Coast	Aburi Girl's
Adisadel	St. Louis, Kumasi	Accra Academy
Mfantsipim		Ghana National, Cape Coast
Opoku Ware		Kumasi High School
Prempeh College		Navrongo Secondary
Presby Boys Secondary		Tamale Secondary
Pope John's, Koforidua		
St. Peter's, Nkwatia		
St. Augustine's, Cape Coast		
Wesley Girls High School		

Source: Addae-Mensah, I. (2000) Education in Ghana – A Tool for social Mobility or Social Stratification? J. B. Danquah Memorial Lectures (April 2000).

Seven of the schools, namely Achimota, Mfantsipim, Opoku Ware, Prempeh, Presbyterian Secondary, St. Peters Nkwatia and Pope Johns, Koforidua have won the competition at least once, while St. Augustines, Aburi Girls and Wesley Girls High School have been losing finalists at least once.

The schools that are selected to participate in the science and mathematics quiz, are those that every parent would wish their child to attend, with a more than average guarantee that the child will make it to the highest level on the educational ladder. The 18 starred schools constitute only 3.7 per cent of the 504 Senior Secondary Schools in Ghana. Table 4.44 shows that between 60 per cent and 92 per cent of those selected for various degree courses in Legon are from the top 50 schools, which constitute less than 10 per cent of all secondary schools in Ghana, with about 43 per cent coming from only the 18 star schools.

**Table 4.44: Candidates Selected into Various Degree Courses in the University of Ghana from 338 Educational Institutions, Including the 50 Top Schools in Ghana.**

Course	Total No. from 338 Educational Institutions	50 Top Schools		18 Starred Schools	
		No.	per cent	No.	per cent
<u>Humanities incl. Law</u>					
1998/1999	1,148	863	75.2	463	(40.3)
1999/2000	1,901	1,323	69.6	936	( 49.2)
<u>Sciences incl. Agriculture*</u>					
1998/1999	401	365	91.0	227	(56.6)
1999/2000	458	390	85.8	231	(50.4)

<u>Administration</u>					
1998/1999	205	160	78.1	67	(32.7)
1999/2000	232	142	61.2	76	( 32.8)
<hr/>					
Total degree courses					
1998/1999	1,754	1,388	79.1	757	(43.2)
1999/2000	2,591	1,856	71.7	1,243	( 48.0)
<hr/>					
Dipl./Cert.					
1998/1999	422	169	40.1	51	(12.1)
1999/2000	595	140	23.5	48	(8.1)
<hr/>					
Grand Total					
1998/1999	2,176	1,557	71.6	808	(37.1)
1999/2000	3,186	1,996	62.7	1,291	( 40.5)

Source: Addae-Mensah I. (2001); Vice Chancellor's Address. Proceedings of the Matriculation of the University of Ghana.

\*It is from this lot that candidates will be selected to enter the Medical School after Level 200 (the second year post SSS or one year post A' level).

Subject-wise, it is seen that 75 per cent and 70 per cent of those selected into the humanities, 91 and 86 per cent of those into the sciences including medicine and agriculture, and 78 and 61 per cent into Administration for the 1998/1999 and 1999/2000 academic years came from the 50 top schools; 43 per cent and 48 per cent of those who gained admission to the universities, are from the 18 star schools.

The situation in the Kwame Nkrumah University of Science and Technology (KNUST) is very similar. For 1998/1999 and the 1999/2000 academic years, the KNUST selected its candidates from an even smaller number of educational institutions (226) of which 20 were of post-secondary status including teacher-training colleges, with 206 being senior secondary school or of equivalent status (Table 4.45).

**Table 4.45: Admissions into Various Courses in the University of Science and Technology, Kumasi, 1998/1999 and 1999/2000**

Course	No from 226 Educational Institutions	50 Top Schools		18 Starred Schools	
		No.	per cent	No.	per cent
<u>Art.</u> 1998/1999	183	126	68.9	55	(30.1)
1999/2000	524	347	66.2	178	(34.0)
<u>Agriculture</u>					
1998/1999	71	56	87.9	34	(47.9)
1999/2000	218	172	78.9	119	(54.6)
<u>Architecture/Build.tech./Planning</u>					
1998/1999	116	89	76.7	44	(37.9)
1999/2000	295	234	79.3	145	(49.1)
<u>Pharmacy</u>					
1998/1999	49	38	77.6	30	(61.2)
1999/2000	149	126	84.6	91	(61.1)
<u>Science.</u>					
1998/1999	218	162	74.3	86	(39.5)
1999/2000	722	561	77.7	334	(46.3)
<u>Social Sciences</u>					
1998/1999	188	127	67.6	57	(30.3)
1999/2000	545	331	60.7	166	( 30.5 )
<u>Land Economy</u>					
1998/1999	86	63	73.3	31	(36.1)
1999/2000	149	109	73.2	62	(41.6)
<u>Mining &amp; Min. Engineering</u>					
1999/2000	33	22	66.7	11	(33.3)
1999/2000	254	179	70.5	97	(38.2)

<u>Renew. Resources</u>					
1998/1999	56	43	76.8	31	(55.4)
1999/2000	174	138	79.3	107	(61.5)
<u>Engineering</u>					
1998/1999	156	137	87.8	90	(57.7)
1999/2000	534	466	87.3	317	(59.4)
<u>Medicine</u>					
1998/1999	54	47	87.0	33	(61.1)
1999/2000	202	171	84.7	126	(62.4)
<u>Total</u>					
1998/1999	1210	910	75.2	502	(41.5)
1999/2000	3766	2834	75.2	1,742	(46.3)

Source: Addae-Mensah I. (2000)

Table 4.45 shows that for the 1998/1999 academic year, of the 1,210 candidates admitted into the KNUST, 910 (75.2 per cent) were admitted from the 50 top schools and 502 or 41.5 per cent were from the 18 star schools. Similarly, for the 1999/2000 academic year, 75.2 per cent came from these 50 top schools, with 46.3 per cent being from the 18 star schools. Analyzed by subject, the figures are even more revealing. For example, in the 1998/1999 academic year, as many as 137 out of the 156 selected for Engineering, constituting 87.8 per cent of the total intake, came from these 50 schools, (57.7 per cent from the 18 starred schools). For Medicine, the figures for 1998/1999 were 87.0 per cent of total intake from the 50 top schools, and 61 per cent from the 18 starred schools, while for the 1999/2000 academic year it is 84.7 per cent from the 50 top schools, and 62.4 per cent from the 18 starred schools.

For pharmacy, 77.6 per cent of intake for 1998/1999 and 84.6 per cent for 1999/2000 were from the top 50 schools, with 61.1 per cent from the 18 starred schools. Agriculture, Architecture, Science, Land Economy, Mining and Mineral Engineering, and Renewable Natural Resources all recorded over 72 per cent of intake from these 50 schools. Even though KNUST is predominantly a science and technology institution, even the Social Sciences recorded 67.6 for 1998/99 and 1999/2000 for 60.7 per cent, while Arts recorded 68.9 and 66.2 per cent for the two academic years. It is worth noting that almost 300 of the 504 Senior Secondary Schools could not get a single candidate into the KNUST, while about 200 of these schools could not send a single candidate directly into Legon.

### **Origins of the Undergraduate Student Population of the University of Ghana**

The University of Ghana selects majority of its students directly from the country's senior secondary schools. During the 2001/2002 academic year, 10,230 of the entire undergraduate student population of about 13,600 (75.2 per cent) pursuing undergraduate degree and diploma courses were admitted directly from 342 specific identifiable Ghanaian senior secondary schools. These comprise 9,891 (96.7 per cent) undergraduate degree and 339 (3.3 per cent) undergraduate diploma students. Of the 504 senior secondary schools in existence as at the time of this study, 162 (32.1 per cent) of them are not represented at all in the university. Table 4.46 shows the distribution of students pursuing various courses.

**Table 4.46: Senior Secondary School Students Pursuing Undergraduate Courses in the University of Ghana, year 2001/2002**

Course	Admission from 342 Senior Sec. Schools	Top 50 School		18 Starred Schools	
		No.	Proportion	No.	Proportion
Arts	6,596	4,903	74.3	2,837	43.0
Administration	1,137	855	75.2	530	46.6
Science	1,516	1,353	89.3	917	60.5
Agric./Home science	145	113	77.9	64	44.1
Law	36	30	83.3	14	38.9
Medicine	460	401	87.2	292	63.5
Total Undergraduate Degree	9,891	7,655	77.4	4,654	47.1
Undergraduate Diploma	339	166	49.0	45	13.3
Total Undergraduate	10,230	7,821	76.5	4,701	46.0

Source: Addae-Mensah I. University of Ghana Alumni Lecture (2003).

In determining these schools only the senior secondary schools from which the students entered the university were considered. Some students also passed through various training colleges before entering the University either as mature students or by acquisition of the requisite GCE Advanced level qualifications.

The figures in Table 4.46 indicate that 76.5 per cent of the entire undergraduate students admitted directly from senior secondary schools are from only 50 of the country's 504 senior secondary schools. About 46 per cent come from the 18 "starred schools". Subject-wise, 74.3 per cent of the Arts, 75.2 per cent of Administration, 89.3 per cent of Science, 77.9 per cent of Agriculture, 83.3 per cent of Law and 87.2 per cent of Medical students come from these 50 top schools. Out of 460 Ghanaian undergraduate medical students at the University of Ghana Medical School during the 2001/2002 academic year, 401 (87.2 per cent) of them come from these top 50 schools.

The figures for admissions into Legon and the profile of the senior secondary schools from which students are admitted show that with the present education system, over 70 per cent of future trained Ghanaian Medical Doctors, Scientists, Engineers, Architects, Pharmacists, Agriculturists, Managers and other Professionals in the humanities including Lawyers, Accountants and Administrators will emerge from just about 10 per cent of existing SSS, with almost 50 per cent of all these categories emerging from less than 4 per cent or 18 of the 504 senior secondary schools. These are the schools which, during selection after the JSS examinations, will normally not admit into the sciences students with less than 7 ones in the 10 subjects studied at the junior secondary school.

Table 4.47 shows the students and the various courses they are pursuing. Of the 1,422 students in this category, 764 (53.7 per cent) are pursuing undergraduate degree courses while 658 (46.4 per cent) are pursuing various diploma courses.

Table 4.47 shows that 740 or 97 per cent of the 764 admitted into degree courses from the various training colleges were from the teacher training college. About 90 per cent of the 658 pursuing diploma courses also come from teacher training colleges. The 1,422 undergraduates from various training colleges constitute just 10.4 per cent of the 13,600 undergraduate student population, of whom 764 (5.6 per cent) are pursuing degree courses. Whereas only 339 (3.3 per cent) of the 10,230 undergraduates who entered the university

directly from senior secondary schools are pursuing diploma courses, 46.3 per cent of those from the training colleges are diploma students.

**Table 4.47: Undergraduate Students from Teacher/Professional Training Colleges in the University of Ghana, year 2001/2002**

Courses	Teachers' Colleges	Agric. colleges	Nurses' colleges	Total	per cent
Number in Sample	36	4	1	41	
Arts	620	-	1	621	81.3
Admin.	109	-	-	109	14.3
Science	2	-	-	2	0.3
Agric/Home Sci.	8	23	-	31	4.1
Law	1	-	-	1	0.1
Medicine	-	-	-	-	-
Total Undergrad. Degree	740	23	1	764	100.0
Undergrad. Diploma	591	67	-	658	100.0
Grand Total	1,331	90	1	1,422	100.0
per cent Degree	55.6	25.6	100.0		53.7
per cent Diploma	44.4	74.4	0.0		46.3

Source: Addae-Mensah I. University of Ghana Alumni Lecture (2003).

It may be argued that the “top schools” have been supplying the bulk of students in the University of Ghana over the years. For example, in 1985 Legon selected 862 candidates from 186 institutions. Thirty-five of the 50 top schools, which supplied the bulk of admissions in 1998-2000, also featured prominently in the 1985 admissions. They provided 496 or 57.5 per cent of total intake. The figures from the 1985 admissions and the 1998-2000 admissions would seem to support the observation that the top schools are the same schools which have, for a long time, produced the bulk of our educated professionals. The difference however is that in 1985, the 35 schools represented 18.8 per cent of all the schools from which admissions were made, whereas in 1998 and 1999, they represent less than 7 per cent of schools from which admissions were made. The top schools are however still taking the same proportion of places as before, even though they now constitute less than a tenth of the institutions from which students enter the University.

**Table 4.48: Admissions into the University of Ghana in 1985**

Course	Total Admissions	No. from Top 35 schools	Per centage from Top 35 schools
Humanities	418	251	60.1
Science/agric/med.	144	103	77.5
Administration	74	56	75.7
Total degree courses	636	410	64.5
Diploma/certificate	226	86	38.1
Grand total	862	496	57.5

Source: Addae-Mensah I. University of Ghana Alumni Lecture (2003).

### **Science and Technology Education and Manpower Development**

The modern world economy has been shaped by scientific and technological advancement, resulting in the emergence of the *knowledge economy*. Official Government policy is for the nation to achieve a ratio of 60:40 sciences to humanities manpower base by year 2020. In many advanced countries the ratio is even higher. Both the Vision 2020, and its sequel, the Poverty Reduction Strategy Programme, do not even clearly identify the input of technological progress and the need for a heavier investment in human capital development.

Ghana's technological and industrial development planning has not seriously encouraged the need for strategic forward planning and anticipation of future developments. Except for the immediate post-independent period when there was a definite conscious effort to promote science and technology as a vehicle for economic development, the country has not given much attention to scientific and technological education in recent times.

The first time the country had a full ministry devoted to science and technology was in the Third Republic when the Ministry of Industry, Science and Technology was created. Since then, Science and Technology have been always made an appendage of some other ministry: from "Industry, Science and Technology", the country moved to "Environment, Science and Technology" and currently split between "Environment and Science", "Communication and Technology", a move which has attracted considerable criticism from the scientific community, including the Ghana Academy of Arts and Sciences. These frequent permutations and combinations of Science and Technology have not allowed the country to focus adequately on science and technology as the major tool for economic development. Educational institutions in the country, particularly at the tertiary level, including the polytechnics, are confronted with limited capacity to enable them take advantage of the vast potential created by globalisation in the knowledge market. Current trends seem to suggest that educational institutions, including those set up to promote science and technology education, are drifting away from the national norm of 60:40 science to the humanities. Table 4.49 shows enrolments in the sciences and the humanities in our universities and polytechnics, for the period 1996/1997 to 2000/2001.

**Table 4.49: Student Enrolment in various Disciplines in the Universities and Polytechnics.**

Year	Total Enrolment	Universities			Polytechnics		
		Science/ Tech	Arts/ Humanities	Ratio (ST/H)	Science/ Tech	Arts/ Humanities	Ratio (ST/H)
1996/1997	23,125	9,853	13,272	43:57	4,057	3,363	55:45
1997/1998	26,684	11,048	15,636	41:59	5,122	4,820	52:48
1998/1999	31,501	12,288	19,213	39:61	6,382	6,581	49:51
1999/2000	36,221	16,045	20,176	44:56	7,874	9,082	46:54
2000/2001	40,673	14,809	25,864	36:64	8,161	10,298	44:56

Source: National Council for Tertiary Education.

If Ghana does not rapidly train and create the critical mass of scientists and technologists, the country may find it difficult to provide and manage emerging industries and take full advantage of the global technological explosion with the required human capital. The country will equally find it difficult to modernise and re-equip existing scientific, technological and industrial establishments to meet current challenges and cope with current and future global trends.

Science and technology education in Ghana is not responding adequately to development needs due to inadequate funding, poor management and obsolete pedagogical strategies, particularly at the middle level manpower training institutions such as the polytechnics and agricultural training institutions. Current resource allocation to science and technology education is between 0.3 and 0.5 per cent of GDP, far below the minimum of 1 per cent proposed in the Lagos Plan of Action. Advanced countries and some of the emerging

countries devote as much as from 3 to 10 per cent of GDP to support science and technology education.

Some of the constraints to the rapid development of adequate scientific and technological manpower to support our industrial and economic development are:

- poor laboratory and workshop facilities;
- inadequate and poorly motivated teachers and instructors from the lowest to the highest levels;
- low enrolment of science and technology students;
- very low participation of females, even though rate of female participation in Science and Technology has been more rapid than in the humanities in the last five years;
- weak and ineffective linkage between tertiary institutions, research institutes and the productive sector; and
- very poor science culture in the society, leading to a general lack of appreciation of science and technology and its relevance to development.

### **Polytechnics and Agricultural Training Institutions**

In addition to the ten regional polytechnics, there are five major agricultural training institutions located in Volta (Ohawu), Ashanti (Kwadaso, Ejura) and Northern (Pong-Tamale, Damongo).

There is also the Asuansi Farm Institute near Cape Coast and the Cocoa College at Bunsu in Eastern which trains extension officers and other technical personnel for the cocoa industry. These polytechnics and agricultural training institutes have the potential to admit large numbers from the SSS and technical and vocational schools, and run courses up to the Bachelor of Science level. They are however plagued by a myriad of seemingly unsurmountable problems, such as poor academic and support staff base, poor pedagogic facilities and skills, and inadequate infrastructure. Currently the polytechnics run the Higher National Diploma courses.

There are no regular national manpower surveys and projections to inform admissions into tertiary institutions, particularly the polytechnics. This may partially explain why current programmes in the universities and polytechnics are supply, rather than demand, driven, leading to the distortions and deviations from national objectives.

There is also no linkage between the programmes offered at the tertiary level and those offered at the SSS and technical and vocational institutions. Industry is not adequately involved in the development of programmes of tertiary institutions through effective practical attachment programmes, because the subvention from government for such attachment courses, which used to exist for all science and technology students, was abolished over two decades ago. University students in engineering and science who wish to benefit from such experiences therefore have to make their own arrangements and take care of themselves during such vacation attachment programmes. Currently, interaction of the polytechnics with industry is so weak that they are unable to even benefit from staff from industry providing part-time tuition to polytechnics on an official basis.

#### **4.4 Education and Economic Activity**

##### **Educational Background of Economically Active Persons**

Human resource development is one of the keys to reducing poverty. Education opens up opportunities for better health and better nutrition, and normally leads to higher income, greater access to social benefits, and greater productivity. The 1990 United Nations World Development Report notes that the poor generally lack access to basic social services because there is too little investment in their human capital, which increases the probability that they and their children will remain poor. Education is central to all aspects of the impact of population and poverty. No programme to ameliorate the adverse effects of poor health, nutrition, environmental degradation, pollution, and other factors that impact on population can be successfully tackled without education playing a central role.

It has been argued that in developing countries where many of the poor are in the informal sector and are self-employed in farming, fishing, petty distributive trade or unskilled labour, education is sometimes considered irrelevant. The argument has therefore been made that the rich cocoa farmers of Ghana of the 1930s to the 1960s were mostly illiterate but were able to achieve levels of productivity yet to be equalled by farmers of today. Various studies have on the other hand shown that educated farmers are more likely to adopt new technologies, and better-educated farmers normally get a higher return on their farms. One such study on Africa found that farmers who had completed four years of education produced on the average, about 8 per cent more than farmers who had not gone to school.

The failure of present day Ghanaian cocoa farms to achieve productivity levels of the 1930s through the 1960s could be due to several factors including the fact that the new educated class did not go back into farming, while the old aged illiterate farmers were unable to adopt innovative scientific and technological methods in their production methods. Indeed, there is evidence that in recent times the few younger educated cocoa farmers who have embraced new and innovative methods from research results from the country's universities and research institutions, and worked closely with extension officers, are doing much better, and even serving as role models and learning cells for the less educated and relatively older farmers.

##### **Effect of Education on Economic Output**

Because the level of education of those in agriculture in Ghana has remained extremely low, agriculture has remained at the small-scale subsistence level. It has not been easy to inculcate scientific methods of agricultural production, which require a certain minimum level of basic education to understand, appreciate and apply. Education can open up a wider range of self-employment options other than farming and fishing, and enable a self-employed person to earn a lot more. Studies in Peru have shown that an extra year of primary education gives returns as high as 33 per cent for self-employed women in the retail trade sector, while a post-primary education has a high pay-off rate of about 14 per cent for men in the service sector.

Women play a crucial role in economic activities in Ghana, particularly in distributive trade and agriculture. If female education is given the right level of resources, it could have tremendous impact on agricultural production in Ghana and help reduce poverty, particularly in rural areas. This can only happen if those with the minimum basic education will remain in the rural areas where much farming takes place, and will not drift to the urban areas in search of non-existing jobs.

The effectiveness of education goes far beyond economic benefits. It has social and health connotations as well. For example, it has been estimated that one year of a mother's education can result in up to 9 per cent decrease in under-five mortality rate. The children of better-educated mothers, on the whole, are normally healthier. There is no doubt, therefore, that education impacts positively on poverty reduction and wealth creation. Any education system which introduces inequities and disadvantages into a large proportion of the population is likely to create a vicious circle of mass poverty for the majority in the midst of plenty for a tiny minority.

### **Educational Attainment of Employed Persons**

For economic and social advancement to be sustained, there is the need to have the right type of human resource base for the exploitation of its vast natural resources. Table 4.50 shows the education levels of those currently in productive economic activities. Accurate and reliable statistics about the categories of persons working in the various employment sectors is very important for national development planning. It has implications for restructuring and refocusing on education, human resource development, financial assistance, employment and unemployment and re-distribution of national income.

Table 4.50 indicates that for the adult population of 15 years and older about half (49.1 per cent) of those engaged in various selected occupations, (41.9 per cent male and 56.5 per cent female), have never had any formal education. Those with no education are concentrated mainly in agricultural work (68.7 per cent) and production (11.9 per cent) and sales (11.9 per cent). On the other hand, workers with tertiary education are mainly in professional and technical occupations (90.3 per cent). The occupation with the largest concentration of tertiary educated employed persons is administration/management (45.7 per cent) followed by professional/technical (34.4 per cent). The occupations with the highest proportions of uneducated workers are agriculture (67.2 per cent), general labourers (51.2 per cent) and sales (38.4 per cent).

Sex differentials of occupation in relation to educational level at the tertiary level show an advantage for males; for instance, among the professionals the proportion of males (37.3 per cent) is much higher than that of females (29.1 per cent). Generally, the proportion with education from middle/JSS and beyond is higher for males and higher for females with no schooling or not beyond primary.

**Table 4.50: Major Occupation of Employed Persons (15 yrs+) by Education Level and Sex**

Occupation/ Sex	Total Employed	per cent	Level of Full Time Education							
			Never	Pre- Sch	Primary	Middle/ SSS	Sec./ SSS	Vocat. Tech	Post Sec.	Tertiary
Total	7,428,374	100.0	49.1	0.1	5.6	28.9	6.6	3.9	3.2	2.6
Male	3,748,887	100.0	41.9	0.2	5.1	32.6	8.6	4.8	3.5	3.4
Female	3,679,487	100.0	56.5	0.1	6.1	25.0	4.7	3.1	2.9	1.5
Professionals										
Total	487,941	6.6	2.8	0.0	0.4	7.3	11.6	9.1	34.5	34.4
Male	310,489	8.3	2.6	0.0	0.4	8.0	12.5	10.3	29.0	37.3
Female	177,452	4.8	3.2	0.0	0.3	5.9	10.1	7.1	44.2	29.1
Administrative										
Total	22,102	0.3	6.9	0.0	0.6	16.6	18.5	7.2	4.5	45.7
Male	15,857	0.4	4.8	0.0	0.4	15.3	20.0	7.1	4.3	48.0
Female	6,215	0.2	12.2	0.0	1.0	20.2	14.4	7.4	5.0	39.8
Clerical and relat.										
Total	334,251	4.5	15.7	0.0	4.2	46.8	16.8	14.0	2.1	0.4
Male	262,681	7.0	16.4	0.0	4.6	51.1	15.5	10.3	1.7	0.4
Female	71,570	1.9	13.2	0.1	2.4	31.3	21.6	27.3	3.6	0.5
Sales workers										
Total	1,131,229	15.2	38.4	0.2	7.0	38.0	9.9	5.2	1.2	0.3
Male	322,021	8.6	29.6	0.2	4.8	37.9	17.3	7.5	1.9	0.8
Female	809,208	22.0	41.9	0.1	7.8	38.0	6.9	4.3	0.9	0.1
Service workers										
Total	431,047	5.8	36.1	0.2	6.3	37.6	11.1	6.7	1.5	0.4
Male	159,958	4.3	32.9	0.2	4.9	35.8	15.7	8.2	1.9	0.5
Female	271,094	7.4	38.0	0.2	7.2	38.7	8.5	5.8	1.3	0.4
Agric. Animal										
Total	3,733,472	50.3	67.2	0.2	5.9	21.9	3.0	1.1	0.7	0.0
Male	1,905,758	50.8	59.9	0.2	6.0	27.1	4.4	1.5	0.9	0.0
Female	1,807,714	49.7	74.9	0.1	5.9	16.4	1.6	0.6	0.4	0.0
Produc. and Retail										
Total	1,191,357	16.0	36.5	0.2	5.4	42.5	8.1	6.0	1.2	0.1
Male	697,648	18.6	28.0	0.2	5.1	48.4	9.7	7.3	1.2	0.1
Female	493,709	13.4	48.5	0.2	5.9	34.1	6.0	4.2	1.1	0.0
Others										
Total	96,975	1.3	51.2	0.1	6.6	34.5	6.8	0.6	0.1	0.0
Male	74,450	2.0	47.5	0.1	6.6	37.5	7.6	0.6	0.1	0.0
Female	22,525	0.6	63.5	0.1	6.7	24.8	4.3	0.5	0.1	0.0

Source: Ghana Statistical Service, 2000 Population and Housing Census

Table 4.51 describes the education level of persons employed by industry. A sizeable proportion (56.8 per cent) of employed persons with formal education attained middle or junior secondary school level of education. About a third (31.8 per cent) have education beyond the basic level. The industry with the highest proportion of employed persons is food and agriculture, including, hunting and animal husbandry accounting for 50.1 per cent of persons engaged in economic activities. Fishing accounts for an additional 3 per cent, giving a total of 53.1 per cent of employed persons being in the food and agriculture industry. Persons who have never received any form of formal education (65.7 per cent) predominate the sector, while those with middle or junior secondary school education account for 22.4 per cent. The data show that a higher proportion of persons with tertiary education are mainly in international, foreign

**Table 4.51: Industry of Employed Persons (15 years and older) by Educational Level and Sex**

Industry	N	Total	Never	Pre School	Primary	Middle/JSS	Sec./SSS	Voc/Tech.	Post Sec.	Tertiary
<b>Both Sexes</b>										
All Industries	7,428,374	100.0	49.1	0.1	5.6	28.9	6.6	3.9	3.2	2.5
Agriculture, Hunting and Forestry related workers	3,722,719	100.0	65.7	0.1	5.7	22.4	3.2	1.3	1.1	0.3
Fishing	223,999	100.0	64.2	0.2	7.2	19.6	4.0	2.3	1.6	0.9
Mining and quarrying	103,662	100.0	41.0	0.1	4.3	29.2	8.8	6.5	4.8	5.3
Manufacturing	791,429	100.0	34.9	0.2	5.5	40.9	8.4	6.1	1.9	2.0
Electricity, gas and water	26,409	100.0	33.1	0.1	3.0	29.5	10.6	11.8	2.7	9.1
Construction	223,611	100.0	24.7	0.2	5.2	45.8	9.8	8.3	1.8	4.2
Wholesale and related	1,119,395	100.0	36.2	0.2	6.6	39.2	9.9	5.3	1.7	0.9
Hotels and restaurants	169,274	100.0	46.6	0.1	8.0	31.1	6.7	4.7	1.5	1.3
Transport, Storage and Communication	228,234	100.0	23.3	0.0	5.3	49.1	11.9	6.8	1.9	1.6
Financial intermediation	40,386	100.0	18.8	0.1	2.4	14.1	19.3	15.2	9.2	21.0
Real Estate and Business Activity	71,569	100.0	15.7	0.1	2.6	25.4	21.4	16.5	5.2	13.1
Public Administration	105,764	100.0	14.0	0.1	2.1	29.6	23.0	18.3	4.0	9.0
Education	257,793	100.0	4.0	0.1	1.3	8.7	11.6	6.7	38.4	29.3
Health and social work	65,140	100.0	16.9	0.1	2.5	13.6	9.0	7.5	35.7	14.8
Other community Service	212,370	100.0	25.5	0.2	5.0	42.9	12.3	7.3	3.1	3.7
Private Household	62,620	100.0	48.5	0.2	6.2	30.0	8.0	4.9	1.4	0.8
Extra-territorial Organization	4,000	100.0	9.4	0.0	3.3	22.7	14.9	14.9	5.0	29.8
<b>Male</b>										
All Industries	3,748,887	100.0	41.9	0.2	5.1	32.6	8.6	4.8	3.5	3.4
Agriculture, Hunting and Forestry related workers	1,906,603	100.0	58.0	0.2	5.7	27.8	4.7	1.8	1.4	0.4
Fishing	127,788	100.0	60.9	0.2	7.7	21.4	4.7	2.6	1.5	1.1
Mining and quarrying	70,816	100.0	36.6	0.1	3.8	32.5	10.2	7.0	4.1	5.8
Manufacturing	379,048	100.0	25.9	0.2	5.0	45.4	10.5	7.5	2.3	3.2
Electricity, gas and water	18,238	100.0	21.1	0.1	2.7	35.2	12.4	14.2	2.6	11.8
Construction	187,709	100.0	20.6	0.1	5.2	48.8	10.1	8.9	1.7	4.5
Wholesale and related	379,199	100.0	26.4	0.2	4.5	41.9	15.3	7.3	2.4	1.9
Hotels and restaurants	33,159	100.0	35.7	0.2	5.6	31.7	13.9	6.9	2.7	3.3
Transport, Storage and Communication	196,916	100.0	20.5	0.0	5.3	52.4	11.9	6.6	1.7	1.5
Financial intermediation	26,906	100.0	17.9	0.1	2.2	14.6	18.8	13.9	9.1	23.5
Real Estate and Business Activity	50,817	100.0	14.3	0.1	2.5	28.0	20.4	14.6	5.0	15.1
Public Administration	80,325	100.0	13.9	0.0	2.0	32.0	23.1	15.6	3.7	9.7
Education	148,378	100.0	4.4	0.1	1.3	8.5	12.7	6.3	36.1	30.5
Health and social work	32,723	100.0	20.2	0.1	3.0	15.8	9.7	7.8	24.5	18.9
Other community Service	83,273	100.0	26.3	0.1	3.8	34.7	15.1	8.3	3.9	7.8
Private Household	24,392	100.0	42.7	0.2	5.3	32.4	10.7	5.5	1.8	1.4
Extra-territorial Organization	2,597	100.0	9.2	0.0	3.2	24.5	15.1	12.8	4.5	30.8
<b>Female</b>										
All Industries	3,679,487	100.0	56.5	0.1	6.1	25.0	4.7	3.1	2.9	1.5
Agriculture, Hunting and Forestry related workers	1,816,116	100.0	73.9	0.1	5.7	16.7	1.7	0.8	0.7	0.2
Fishing	96,211	100.0	68.5	0.2	6.6	17.2	3.2	2.0	1.7	0.7
Mining and quarrying	32,846	100.0	50.5	0.2	5.4	22.0	5.9	5.4	6.2	4.4
Manufacturing	412,381	100.0	43.1	0.2	6.0	36.8	6.5	4.8	1.6	0.9
Electricity, gas and water	8,171	100.0	59.9	0.1	3.7	16.8	6.7	6.5	3.0	3.2
Construction	35,902	100.0	46.0	0.2	5.2	30.2	8.0	5.4	2.1	2.7
Wholesale and related	740,196	100.0	41.3	0.1	7.6	37.9	7.1	4.3	1.3	0.4
Hotels and restaurants	136,115	100.0	49.2	0.1	8.6	31.0	4.9	4.1	1.2	0.8
Transport, Storage and Communication	31,318	100.0	40.7	0.1	5.2	28.3	12.1	8.4	3.2	2.1
Financial intermediation	13,450	100.0	20.4	0.1	2.7	13.2	20.3	17.8	9.4	16.1
Real Estate and Business Activity	20,752	100.0	19.2	0.1	3.0	19.0	23.8	20.9	5.6	8.2
Public Administration	25,439	100.0	14.5	0.1	2.4	22.0	22.6	26.6	4.9	7.0
Education	109,415	100.0	3.6	0.1	1.4	9.0	10.0	7.1	41.4	27.5
Health and social work	32,417	100.0	13.6	0.1	2.1	11.3	8.3	7.1	46.9	10.6
Other community Service	129,097	100.0	24.9	0.2	5.9	48.1	10.5	6.7	2.6	1.1
Private Household	38,228	100.0	52.1	0.2	6.7	28.5	6.3	4.5	1.2	0.4
Extra-territorial Organization	1,403	100.0	9.8	0.0	3.4	19.5	14.7	18.7	5.8	27.9

Source: Ghana Statistical Service, 2000 Population and Housing Census

and non-governmental organizations (29.8 per cent), education (29.3 per cent), financial institutions (21.0 per cent), health and social work (14.8 per cent) and real estate (13.1 per cent). It is worth noting that the proportions of males working in these industries in all instances are higher than females.

It has been argued that for agriculture to be more productive and sustainable, the manufacturing sector, particularly that which deals with food processing, needs to grow and expand, so that value can be added to agricultural produce. While the manufacturing sector employs 10.7 per cent of employed persons, the wholesale and retail sectors employs 15.1 per cent. This pattern needs to be reversed to support the development of the agricultural industry.

Table 4.52 indicates that the highest concentration of employed persons (83.8 per cent) is in the private informal sector. This sector includes petty traders, street-side vendors, self-employed odd-jobbers and artisans, peasant farmers, fishermen and artisanal fish processors, street-side mechanics, and others. Their operations normally do not follow laid-down labour regulations and defined tax obligations. It is worth noting that it is also the sector where majority (54.2 per cent) of the employed persons have never had any form of formal education and 29.5 per cent (61.4 per cent of those who have had full time education) have Middle/JSS level.

**Table 4.52: Employment Sector of Employed Persons (15 yrs+) by Education level and Sex**

Empsector/ Sex	Total Employed	Per- Cent	Level of Full Time Education							
			Never	Pre- Sch	Primary	Middle/ JSS	Sec./ SSS	Vocat. Tech	Post Sec.	Tertiary
<b>Total</b>										
<b>Total</b>	7,428,374	100.0	49.1	0.1	5.6	28.9	6.6	3.9	3.2	2.5
Male	3,748,887	100.0	41.9	0.2	5.1	32.6	8.6	4.8	3.5	3.4
Female	3,679,487	100.0	56.5	0.1	6.1	25.0	4.7	3.1	2.9	1.5
<b>Public</b>										
<b>Total</b>	480,789	6.5	10.8	0.1	1.9	18.3	13.4	10.9	24.8	19.8
Male	312,652	8.3	11.3	0.1	2.0	21.3	14.6	10.8	20.0	20.0
Female	168,137	4.6	10.0	0.1	1.8	12.8	11.1	11.2	33.7	19.4
<b>Private Formal</b>										
<b>Total</b>	630,786	8.5	29.8	0.2	4.0	31.0	14.0	9.3	5.0	6.8
Male	408,515	10.9	25.5	0.1	3.6	33.5	15.1	9.8	4.4	7.9
Female	222,271	6.0	37.8	0.2	4.8	26.2	12.0	8.5	6.0	4.6
<b>Private Informal</b>										
<b>Total</b>	6,228,543	83.8	54.2	0.2	6.1	29.5	5.3	2.8	1.3	0.7
Male	2,962,743	79.0	47.4	0.2	5.7	33.8	7.0	3.4	1.6	1.0
Female	3,265,800	88.8	60.3	0.1	6.4	25.6	3.8	2.3	1.0	0.4
<b>Semi-Public/Para</b>										
<b>Total</b>	57,448	0.8	39.5	0.1	4.0	26.7	10.4	8.1	4.1	7.0
Male	43,709	1.2	37.0	0.1	3.7	29.3	11.1	8.1	3.4	7.3
Female	13,739	0.4	47.3	0.2	5.0	18.6	8.4	8.1	6.5	6.0
<b>NGO/Int. Org.</b>										
<b>Total</b>	26,626	0.4	49.2	0.1	3.2	14.7	9.4	8.0	4.2	11.3
Male	18,316	0.5	49.7	0.1	2.9	15.4	9.5	7.3	3.5	11.7
Female	8,310	0.2	48.3	0.2	3.8	13.1	9.0	9.6	5.6	10.4
<b>Other</b>										
<b>Total</b>	4,182	0.1	45.1	0.1	3.6	19.8	10.4	7.6	3.6	9.8
Male	2,952	0.1	42.3	0.1	2.8	19.8	11.4	7.9	4.1	11.5
Female	1,230	0.0	51.9	0.0	5.4	19.7	8.0	6.7	2.5	5.9

Source: Ghana Statistical Service, 2000 Population and Housing Census

Another feature of the results is that the proportion of those with tertiary education working in the public sector (19.8 per cent) is relatively higher compared to the proportion working even in the private formal (6.8 per cent). A critical look at the data also indicates that with the exception of those with post secondary education, the proportions of females who have never had any full time education and those with lower levels of education tend to be higher than male, while the reverse is the case for males at higher levels of education.

### **Educational Attainment and Employment Status**

The employment status of all categories of persons engaged in any form of production in a given economy is a very important determinant of how relatively scarce resources could be utilized to reduce the endemic unemployment and poverty experienced in many developing countries. It also assists policy analysts to identify those who are vulnerable, especially women in the rural areas, for the necessary policy interventions to minimize poverty. Census results as indicated in Table 4.53 show that the self-employed without employees (68.3 per cent) constitute the highest sources of employment in the economy. The proportion of “unpaid family workers” (6.8 per cent) is higher than those of the “self-employed with employees” (5.2 per cent). There is a very high concentration of never educated persons among these workers as well as domestic and other casual labour.

There is a widespread perception that the economic circumstances of an educated individual or group of people (household) in terms of poverty are less pervasive than non-educated ones. This perception was verified during the 1997 CWIQ survey. Some selected welfare indicators, which were proved to be very predictive of poverty were selected from the Ghana Living Standard Survey (GLSS 1992) and used in the CWIQ survey.

The CWIQ survey results, as indicated in Table 4.54 show that about 74.4 per cent of heads of household in rural areas who have never attended school were classified as very poor compared to 0.1 per cent who had completed post-secondary school. While 76.0 per cent of household in the rural areas headed by females who have never attended school were categorized as very poor, no female heads of household that had completed tertiary education residing in the same rural communities were classified as very poor. A similar trend was observed for the males.

**Table 4.53: Employment Status of Employed Persons (15 yrs+) by Education level and Sex**

Empsector/ Sex	Total Employed	Per-Cent	Level Of Full Time Education							
			Never	Pre-Sch	Primary	Middle/JSS	Sec./SSS	Vocat. Tech	Post Sec.	Tertiary
<u>Total</u>	7,428,374	100.0	49.1	0.1	5.6	28.9	6.6	3.9	3.2	2.5
Male	3,748,887	100.0	41.9	0.2	5.1	32.6	8.6	4.8	3.5	3.4
Female	3,650,957	100.0	56.5	0.1	6.1	25.0	4.7	3.1	2.9	1.5
<u>Employee</u>										
Total	1,175,601	15.8	20.4	0.1	3.7	28.1	14.1	10.0	12.8	11.0
Male	817,837	21.8	19.2	0.1	3.6	31.6	14.7	9.7	9.9	11.1
Female	357,764	9.8	23.1	0.1	3.8	19.9	12.7	10.6	19.2	10.7
<u>Self Employed without Employee</u>										
Total	5,070,099	68.3	54.4	0.2	6.2	29.7	5.0	2.7	1.3	0.6
Male	2,345,986	62.6	48.1	0.2	5.7	33.8	6.6	3.2	1.5	0.9
Female	2,724,113	74.6	59.9	0.1	6.6	26.1	3.7	2.2	1.0	0.4
<u>Self Employed with Employee</u>										
Total	388,146	5.2	40.7	0.2	5.2	32.7	9.4	6.2	2.4	3.2
Male	205,101	5.5	34.4	0.1	4.8	34.9	11.4	7.3	2.6	4.5
Female	183,045	5.0	47.7	0.2	5.7	30.3	7.2	4.9	2.2	1.7
<u>Unpaid Family wk</u>										
Total	501,915	6.8	76.6	0.1	4.2	12.5	3.0	1.3	1.0	1.2
Male	213,862	5.7	72.1	0.2	4.2	14.6	4.5	1.7	1.3	1.4
Female	288,053	7.9	79.9	0.1	4.2	11.0	1.9	1.0	0.8	1.0
<u>Apprentice</u>										
Total	205,796	2.8	28.0	0.3	6.3	50.1	8.0	3.5	2.5	1.4
Male	118,635	3.2	27.1	0.2	5.9	50.8	8.2	3.6	2.5	1.6
Female	87,161	2.4	29.1	0.3	6.9	49.1	7.7	3.3	2.4	1.0
<u>Domestic Employed</u>										
Total	48,304	0.7	61.5	0.2	5.3	20.0	5.9	3.1	2.0	2.1
Male	23,720	0.6	61.9	0.2	4.4	18.8	6.6	3.3	2.2	2.7
Female	24,584	0.7	61.1	0.3	6.2	21.1	5.2	2.9	1.7	1.5
<u>Other</u>										
Total	38,513	0.5	59.2	0.2	4.8	18.0	6.5	4.0	2.7	4.7
Male	23,746	0.6	58.3	0.2	4.2	17.9	7.1	4.1	2.7	5.4
Female	14,767	0.4	60.5	0.2	5.6	18.0	5.6	3.8	2.7	3.5

Source: Ghana Statistical Service, 2000 Population and Housing Census

Poverty among heads of households who had completed JSS in the urban localities is higher (34.4 per cent) than in the rural areas (28.4 per cent). Similarly, poverty among the heads of households who had completed post-secondary school in urban area is more widespread (4.1 per cent) than in rural areas (1.0 per cent). This is an interesting phenomenon, and may be an indication that those with basic education may be better off in the rural areas where they could undertake more productive farming and other agricultural or rural industrial enterprises, rather than drifting to the urban areas. The general trend is that poverty among heads of household tends to decline with the acquisition of higher education.

**Table 4.54: Education Level of Households Head by Poverty Quintile and Sex**

Highest Education Level Of Head	National	Rural										Urban				
		Poverty Quintile														
		ALL	1	2	3	4	5	ALL	1	2	3	4	5			
Never Attended School	41.1	46.5	74.4	59.7	45.3	37.7	15.4	30.6	61.8	42.6	27.9	16.2	4.5			
Male	34.8	41.2	72.6	57.2	44.0	34.4	15.4	21.6	54.9	36.5	21.1	13.8	4.0			
Female	52.6	56.9	76.0	63.7	47.9	47.6	15.6	45.3	66.3	49.6	38.1	21.8	8.1			
Primary Not Completed	5.6	6.5	7.9	7.5	5.5	6.9	4.5	3.9	6.8	5.0	4.4	2.2	1.1			
Male	4.5	5.3	7.8	5.9	5.8	5.8	2.8	2.9	6.1	4.0	3.6	1.8	1.0			
Female	7.6	8.7	8.1	10.3	5.0	10.2	12.8	5.6	7.2	6.1	5.5	3.1	2.1			
Primary Not Completed (P6)	10.2	10.9	8.2	10.6	12.5	11.7	11.7	8.8	9.8	11.8	10.8	7.6	4.0			
Male	8.7	9.3	7.0	9.0	10.3	10.0	9.3	7.4	9.6	12.0	9.7	5.9	3.3			
Female	12.9	14.0	9.2	13.1	16.4	16.9	22.0	11.0	10.0	11.5	12.4	11.4	8.6			
Junior Sec. completed	30.4	28.4	7.7	19.7	31.0	35.5	49.7	34.4	14.7	30.2	35.4	46.2	45.4			
Male	35.4	33.8	9.5	22.1	31.7	40.5	52.0	39.5	16.4	33.8	39.7	48.8	45.8			
Female	20.8	17.7	6.2	11.0	29.7	20.5	38.6	26.1	13.5	26.2	29.2	39.9	42.9			
Senior Sec. Completed	4.8	2.5	0.2	1.7	1.8	2.4	6.4	9.1	1.8	3.4	9.2	11.2	19.7			
Male	6.4	3.7	0.5	2.5	2.7	3.0	7.7	12.1	4.1	5.3	2.6	11.9	19.6			
Female	1.7	0.3	0.0	0.5	0.3	0.5	0.4	4.2	0.3	1.3	4.2	9.7	20.6			
Post-Sec. Completed	2.1	1.0	0.1	0.5	0.4	1.1	3.1	4.1	1.1	0.9	3.4	4.0	11.1			
Male	2.9	1.5	0.2	0.7	0.7	1.3	3.6	6.0	2.7	1.2	4.8	4.5	12.4			
Female	0.5	0.2	0.0	0.0	0.0	0.4	1.2	1.1	0.0	0.6	1.4	2.9	2.9			

Source: Ghana Statistical Service, 1997 Core Welfare Indicators Questionnaire (CWIQ), Main Report.

## 4.5 Poverty as a Key Issue In Ghana's Educational Development

### *Cost of Education at the Basic Level and its Effects on Access and Progression*

Several studies have shown that educating children of the poor greatly improves their chances of escaping poverty. Ironically, it is the same poverty that prevents children from getting the right type of education that needs to be addressed to get them out of the poverty cycle; this can only be ameliorated through massive state intervention. Unfortunately, serious budgetary constraints have compelled many developing economies to expand their education systems to keep pace with population growth. It is estimated that many developing countries spend less than 3 per cent of recurrent expenditure on equipment, textbooks and other teaching materials.

As has been observed earlier getting into senior secondary school depends crucially on the type and quality of junior secondary school one attends. Getting into the type and quality of junior secondary school that will facilitate advancing to a good senior secondary school and eventually to the tertiary level is dependent on the quality of primary school education, which has to be paid for. The level of fees charged effectively excludes over 90 per cent of children from taking advantage of what these schools have to offer. It is mainly the 10 per cent who attend the private schools who eventually make it further up the education ladder up to the highest possible level. Table 4.55 gives an idea of the type of fees paid in some of these private schools from primary class one to junior secondary (JSS) three.

**Table 4.55: Fees (Cedis) Paid in a Typical Private Primary/Junior Secondary School**

Class	Annual Basic Fees	Annual Miscell Costs	Annual Total Cost
Primary 1	663,000	1,125,000	1,788,000
Primary 2	678,000	1,125,000	1,803,000
Primary 3	678,000	1,125,000	1,803,000
Primary 4	711,750	1,150,000	1,861,750
Primary 5	715,500	1,150,000	1,865,500
Primary 6	715,500	1,150,000	1,865,500
JSS 1	795,750	1,200,000	1,995,750
JSS 2	795,750	1,200,000	1,995,750
JSS 3	773,250	1,200,000	1,973,250

Source: Jacob Frimpong, *Daily Graphic Tuesday January 4<sup>th</sup> 2000, page 7.*

Note: Average Exchange Rate between January and May 2000 is C4500 to US\$1.00

In the 1998/1999 Ghana Living Standards Survey, questions were asked on some aspects of educational expenditure about members of households attending schools or colleges during 12 months preceding the interview. Table 4.56 shows that on the average, households spent about ₵163,500.00 a year for each household member attending school or college during the study year.

**Table 4.56: Average Amount (Cedis) Paid per Person Attending School/College in the Last 12 Months by Locality**

Item	Locality					All	
	Accra	Other Urban	Rural Coastal	Rural Forest	Rural Savannah	Amount	per cent
School/Registration Fees	185,549	86,170	18,170	39,790	7,283	59,158	36.2
Contributions to PTA	4,993	2,543	870	2,063	1,569	2,231	1.4
Uniforms/Sports Clothes	24,201	15,665	9,153	11,132	11,344	13,393	8.2
Books/School Supplies	43,847	15,940	6,260	7,544	5,919	13,056	8.0
Transportation to/from School	29,736	9,333	3,969	3,383	1,529	7,515	4.6
Food/Board/Lodging at School	134,751	66,033	44,318	44,961	17,411	55,803	34.1
Other expenses (Clubs, Extra Classes)	26,541	13,632	5,550	4,965	1,812	9,168	5.6
Other in-kind Expenses	8,203	4,982	636	1,254	3,526	3,198	2.0
Total	457,821	214,203	88,926	115,092	50,393	163,522	100.0

Source: Ghana Statistical Service, Ghana Living Standard Survey, (GLSS 4, 1998/99)

The average expenditure on education on individual household members in Accra for a twelve-month duration was higher (₵457,821.00) than other urban localities (₵214,203.00). In all three rural categories, coastal (₵88,926.00), forest (₵115,092.00) and savannah (₵50,393.00), average expenditure on education was lower than the national average. In terms of specific items, a higher proportion of the expenditure was on school/registration fees (36.2 per cent) and food, board and lodging at school (34.1 per cent). The two combine to form more than two-thirds (70.3 per cent) of household expenditure on education of the individual member.

Table 4.57 shows the average amount paid per person at all levels. The general trend is that the amount spent by a given household increases as the pupil moves up on the educational ladder. For instance, total expenditure at primary school is ₵122,006.00 increasing to ₵635,693.00 at the SSS and ₵964,551 at the higher institution, an increase of about 691 per cent. Clubs and extra classes, and contribution to Parents-Teachers Association (PTA) could be considered as cost borne by basic schools as the proportion of expenditure in these areas

decreases consistently from primary school to tertiary levels. While the proportion of school and registration fees increases from lower to higher school levels, the proportion of household expenditure on food, board and lodging at school decreases from the lower level to higher level of education.

Table 4.57: Average Amount Paid per Person in School in the Last 12 Months, by Locality and Level of School

Item	School level									
	All		Primary		JSS		SSS		Higher Institutions	
	Amount	per cent	Amount	per cent	Amount	per cent	Amount	per cent	Amount	per cent
School/Registration Fees	59,158	36.2	34,911	28.6	215,404	50.9	325,728	51.2	504,539	52.3
Contributions to PTA	2,231	1.4	1,819	1.5	5,805	1.4	5,750	0.9	1,115	0.1
Uniforms/Sports Clothes	13,393	8.2	12,482	10.2	20,362	4.8	20,970	3.3	21,591	2.2
Books/School Supplies	13,056	8.0	9,027	7.4	33,059	7.8	66,691	10.5	141,516	14.7
Transportation to/from School	7,515	4.6	4,973	4.1	21,253	5.0	38,642	6.1	79,360	8.2
Food/Board/Lodging at School	55,803	34.1	49,184	40.3	94,787	22.4	135,045	21.2	182,958	19.0
Other exps. (Clubs, extra Classes)	9,168	5.6	7,564	6.2	21,032	5.0	27,473	4.3	13,110	1.4
Other in-kind Expenses	3,198	2.0	2,046	1.7	11,220	2.7	15,393	2.4	20,362	2.1
<b>Total</b>	<b>163,522</b>	<b>100.0</b>	<b>122,006</b>	<b>100.0</b>	<b>422,922</b>	<b>100.0</b>	<b>635,693</b>	<b>100.0</b>	<b>964,551</b>	<b>100.0</b>

Source: Ghana Statistical Service, Ghana Living Standard Survey, (GLSS 4, 1998/99)

Although the figures up to junior secondary school level seem reasonable, it appears that the survey does not bring out the real cost of education per child at the senior secondary and tertiary levels, and even the junior secondary level. It is possible that certain indicators have either been left out entirely, or have been under-estimated. For example, PTA contribution per child at the SSS level is certainly more than ten times the ₵5,750.00 stated in the survey results, and food, board and lodging at the SSS and tertiary levels are certainly in millions of cedis, not the 135,000 and 182,000 per annum stated in the survey results. There is therefore the need for a more thorough study to determine a more realistic and reliable cost of education at all levels, for future planning purposes.

According to a recent study by Databank research on the cost of primary / JSS education, children in the public primary and JSS institutions spend about 4,000 cedis as basic fees and about 18,000 cedis on miscellaneous expenditure, including the cost of books and school uniforms, whereas the average basic fees in the private schools is about 700,000 cedis a year, with another 1.5 million going into miscellaneous items such as uniforms, books, computer fees, excursions. If one chooses to send the child to one of the more prestigious “international schools”, then one must be prepared to spend between US\$2,000 and US\$ 5,000 per annum, or at current exchange rates, about 17 million to 43 million cedis per annum.\*

In a survey carried out in June 1998 and published in the September 1999 maiden issue of the newspaper “Truth Reborn”, the authors claimed that the most important issue in Ghana, which is engaging the attention of everybody, is school fees. Eighty per cent (80 per cent) of respondents thought this was the case. The next most important was jobs, followed by

\* In Mr. Frimpong’s article in the Daily Graphic, he quotes 1200 to 1800 dollars per term or 2510 to 3600 dollars per annum as the fees paid in these schools. However, if indeed the fees quoted are per term, then annual fees should have been 3600 and 5400 dollars. If the fees are per semester, then the annual fees should be between 2400 and 3600 dollars per annum.

medical services, food prices and corruption in that order. The fact that the survey shows school fees as being more important to Ghanaians than jobs is very significant and relevant to the problem of education and poverty alleviation in Ghana.

As has been discussed earlier, the 2001 Ghana Child Labour Survey revealed that over 44 per cent of all children (52 per cent in urban and 43 per cent in rural areas) cited affordability as the main cause of children dropping out of school.

Over 70 per cent of students who enter the universities to pursue undergraduate degree courses are from a core of schools which constitute less than 10 per cent of the total number of senior secondary schools in the country. These students are able to attend these top senior secondary schools, because their parents invest heavily in their primary and junior secondary school education. The total fees paid in these top schools are also relatively higher than what obtains in the less well-endowed schools, notwithstanding efforts by Government to standardize and control “approved fees” in all senior secondary schools. These children attend highly expensive private preparatory and international primary and junior secondary schools, where the annual expenditure on a single child, including official fees, can vary from 500,000 cedis to as much as 40 million cedis. It is mainly students from these top schools who also eventually make it into the tertiary institutions to study the highly competitive disciplines with relatively limited vacancies, such as Medicine, Engineering, Administration, Law, Pharmacy, Science, Agriculture and Architecture.

About 70 per cent of children in basic schools are from the rural areas. It is this vast majority of children who end up in poorly endowed public schools, either because of financial reasons or because the public schools are the only schools in their community. These children hardly ever make it beyond JSS 3 because, a large majority of them drop out before primary 6. Several studies conducted over the years have shown that the ability to pay school fees even at the primary school level, has been a major determining factor in a child moving up the education ladder. The next section examines these problems, particularly at the primary and secondary levels.

### **Financial Constraints and Primary School Education**

During the colonial era, when most of the basic and secondary schools were in the hands of the churches, with only a few Government institutions, all pupils in school paid fees. The only persons who were exempted were the children of Priests, Catechists, Head-teachers and Teachers who enjoyed a graduated rebate. Textbooks, however, had to be bought by all children at the beginning of the year. A parent would spend a total less than a tenth of a pupil teacher’s annual income on all the education requirements of a child. There was nothing like a private school and all children, irrespective of their social status, attended the public schools.\*

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\* It could be argued that the elementary schools, most of which belonged to religious organizations and churches, were de-facto private schools. But this was not exactly the case. Even though the churches exercised considerable supervision of these schools and in some cases even paid salaries, policy matters and general supervision were directly under the Department (later Ministry) of Education.

Currently the lowly paid public servant spends about 3.3 per cent of his or her salary on a child's education in the public school, which is quite similar to what was being spent by a similar public servant in the pre-independence era. In contrast, the middle income earner of today, such as a graduate teacher, who chooses to send his/her child to a private school will be spending about 17 per cent of his/her salary per child on education. This is a major change from the situation that existed in the pre-independence era when all persons had to send their children to the same type of school, and the graduate teacher spent just about 0.7 per cent of salary on each child. Yet middle income earners who are now spending 17 per cent of their salary per child, are prepared to make the sacrifice at the primary school level, because they know that such an investment will eventually ensure their children places in universities or other tertiary institutions and enhance their chances of improving their economic status or climbing up the social ladder.

As at 1999, Government was spending on the average, about 52 dollars per pupil at the primary level, 84 dollars at JSS, 207 dollars at SSS 370 dollars at vocational/technical, 760 at Teacher Training Colleges, 258 dollars at polytechnics, and 1060 dollars at the universities. There is no evidence that this has changed much over the last four years. Indeed at the higher levels the subvention in dollar terms has actually dropped. For example as at 2002, expenditure on the universities dropped to about 500 dollars per student per annum and even at the lower level, the actual expenditure per child per annum at every level seems to have dropped between 1998 and 2001.

There has been a considerable shortfall in actual expenditure as against planned recurrent expenditure, thus exerting considerable pressure on schools in managing their affairs throughout the year as clearly shown in Table 4.58. Since at the primary school level, private schools do not receive any subvention from government, it means that all the 51.5 dollars from government goes into funding the public schools. It is estimated that about 80 per cent of this amount goes into teachers' salaries, which means that only about US\$10.00 per annum per child goes into the provision of facilities in the public primary schools. The equivalent amount at the JSS will be 16.7 dollars. When one adds the 9,000 cedis (about 1.1 dollar per annum) that parents officially pay as fees in the public schools, public schools have an input of just about 11 to 17 dollars per annum per child for the provision of academic and other facilities.

**Table 4.58: Recurrent Unit Cost Per Pupil, (2001)**

Educational Level	Planned Expenditure		Actual Expenditure		Financing Gap		per cent Shortfall
	Cedis	US\$	Cedis	US\$	Cedis	US\$	
Pre-school	672,842	89.7	142,234	19.0	530,608	70.7	78.8
Primary School	960,000	128.0	203,000	27.1	757,000	100.9	78.8
Junior Sec. School	1,380,009	184.0	43,595	58.5	941,414	125.5	68.2
Senior Sec. School	4,191,263	558.8	1,800,424	240.1	2,390,839	318.8	57.1
Tech/Voc. Institute	5,479,610	605.5	2,280,607	304.1	3,199,003	301.4	49.8
Teacher Training College	4,541,430	730.6	2,398,579	319.8	2,142,851	410.8	56.2
Institutions for the handicapped	5,752,998	767.1	3,702,173	493.6	2,050,825	273.5	35.7

Source: Ghana Education Service

Available information indicates that in the private schools, parents spend between 200 and 3,600 dollars in direct payments per annum to the schools. If one adds the indirect payments,

total expenditure on a child in a year will vary between 400 and 5,400 dollars per annum. In some very prestigious private schools, children 5 years or younger pay US\$ 2,800 per annum, payable in four installments, while children above five years old pay between 6,000 and 7,000 dollars. Even if one takes the minimum of 200 dollars a year and a conservative average of about US\$ 800 per child per annum, and assuming that up to 80 per cent goes into teachers' salaries, this means that a private school will receive annually a minimum of 40 dollars or an average of 160 dollars per child going into the provision of direct academic costs.

Normally, if a public school spends a tenth to a quarter the amount spent in a private school to provide educational facilities, a public school child, however basically intelligent he may be, cannot possibly acquire in nine years, the total body of knowledge that will enable that child to compete on equal terms with the private school counterpart at the BECE, for admission into any type of secondary school, let alone getting into any of the top secondary schools. Moreover, with 80 per cent of even 200 dollars, a private school teacher, even after the proprietor of the private school has taken care of the profit margin, is likely to be paid much better than his or her public school counterpart, who is being paid from 80 per cent of 50 dollars. A visit to any of the private schools where annual fees are 500 dollars or higher shows the sharp contrast in facilities, motivation of teachers, effective supervision and all the ingredients that go into providing quality education. In addition to the moneys paid by parents in these private schools they also pay substantial amounts for the children to attend private extra classes to prepare them for the BECE.

Quality education is not cheap and if the quality of education for the bulk of children who attend the public schools is to be improved, then there is the need for a serious rethink of where to place emphasis on the public funding of education, whether to put more money into the basic level education to support 70 per cent of children in the public schools, or let the 2.6 per cent who are in the tertiary institutions benefit more than the basic school children. The problem with the country's capacity to tap all the available manpower potential from every section of the population lies at the basic education level, not at the tertiary level. The nation is unwittingly eliminating a vast majority of its intelligent, able-bodied, potentially useful citizens right at the lowest level of the education system, simply by not putting in adequate resources at the basic level to provide the type of quality education that will make the children more useful and independent citizens of the country.

### **Fee Payment in Secondary Schools**

Unlike fees in the universities, the principle of paying fee was accepted in secondary schools, majority of which are boarding schools. The officially day schools have also a few hostels that cater for those who travel from other parts of the country to attend these schools. Until the passage of the 1961 Education Act, which made tuition at the secondary schools free, every school charged both tuition and boarding fees. Tuition was fixed and was the same amount for every school. Hence, day students paid only the tuition fee. Boarding fees varied depending on available facilities. There were various scholarship schemes, however, which catered for full or partial financial support for academically brilliant as well as needy students. These various scholarship schemes made it possible for many children from relatively poor backgrounds to benefit from good education from the very best schools. With

the dwindling of Government support to secondary schools, however, the Government scholarship and bursary schemes have almost become moribund. Only the Cocoa Marketing Board bursary and a few other scholarships run by firms for their employees are still operational. In recent times, district assemblies and various traditional authorities, NGOs and individuals have also instituted some form of financial aid for secondary school children. Government has also gradually, passively passed on several items of expenditure to parents, old students and Parent-Teacher Associations (PTAs).

As at 1998, Government recurrent expenditure on secondary education was about 92 billion cedis. With 188,908 students enrolled in secondary schools, this works out to about 486,153 cedis per student per annum. At 1998 exchange rate this is equivalent to 207.12 dollars per student per annum. On the assumption that about 80 per cent of this goes into emoluments and other non-academic expenditure, this leaves just about 41 dollars per student per annum for purely academic programmes. For the sciences, it is estimated that it costs between 5 and 8 dollars per student per practical at the secondary level and about 30 to 40 dollars per student per practical at the university level to run a good and meaningful practical class. Ideally each student at the secondary school should have at least two practical classes of 80-minute duration per week per science subject to be considered well prepared for university or other tertiary education.

For a 32-week academic year, for three elective science subjects, this comes to 192 practical classes or 216 contact hours a year per student. At the minimum cost of about 40,000 cedis per practical per student, it amounts to 7,680,000 cedis per student per year for the three elective science subjects. This is equivalent to about US\$980 per annum at current exchange rate. The annual Government subvention per student for costs other than salaries is about 41 dollars, or between 320,000 cedis and 350,000 cedis per student, for all the seven or eight subjects studied at the SSS level. If science practical alone should cost 7.7 million cedis per student per annum even at the senior secondary school, then it would be difficult to mobilize the remaining 7.3 million cedis, not to mention the cost of teaching the other subjects for a student. The idea of cost sharing among stakeholders (Government, parents, students' sponsors and others) needs to be examined and the appropriate solutions found. A scheme must be designed, which would ensure that those who can afford to pay the full cost of their education are made to do so, while workable schemes such as bursaries and scholarships are instituted to cater for those who cannot afford it. This is to ensure that the school recovers in full, or as much as possible, the cost of providing quality education.

Before the 1961 Education Act, when secondary school students were paying a fixed amount as tuition regardless of government subvention to the school, it was possible for secondary schools to adequately provide enough facilities for meaningful science practical classes, with significant portions of the cost being met from their own funds. Currently, with free tuition, schools are being made to run on subventions, which in real terms cannot even last for a month. This accounts for some of the reasons why the universities admit students who have obtained As and Bs in the sciences, but are still grossly deficient in science practical skills. Sustainable ways of funding practical science programmes in the senior secondary schools, particularly the provision of equipment and consumables, should be re-examined. One way of tackling this problem may be the setting up of a science and technology fund, similar to

the road fund and the education trust fund, devoted entirely to funding infra-structural development, including equipment, for science, vocational and technical programmes, particularly at the junior and senior secondary levels.

At the senior secondary level, the better-endowed schools are able to provide some practical training to their students, not because they receive any extra subvention or monies from Government. These “top schools” are “keeping their heads barely above water”, because of contributions from the alumni, Parent-Teacher Association levies, and benevolent donations from philanthropists. Many of the top schools have computer centres and other academic facilities established or donated to them through the efforts of their old students and other philanthropists. This is not the case with the less-endowed schools which means that they are further handicapped.

The fees currently being charged and paid by parents, though quite burdensome on many parents, simply cannot keep these facilities, which are absolutely essential for quality education, running for any reasonable length of time. To have what it takes for a good secondary school to function efficiently, pay its staff meaningful salaries that can motivate them, and provide quality education, some private senior secondary schools charge higher fees to pay for the cost of education. The facilities at these schools are relatively better compare with the public institutions, providing a congenial teaching and learning environment. On the other hand, if all children in secondary schools were to be made to pay for the full cost of education, it would be extremely difficult for children in deprived rural and urban communities to be enrolled at the primary and junior secondary schools.

Stakeholders in the education sector should make concerted efforts to assist the vulnerable groups in society to enrol and keep their wards in a comparative good quality secondary school facility. This will improve the current situation where few senior secondary schools, which are attended mainly by children from the very expensive private primary and junior secondary schools, will produce 70 to 90 per cent of our future doctors, engineers, scientists and other professionals and administrators, while the remaining 96 per cent of our schools simply grovel on the ground and go through the motions of providing some semblance of secondary education.

#### **4.6 Projecting Ghana's Education into the Future**

##### **Projecting School Enrolment into the Future**

Effective planning for socio-economic growth and development depends considerably on the availability of reliable statistical data. This is achieved by critical examination of reliable past data, compilation and collation of reliable current data, analysis of the data obtained, and projection of the results to predict future trends. Ghana and many developing countries have in the past been unable to plan effectively because availability of such reliable data has sometimes suffered from serious gaps.

There is no doubt that reliable statistical data is extremely important for proper planning and development. The Ministry of Education has for several years endeavoured to compile statistical data for educational planning. Notwithstanding considerable odds and difficulties,

these statistics have always served as good primary data sources for educational planning, development and management. The Universities have also on the whole kept accurate statistical data to assist them in managing their institutions. Such data, particularly on enrolment, graduation, and finance, have been extremely useful, and have on many occasions even been relied upon by Government to effect major policy changes.

No matter how reliable projections based on statistical data may be, they can be thrown totally out of gear by several unpredictable events or unforeseen circumstances. For example, in the seven-year development plan of 1963 to 1970, it was projected that net total basic (primary and middle) school enrolment will rise from 1,498,000 in 1964 to 2,198,500 by 1969. Ghana was not able to achieve its educational targets as envisaged in the seven-year development plan. Some attribute the non-achievement of targets to the mass exodus of teachers between 1968 and 1983 to neighbouring countries, particularly Nigeria, for economic and financial reasons.

### **Projections from the 1984 Census**

A similar exercise was carried out after the 1984 national census. Based on the 1984/85 school populations projections were made up to year 2000. For example, it was expected that the number of basic education school children aged 6 to 14 years, which was about 2.4 million in 1990, would be 2.9 million in 1995, and 3.5 million in year 2000. Assuming the class size of 28.8 pupils per teacher as prevailed in 1984/1985, it was envisaged that the teacher requirement would be 83,864 for 1990, 100,481 for 1995 and 121,679 for year 2000. In the 2000 Census, the school enrolment population for these age groups is currently 3,363,359 (3,393,899 from Ministry of Education statistics) out of a school-going population of 4,475,305. This implies that the country, by and large, was able to achieve the predicted enrolment by year 2000. It was projected that by year 2000, about 67 per cent of children aged between 6 and 14 years would be enrolled in school. The actual enrolment at basic school for 6-14 year-olds as at 2000 is about 75 per cent made up of about 78 per cent at primary school (81 per cent from Ministry of Education) and 69 per cent at junior secondary school (63 per cent from the Ministry of Education). The teacher population was however far less than had been predicted, about 102,000 compared with the projected 121,679. The number of extra classrooms required to cater for the projected increased enrolment was also put at 41,932 for 1990, 50,241 for 1995 and 60,840 for 2000. In 2000, the number of classrooms fell far short of the required number, and the quality of the classrooms was also grossly uneven from district to district, with some of the rural areas having very poor facilities.

Notwithstanding the slight differences in actual figures as reported by the Ministry of Education and the 2000 Census, the country generally achieved the enrolment levels predicted from the 1984 census by 2000. It appears as if the necessary policy measures were not put in place quickly enough to meet these expected changes in enrolment, thus resulting in acute teacher shortage and lack of suitable classrooms. In this regard, one must take cognisance of the recent rapid action to remedy at least the classroom shortage problem by building more schools and rehabilitating poor ones, particularly in the rural areas, with funds accruing from HIPC initiative and the Ghana Education Trust Fund, to meet the shortfall. Solving the teacher shortage problem, however, is a more complex and long-term policy

issue. Whether the country was able to achieve its objectives or not, the mere availability of these past statistics, with projections that can now be compared with actual achievements, enable planners, forty years later, to re-examine the past and current available data, so that mistakes of the past can objectively be re-appraised and corrected where necessary, hence the importance of subjecting the current 2000 Census to similar statistical exercise.

### **Projections from Year 2000 Census**

Various projections of educational statistics based on the census data and other primary sources have been made, intended for educational policy planners to decide on inputs and resources that would be required to run an efficient and effective national educational system. Employment, occupational placements, the characteristics of the human resources supply, gender disparities, regional, rural and urban inequities, and economic returns of education can all be reasonably factored into any national economic and human development plans, based on these projections. The impact of education on fertility and mortality, reproductive health, migration, urbanization and other demographic indicators could also be assessed and monitored.

### **Projected School Population**

In projecting school enrolment rates for Ghana, several factors were taken into consideration. It is assumed that the current school enrolment rates would either increase or at worst, remain relatively constant. It would increase if:

- Population increases and enrolment rates remain constant at current rates
- Population increases and the general awareness of the need for children to attend school also increases, resulting in increased enrolment rates.
- Rate of population growth decreases but enrolment rates increase considerably.

The school population is likely to decrease if the current difficult economic conditions in the country worsen over the years, resulting in higher school dropout rates among the poor, particularly in the rural and deprived urban areas. Mortality and morbidity due to childhood diseases such as malaria, as well as the potential devastating effects of HIV/AIDS, either through children being orphaned or dying, could also have adverse effect on school enrolment.

To minimise the uncertainties about future long-term enrolments, provision is made for short to medium period projections, using five-year intervals over a twenty-year period, from 2005 to 2020. Notwithstanding the current high rate of illiteracy in the country, current enrolment rates, particularly at the lower levels of the educational ladder, are deemed to be relatively high. Raw projection of school enrolments based on such high enrolment rates, without any statistical adjustments based on stated parameters, could result in such projection rates exceeding 100 per cent. To avoid or minimise such distortions, age-specific enrolment ratios based on geometric progression, and adjusted by age-specific populations were used (Table 4.59).

**Table 4.59: Projected National Age-Specific Enrolment Ratio 2000-2020 by Age**

Age	2000		2005		2010		2015		2020	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
5-9	0.58	0.57	0.62	0.61	0.63	0.62	0.65	0.64	0.67	0.66
10-14	0.74	0.71	0.77	0.74	0.79	0.76	0.81	0.79	0.84	0.80
15-19	0.53	0.43	0.54	0.45	0.56	0.46	0.57	0.48	0.59	0.49
20-24	0.13	0.07	0.15	0.08	0.16	0.08	0.16	0.09	0.17	0.09

Projections are based on 2000 Census enrolments

Table 4.60 shows that by 2020, the school-going population aged 5 to 24 will be 11,729,555 compared to 8,111,705 as at year 2000, an increase of 44.6 per cent over the 2000 figure. Of this number, 50.2 per cent would be male while 49.8 per cent would be female.

**Table 4.60: Projected National School-Age Population (5-24 years) 2000 – 2020**

Year/Sex	Age Group				
	5-9	10-14	15-19	20-24	5-24
<u>2000(base)</u>					
Total	2,455,447	2,145,515	1,875,902	1,634,841	8,111,705
Male	1,228,646	1,072,375	936,691	814,107	4,051,819
Female	1,226,801	1,073,140	939,211	820,734	4,059,886
<u>2005</u>					
Total	2,795,783	2,423,411	2,115,637	1,842,711	9,177,542
Male	1,398,945	1,211,504	1,055,693	917,504	4,583,646
Female	1,396,838	1,211,907	1,059,944	925,207	4,593,896
<u>2010</u>					
Total	2,885,981	2,763,411	2,392,796	2,081,354	10,123,542
Male	1,450,991	1,381,507	1,194,264	1,035,746	5,062,508
Female	1,434,990	1,381,904	1,198,532	1,045,608	5,061,034
<u>2015</u>					
Total	3,033,974	2,856,740	2,731,998	2,357,536	10,980,248
Male	1,526,974	1,435,068	1,363,655	1,173,593	5,499,290
Female	1,507,000	1,421,672	1,368,343	1,183,943	5,480,958
<u>2020</u>					
Total	3,194,686	3,009,688	2,828,548	2,696,633	11,729,555
Male	1,612,626	1,515,002	1,419,454	1,343,466	5,890,548
Female	1,582,060	1,494,686	1,409,094	1,353,167	5,839,007

Projections are based on 2000 Population Census

Table 4.61 indicates that of this population, 6,521,478 would be enrolled at various levels from primary one to the tertiary level, constituting 55.6 per cent enrolment. It is envisaged that out of a total projected population of 6,204,374, about 4,643,370, or 74.8 per cent would be enrolled in school at the basic level (age 5-14); 2,403,461 or 51.2 would be male while 2,239,909 or 48.2 per cent would be female. Female enrolment at the basic school level is therefore expected to lag behind male enrolment, notwithstanding the recent slight decrease observed in the rate of enrolment of males in school.

**Table 4.61: Projected School Enrolments 2005 to 2020 by Age.**

Year/Sex	Age Group				
	5-9	10-14	15-19	20-24	5-24
<u>2000 (Base)</u>					
Total	1,411,892	1,555,487	919,066	163,285	4,049,730
Male	712,615	793,558	505,813	105,834	2,117,820
Female	699,277	761,929	413,253	57,451	1,931,910
<u>2005</u>					
Total	1,510,110	1,619,853	929,462	187,775	4,247,200
Male	761,761	825,729	506,817	122,116	2,216,423
Female	748,349	794,124	422,645	65,659	2,030,777
<u>2010</u>					

Total	1,803,818	2,141,638	1,220,113	249,368	5,414,937
Male	914,124	1,091,391	668,788	165,719	2,840,022
Female	889,694	1,050,247	551,325	83,649	2,574,915
<b>2015</b>					
Total	1,957,013	2,285,524	1,434,088	294,330	5,970,955
Male	992,533	1,162,403	777,283	187,775	3,119,994
Female	964,480	1,123,121	656,805	106,555	2,850,961
<b>2020</b>					
Total	2,124,619	2,518,751	1,527,934	350,174	6,521,478
Male	1,080,459	1,323,002	837,478	228,389	3,469,328
Female	1,044,160	1,195,749	690,456	121,785	3,052,150

Source: Derived from Tables 4.59 and 4.60

## Implications

The projected school population has a number of implications for national education policy evaluation, formulation and implementation. Some of these are discussed below.

### **School Population (Enroled) and Number of Teachers**

Table 4.62 indicates that by 2020 the elementary school enroled population is expected to reach 2,902,552 for primary (6-11 years), 1,454,155 for junior secondary (12-14 years), giving a total of 4,356,707 for the basic level, and 1,325,488 for the senior secondary level (15-17 years). As at 1998, the average number of pupils to trained teacher at the basic school level was approximately 30, (36 at the primary level and 20 at the junior secondary level). Other sources estimate it, as at 2000/2001, at 33. Assuming that things would not get worse, and that the current pupil teacher ratio would remain fairly constant, and using the average figure of 30, the minimum number of teachers required to teach at the basic schools would be 145,224 as compared to a teacher population of just about 102,000 in 2000/2001. This implies that at least 43,000 more teachers would have to be recruited into the system.

It is estimated that about 2000 teachers leave the system annually including retirement. This leaves a net maximum possible replacement potential of only about 3,000 teachers per annum. If 43,000 extra teachers will be required between 2005 and 2020, just to keep the current already high pupil to teacher ratio at the same level, and assuming that all those trained will remain in teaching, this will take at least 19 years to meet this requirement. Considering that as at 2000, there exists already about 20,000 unfilled vacancies in schools, there will have to be drastic, innovative and sustainable policy interventions to ensure that even the current levels are maintained. The pupil to teacher ratio will have to be lowered, particularly in the rural areas, and the northern part of the country, where the ratio can be as high as 70 in some districts, which will require more drastic and single-minded policy interventions.

### **Male and Female Enrolments**

Female enrolment will continue to lag behind male enrolment if current enrolment rates are to be maintained during the next 15 years. If this trend is to be reversed to ensure that enrolment rates reflect gender equity, then policies will have to be evolved that will ensure that female enrolment rates increase more rapidly than male enrolment rates. Females need to be encouraged to enrol and stay in school. The deliberate policy measures required should go beyond merely exhorting parents to send their children to school to implementing realistic economic policies, particularly in the rural and deprived urban communities.

**Table 4.62: Projected School Enroled Population 2000-2020**

Year/Sex	Age Group			All
	6.11 (Primary)	12-14 (JSS)	15-18 (SSS)	
<u>2000 (base)</u>				
Total	1,864,082	892,045	801,305	3,537,432
Male	936,982	459,457	437,910	1,834,349
Female	927,100	432,588	363,395	1,723,083
<u>2005</u>				
Total	2,083,789	923,499	844,324	3,851,612
Male	1,101,719	474,569	456,909	2,033,197
Female	982,070	448,930	387,415	1,818,415
<u>2010</u>				
Total	2,518,122	1,194,704	1,063,975	4,776,801
Male	1,270,429	612,688	578,880	2,461,997
Female	1,247,693	582,016	485,095	2,314,804
<u>2015</u>				
Total	2,639,325	1,324,687	1,245,163	5,209,175
Male	1,329,545	678,894	670,766	2,679,205
Female	1,309,780	645,793	574,397	2,529,970
<u>2020</u>				
Total	2,902,552	1,454,155	1,325,488	5,682,195
Male	1,493,437	768,594	722,177	2,984,208
Female	1,409,115	685,561	603,311	2,697,987

Derived from Table 4.61 using Sprague Multipliers for Group Data

### **Number of Schools**

Available data from the Ghana Education Service indicate that the number of primary schools was 13,965 in 2000/2001 and JSS was 7,010. Since it is projected that between 2005 and 2020, the school-going population will increase by at least 45 per cent, it is suggested that even to maintain the current unsatisfactory enrolment densities, the number of schools would be increased by at least 50 per cent, thus increasing the number of primary schools to at least 27,930 and JSS to 14,020. Basically, if all children who enter primary one are to complete the basic education programme (JSS), then the number of junior secondary schools should be exactly the same as the number of primary schools. This means considering both the infrastructure and financial implications of building and equipping, twice as many new junior secondary schools and primary schools will have to be built and equipped.

The Ministry of Education envisages that by 2015, the cost of primary and secondary education would be the equivalent of about 461.5 million dollars. With a total projected school enrolment of 6,163,432 from primary one to SSS 3 (population aged 5-19), this translates to about US\$75 per child per annum.

The United Nations Human Development Report of 2001 indicates that advanced countries spend an average of \$4,992 per child per annum on primary school education compared with US\$190 spend by Sub-Saharan Africa countries. This implies that the projected amount envisaged for both primary and secondary education by year 2015, assuming all other factors

remain constant, is far below even what sub-Saharan Africa spends, and as low as 1.5 per cent of what is spent on a child at primary level in an advanced country. Ghana should at least aim at being at par with the sub-Saharan average expenditure of \$190 per child per annum for pre-tertiary education, by the year 2015.

#### **4.7 Summary, Conclusions and Recommendations**

##### **Summary**

Enrolment trends from pre-school to the tertiary level, teacher education, technical and vocational education, and science and technology education and their role in economic development have all been discussed in relation to the 2000 census. Inequities inherent in the education system, including gender inequities, regional and district inequities and infra-structural deficiencies have been fully discussed.

The discussions have revealed that there are about five possible avenues by which education can be a vehicle for escape from rural deprivation and urban depression, provided there is a system in place that provides equal access to all sections of the population. A good primary education leads almost invariably to a good secondary education and eventually to tertiary education including university education. However, the system currently existing in Ghana does not lead to poverty alleviation because the rural and urban poor are severely handicapped since they cannot afford the financial investment required for the good basic and secondary education that are required. The system therefore perpetuates poverty, and needs to be drastically overhauled, particularly at the basic level to ensure equity.

Vocational and technical education, which could be avenues for skills development and self employment are also poorly developed and do not offer enough avenues for those who drop out of, or exit prematurely from primary or secondary school. If avenues are to be created for the vast army of unemployed and unemployable youth being thrown up by the current education system, then there is the need for a major overhaul of the education system, and a radical break from the current system. This will require immense political will, national consensus, and bold but harsh decisions.

There are both gender and social inequities in admissions to tertiary institutions. A situation is being created whereby the enrolment base of students into tertiary institutions is extremely narrow, limited to only a select few secondary schools. Financing of education from primary up to tertiary level also presents enormous challenges. Whereas poverty cuts off a vast majority of the population in the rural and deprived urban areas even before completion of basic education, attempts at increasing equity and introducing a balance through cost-sharing measures at the tertiary level are facing considerable challenges.

##### **Conclusions and Recommendations**

- The age group 3 to 24 years is the population that is either still in school (from primary to post-secondary/tertiary) or has just completed or is about to complete education at the tertiary level or in some post-secondary professional training (teaching, nursing, technical/vocational, informal apprenticeship). The age group 25

to 65 years is the group that may be working to support children or wards in an educational institution. These figures imply that just about 35 per cent of the population caters for the education of the 60 per cent school going population. This has major policy implications with regard to resource mobilisation, financial outlay to support education, and human resource development for future economic development. With about 60 per cent of the population falling within the educable population, 51 per cent of whom are 19 years or below, it means that if the country does not now adopt sound long-term policies to educate this population and reduce the current unacceptably high illiteracy rate, the country's economic development, 10 to 20 years hence, will be seriously compromised.

- A few private universities have been established over the past 10 years, mainly by various religious bodies. All these new universities are required by law to first seek special relations with the existing universities for the conduct of examinations and award of degrees. Virtually all of them, however, run courses in only business administration, religion and a few other subjects and disciplines in the humanities. The country's official manpower policy stipulates that by 2020, the tertiary institutions should be producing 60 per cent science-based and 40 per cent humanities-based graduates. It appears though that there is no clear-cut Government policy or programme to ensure that the output of these new universities, and even the existing government tertiary institutions, are geared towards this official manpower policy objective. The University of Ghana, which has an official mandate of 60 per cent science to 40 per cent humanities, has drifted from an initial 47 per cent science in 1949, to its current 17 per cent science to 83 per cent humanities. The KNUST, whose official mandate is 90 per cent science to 10 per cent humanities, is currently doing much better than Legon, with 83.5 per cent science and technology to 16.5 per cent social sciences. The Polytechnics, on the other hand, have drifted during the last 5 years, from a predominantly science and technology tertiary enrolment ratio to a greater than 50 per cent humanities enrolment ratio. In effect, short of aiming at achieving the national mandate, the universities and polytechnics are rather drifting away from these official norms. The effect of the output of the old and new tertiary institutions on the country's manpower projections and development programmes in the long run, will therefore need to be urgently addressed.
- Ghana's adult illiteracy rate (45 per cent) is higher than the average for all developing countries, but lower than the average for sub-Saharan Africa; this is not good for a country that aspires to be a middle-income country within the next 20 years. School enrolment projections seem to suggest that the percentage of children in school is not likely to change much between now and 2020, if education trends continue along current levels. In order to lower the illiteracy level, therefore, policy measures need to be formulated to increase enrolment rates far above current figures, with adequate provision of the necessary resources to implement any such programmes.
- Whereas the level of illiteracy among the female population decreased slightly from 51.9 per cent in 1984 to 48.2 per cent in 2000, corresponding figures for the male population actually showed a slight increase in the illiterate population from 35.0 per cent to 36.8 per cent during the same period. This may seem rather insignificant, but if this is a manifestation of a trend that might continue, then it appears the country is moving from a situation where affirmative action for female education is giving way

to a new situation that might require the adoption of a similar affirmative action for males. Appropriate detailed studies may have to be conducted for the necessary policies to be formulated. Other developing countries and even developed countries have observed this trend, and are taking appropriate measures to address it before it begins to get out of hand.

- Illiteracy rates in the three northern regions are the highest in the country. Several reasons have been adduced for this situation, including migration of the few educated to the south due to lack of jobs in the north. This is no different from emigration of the educated, which leaves the country still short of skilled manpower. Secondly, the level of poverty in the north is such that the indigenous populations of the north cannot even afford the initial investment to send the children to school, since they are needed for economic activities necessary to keep the whole family going. There can be no retention of personnel and no impact on the literacy rate of these regions if these do not go hand in hand with job creation and job opportunities as well as improvements in the living conditions and infra-structural facilities of the region.
- In the rural areas where many schools end at the primary six level, or where there are no schools at all, non-affordability and trekking long distances to attend the nearest school are the two major causes of a child either not going to school at all, or dropping out somewhere along the line. More resources will therefore need to be infused into the provision of schools within reasonable distances in the rural areas, and even in some of the urban areas, so that no child spends more than thirty minutes or walks more than two kilometres to get to the nearest school. The district assemblies and local area councils should also ensure that the FCUBE is implemented to the letter, so that no child in any rural area drops out of basic school because of non-affordability. This may require a deliberate policy of infusing more funds into supporting needy children through a scheme of financial assistance based on need assessment. This should not be difficult at the rural level where the economic status of families is more easily measured and known by the local people. But it will require considerable political will and transparency to implement such a policy.
- Government has been concentrating vast resources on grammar-school type of academic education, at the expense of skills training for the majority of children who come out of the junior secondary schools. Students in senior secondary schools and the universities are heavily subsidised. The fees they pay are insignificant, compared with the actual cost of training. And yet it is the relatively well-to-do in our society who can afford good primary education who make it into our junior and senior secondary schools, and eventually the universities. Children who, because they are already of poor background and are financially handicapped, drop out of school, have to learn a trade usually through informal apprenticeship or attendance at unregistered unstructured vocational institutions. These institutions adopt training systems that are in principle, very expensive but are managed in such a way that beneficiaries are able to cope. If the country is to make any impact on the alleviation of poverty and the creation of wealth, then this sector of the education system requires far more attention and injection of substantial capital investment and recurrent resources, than it has hitherto received.
- The recently published report of the Government's Committee on Education Reform, entitled *Meeting the Challenges of Education in the Twenty First Century*, has made

very far-reaching and relevant recommendations on technical and vocational education. If these are fully implemented, the country should be on the right path to solving its middle-level manpower shortage problems. The following are some of the recommendations:

- There should be a major shift in Government policy to favour the technical and vocational sector to build the nation's stock of human capital.
- Government should rehabilitate, fully re-equip and upgrade the existing 23 technical institutes to the level of the Accra Technical Training Centre and the Kumasi Technical Institute to run intermediate and advanced craft courses and technical programmes.
- The Ghana-Netherlands project to establish 20 Vocational and Technical Institutes stalled after only 6 institutes had been established. Government should take immediate and urgent action to establish the remaining 14 institutes.
- There should be a crash programme to build more technical schools. Some of the 80 senior secondary schools with total enrolments below 100 could be turned into junior and senior vocational and technical schools.
- Facilities for the training of technical and vocational teachers need to be expanded as a matter of urgency, and the technical teachers need to be appropriately motivated. Existing technical teacher institutions, including the tertiary ones, should be fully modernised and their equipment base expanded.
- Institutions such as GRATIS should be effectively used to formalise and strengthen the informal and unstructured private apprentice training. They could run part-time short courses to strengthen the theoretical base of apprentices.
- There should be continuing education for master craftsmen to upgrade their skills to enable them offer better training to apprentices.
- Apprentices should be properly registered and regulated. A National Apprentice Training Board could be created with broad representation to oversee these.
- Technical education currently receives only 1.0 per cent of the Ministry of Education budget as opposed 15 to 20 per cent for tertiary education. The Ministry of Manpower Development and Employment (MMDE) provides additional 12 per cent of its budget for technical and vocational training. The Ghana Poverty Reduction Strategy envisages an increase in budgetary allocation of the Education Ministry for VOTEC to 4.5 per cent. It is proposed that the Education Ministry should allocate 7.5 per cent and the Manpower Development and Employment Ministry 20 per cent of their budgets to VOTEC education.
- The private sector, which has taken on the bulk of technical and vocational education, should be adequately supported and encouraged.
- If the tertiary institutions were to admit to meet only their installed capacity, it is estimated that only 10 to 15 per cent of qualified candidates would gain admission into tertiary institutions. Conditions should be created such that those with excellent grades who do not make it to the universities would make it to other avenues of training and human resource development, thus enriching the quality of personnel that

will eventually end up in other sectors of the economy. Currently, the extreme pressure on the universities and some of the polytechnics is due to the perception that once a person makes the minimum grade, he/she must endeavour to enter a university.

The perception that every post-secondary institution must be equated in status and content to a university is counterproductive and ought to change. This can only change if equally attractive alternative avenues, with attractive post-training employment opportunities, are created through deliberate Government policy measures.

- The pupil to teacher ratio will have to be lowered, particularly in the rural areas, and the northern part of the country. This will require even more drastic and single-minded policy interventions, including provision of the right incentives to school leavers to enter into teacher training colleges, and stay in teaching after completion.

The current practice or policy of highly trained and very experienced teachers being drafted into administrative duties on promotion should be critically reappraised. It should be possible for a trained and experienced teacher to stay in the classroom and earn even higher salary and fringe benefits, than the counterpart in administration. Administration should not be made to be the apogee of the teaching profession that every teacher ought to aspire to.

- Female enrolment will continue to lag behind male enrolment if current enrolment rates are maintained during the next fifteen years. Policies need to be implemented to ensure that female enrolment rates increase more rapidly than male enrolment rates. Females need to be encouraged to enrol and stay in school. The deliberate policy measures required should go beyond merely exhorting parents to send their children to school to implementing realistic economic policies, particularly in the rural and deprived urban areas.
- If all children who enter primary one need to complete the basic education programme (JSS), then the number of junior secondary schools should be exactly the same as the number of primary schools, that is every school should have the full complement of basic school classrooms and facilities. This implies that twice as many new junior secondary schools as new primary schools will have to be built and equipped. This will have major financial implications.
- The projected amount envisaged for both primary and secondary education by year 2015, assuming all other factors remain constant, falls far below (just 40 per cent of) even what sub-Saharan Africa spends, on a child at primary level. Ghana should at least aim at being at par with the sub-Saharan average expenditure of \$190 per child per annum for pre-tertiary education, by the year 2015.

### **Conclusion**

The 2000 Population and Housing Census, together with statistical data from other sources, has provided a good basis for a comprehensive appraisal of education in Ghana, and how it affects the country's developmental objectives. Information that can be used for planning purposes at all levels of education has been put together, discussed and recommendations made. It is hoped that policy makers and implementers, and indeed all interested Ghanaians

and even non-Ghanaians, will read this report and find it useful both as an information source and a planning tool.

## Appendix

**Table A4.1: Enrolment in SSS, 2000 Population and Housing Census**

Region	Number of Schools	Total enrolment	Male		Female		Population Bet. 15-17	Enrolment rate	Potential Enrolment density	Actual enrolment Density
			No.	per cent	No.	per cent				
National	504 (30)	338,280	191,191	56.5	147,089	43.5	1,158,390	29.2	2,298.4	671.2
Western	42 (1)	28,601	16,519	57.8	12,082	42.2	112,036	25.5	2,667.5	681.0
Central	51 (2)	23,796	13,419	56.4	10,377	43.6	97,338	24.4	1,908.6	466.6
Gt. Accra	43 (6)	87,234	45,150	51.8	42,084	48.2	190,562	45.8	4,431.7	2,028.7
Volta	70 (0)	34,392	20,068	58.4	14,324	41.6	104,425	32.9	1,491.8	491.3
Eastern	80 (6)	35,501	20,367	57.4	15,134	42.6	130,965	27.1	1,637.1	443.8
Ashanti	91(10)	55,123	30,517	55.4	24,606	45.6	212,358	26.0	2,333.6	605.7
Brong Ahafo	53 (0)	29,796	17,639	59.2	12,157	40.8	114,344	26.1	2,157.4	562.2
Northern	32 (0)	23,584	15,575	66.0	8,009	34.0	107,129	22.0	3,347.8	737.0
Upper East	20 (0)	12,344	7,340	59.5	5,004	40.5	54,025	22.8	2,701.3	617.2
Upper West	22 (5)	7,909	4,597	58.1	3,312	41.9	35,208	22.5	1,600.4	359.5

\*No. of private schools in parenthesis

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## CHAPTER FIVE

### EMPLOYMENT, EMPLOYMENT NEEDS AND RETIREMENT<sup>5</sup>

#### Executive Summary

The Chapter examines the implications of population variables on the age-sex composition of the labour force and the security of the population in old age or retirement. The sources of data are the four censuses of 1960, 1970, 1984 and 2000. Limitations in the data have to do mainly with comparability of some of the terminologies especially those that deal with the concept of work.

The proportion of the economically active population increased during the 1984-2000 intercensal period, with female labour force growing by about four times in absolute terms. This increase may be due to a better interpretation and recording of female activities, particularly homemaking.

The distribution of the population is almost the same as the distribution of the labour force for all the years and for all the regions. About 9 per cent of young children aged 7-14 years were recorded as economically active during the 2000 Census. This is disturbing, since these children are supposed to be in school at that age.

Age-sex specific activity rates are higher for males than for females at the regional level and there is near universal or complete participation in economic activity by males aged 25-54 years. The age structure of the working population has changed over time. The proportion of the employed population under 45 years fell from 76 per cent in 1960 to 71 per cent in 2000. While the proportion of females aged 15-24 years has been decreasing, that of those between 25-44 years has been increasing steadily.

In 1960, more than 80 per cent of the working population had no formal education and over 90 per cent of the females had never attended school. Despite improvements in educational facilities in the country, 49 per cent of the employed population in 2000 had never attended school.

Agriculture has, for many years, been the main occupation of a majority of the population. The proportion of workers in agricultural activities, which had been around 60.0 per cent between 1960 and 1984, dropped to 53 per cent in 2000. In 1960, 48.5 per cent of agricultural workers were under 35 years of age but this figure dropped to 45.7 per cent in 2000. Employment in the professional and technical related and clerical occupations doubled between 1984 and 2000 mainly as a result of improvements in education.

The proportion of the self-employed in the working population has been rising since the 1960s. This may be due to the fact that many of the activities engaged in require little

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<sup>5</sup> This chapter has been contributed by Mrs. Elizabeth A. Allotey and Mr. Steve Grey.

working capital, skill and education, making it possible for the multiplicity of the same kinds of jobs.

The rate of female unemployment has been lower than that of males between 1960 and 1984. In 2000, however, there are more unemployed females than males in both rural and urban areas. Data on days and hours worked by the employed showed that only about one in five (21.4 per cent) employed persons worked less than 30 hours and an additional 22.8 per cent worked 30-39 hours. This is an indication of gross under utilisation of resources.

Data on disability in all the censuses are limited. Information analysed showed that the proportion of economically inactive persons with disability among the adult population has been declining since 1960. With no information on the total population with disability, it is difficult to explain whether prevalence of disability in the country is declining as indicated by the drop to less than one per cent in 2000, or that more persons with disability are becoming economically active.

The Government has established a Social Security and National Insurance Trust (SSNIT) with the mandate to provide cutting-edge income replacement schemes to Ghanaian workers and their dependents in the event of old age, permanent disability or death; however, only about one tenth of working people are covered by the scheme. There is also a wide discrepancy between lowest and highest paid pension, which is suggestive of the fact that there exists a wide gap between earnings of employees in various sectors of the economy, which needs urgent redress.

Data from all censuses have indicated that although activity rates fell during the 2000 Census, they are still very high especially among the age group 20-49 years. This being the situation, it is estimated that labour force will grow at an annual rate of 2.9 per cent and thus reach a projected figure of 16.9 million in 2025. This growth in labour force will be faster than the projected growth in population over the same period. The large projected labour force also means that the burden of dependency is gradually easing, but poses a challenge for the creation of job opportunities for the population.

## **Recommendations**

There is the need to improve educational and training facilities and direct labour more to productive areas of the economy, such as agriculture and industry. The intensive apprenticeship-training project experimented in Accra, Kumasi and Takoradi to provide skills to young people must be replicated in all regional and district capitals as originally envisaged.

The momentum of rural job creation initiatives that have started must be sustained so as to make rural areas worth living in. In this connection, access to capital must be made less stringent.

District Assemblies need to educate the public on consequences of children being denied education.

Coverage of the SSNIT pension scheme must be widened and urgent steps need to be taken to rationalize salary and wage administration. The provisions of the law on employment of persons with disabilities as well as the Draft National Policy on Disability must also be widely disseminated.

## **5.1 Introduction**

### **Background**

The production of goods and services is central to the overall development of the country. At the centre of the production process is the human resource, the most valuable asset of the nation. Though all persons, irrespective of age and sex, consume goods and services, it is only a section of the total population that produces these goods and services. Wealth is created by what people do, so high levels of employment in a country make for a general economic welfare. Where a large proportion of a population has little to do or does nothing, many either live at a bare subsistence level or depend on others for their livelihood, and cannot therefore contribute to wealth creation.

A major problem that has afflicted Ghana over the last two or more decades has been the deepening levels of poverty. Analyses of various socio-economic issues like health, child labour and even morality have cited poverty as the cause problem; which in turn could be attributed to the deteriorating conditions of employment. Budget statements (1986-2002) have over the years alluded to the employment problem in the country. Adjustments and programmes instituted at different periods of time to address the issue have not provided adequate gainful employment to match the annual increases in demand for jobs, as indicated by the increasing number of vendors in the street, on pavements, markets and other places.

Several factors, like changes in the structure of population, the labour market and the workforce, manpower development, and others work either to promote or depress employment levels. Unfavourable conditions in these areas contribute to difficult employment situation, where job creation or supply lags far behind demand. Effectiveness of constructive employment programmes and initiatives requires detailed study of the dynamics of the population and the labour market; which in turn requires comprehensive data on all labour issues.

Population census results have, over the years, provided information on Ghana's labour market as a whole and have been one main source of information for developing employment and manpower programmes in the country. This chapter examines changes in the composition and characteristics of Ghana's population with respect to employment situation in the country. It focuses on the age-sex composition of that proportion of the population engaged in the production of the goods and services. The chapter also examines the participation of the labour force by region, location (urban/rural) and by marital status, industry and occupational distribution, employment status of the working population, unemployment and other employment-related issues.

For the 2000 Census, the concept of economically active and economically inactive populations remained the same as in previous censuses. Similarly, the breakdown of the

employed into two categories of those who worked and those who had jobs but did not work also remained basically unchanged as before. The only slight change related to the specified period worked before the enquiry.

### **Data Sources**

The main data sources for this analysis are the four censuses of 1960, 1970, 1984 and 2000 with emphasis on the 2000 Census. This is because there had been a similar analysis in 1994, which included extensive work on labour force and employment using the 1960, 1970 and 1984 census data. The current analysis will add to this earlier work and determine what trends can be established by the data. The main population variables to be analysed are age, sex, marriage and educational characteristics of both the economically active and inactive populations.

The method of analysis will include desk reviews of existing data sources and descriptive analysis of findings contained in the Tables generated from the 2000 census. Tables will also contain cross tabulation of the main variables identified. In order to validate some of the information provided in the census, the Ghana Living Standards Survey (GLSS) was also consulted.

### **Limitations of Data**

The 1960 and 1970 censuses captured information on all those who worked for at least one day for pay or profit during the 4 weeks before census night. In March 1984, this reference period was specified as working for one day during the seven days before census night. The 2000 census, however, collected information on all people aged 7 years and older who worked for at least one hour for pay or profit or family gain during the seven days before census night.

These variations in working time and reference period may affect the various classifications of the labour force. For example, the number of people who may report themselves as having worked over a period of 7 days is likely to be lower than those who report as having worked a 4-week period.

An observation made during the analysis of the 1984 census data was that “differential treatment in the census of unpaid family workers (that is, a person who works without remuneration on a farm or in an economic enterprise operated by a member of his/her family) may introduce some inconsistencies”. This observation is still very valid for the 2000 Census when compared with the earlier ones. These variations in the qualification of unpaid family member working for at least one week during the four weeks before census night (1960 and 1970), three days within seven days before census night (1984) and one hour or more during the seven days before census night (2000) are likely to affect the size of unpaid family workers. The shortening of the minimum time of work in the 2000 Census means that many people may be classified as unpaid family workers, who may not necessarily have been so classified during the earlier census.

In the 2000 Census, as in the earlier ones, information was obtained on economically inactive persons and the reason for their not working. One of the reasons given for inactivity is disability. There is, however, no means of verifying, from the data, the number of people with disability who are employed. This limitation may effect any interpretation one may give the data on disability.

## 5.2 The Labour Force

### Age and Sex Structure of the Labour Force

The total population of the country has increased during the 40 years since the census of 1960 from 6,726,815 to 18,912,079 in 2000. The female population increased a little faster (187 per cent) over the period than the male population (175 per cent). The sheer size of population increases means that the economy has to expand proportionately to create employment opportunities for those who enter the labour force.

The proportion of economically active population, which was about 40 per cent between 1960-1970, picked up and remained at 44-45 per cent during the 1984-2000 period. During the 1960-2000 period, the absolute level of total labour force increased three times. The absolute level of increase for the female labour force was almost four times while that of the male labour force over the same period was about two and half times (Table 5.1).

**Table 5.1: Change in Some Characteristics of the Population 1960-2000**

Activity Type	Census Year			
	1960	1970	1984	2000
Economically Active Population				
Both Sexes	40.5	38.9	45.4	43.8
Male	49.3	43.8	44.9	44.6
Female	31.4	34.1	45.8	43.1
Economically Inactive Population				
Both Sexes	15.0	14.2	9.6	22.4
Male	6.1	8.7	8.8	20.9
Female	24.0		10.3	23.9
Total Population	6,726,815	8,559,313	12,296,081	18,912,079
Male Population	3,400,270	4,247,809	6,063,848	9,357,382
Female Population	3,326,545	4,311,504	6,232,233	9,554,697

Source: Ghana Statistical Service, Analysis of Demographic Data, Vol. 1, 1995  
Ghana Statistical Service, 2000 Population and Housing Census

This increase may be attributed in part to a better understanding and recording of female activities as well as the numerous sensitizations about women's empowerment, both of activities which gained a lot of support during the period after 1984, which incidentally is the period when the highest proportion of female labour force (46 per cent) was registered.

The sex composition of the general population and particularly that of the labour force is further examined with sex ratios. With the exception of 1960 when there were more males than females in the population, probably as a result of relatively more male immigration from other countries, the sex ratio has remained almost stable. (98.5 in 1970, 97.3 in 1984 and 97.9 in 2000 as in Table 5.2).

**Table 5.2: Sex Ratio by Economic Activity, 1960, 1970, 1984, 2000**

Activity Indicator	Census Year			
	1960	1970	1984	2000
Total Population	102.2	98.5	97.3	97.9
Economically Active Pop.	160.3	126.3	95.4	101.2
Economically Inactive Pop.	25.9	43.5	83.3	85.7

Source: Ghana Statistical Service, Analysis of Demographic Data, Vol. 1, 1995  
Ghana Statistical Service, 2000 Population and Housing Census

With respect to the labour force, the declining sex ratio between 1960 and 1984 picked up again to 101 in 2000. This may partly be due to the return of Ghanaians from neighbouring countries. It is also probable that there was an under enumeration in 1984. The 101 sex ratio recorded in 2000 is a reflection of the fact that the gap between male and female labour force has almost narrowed.

### **Growth of the Labour Force**

The average annual growth of the population has remained fairly constant, increasing by one per centage point during every intercensal year from 2.5 per cent in 1960-1970 to 2.7 in 1984-2000. The growth in the labour force, on the other hand, has fluctuated. While population grew at 2.6 per cent in 1970-1984, labour force grew at about one and a half times during the same period. Female labour force grew even faster at 4.8 per cent during the period. This may be attributed to increased participation rates particularly of the female population.

**Table 5.3: Growth Rates of the Population and Labour Force by Sex, 1960-2000**

Economic Activity	1960-1970	1970-1984	1984-2000
<u>Population</u>			
Both Sexes	2.5	2.6	2.7
Male	2.3	2.6	2.7
Female	2.6	2.7	2.7
<u>Economically Active Pop.</u>			
Both Sexes	2.1	3.8	2.5
Male	1.0	2.8	2.7
Female	3.5	4.8	2.3
<u>Economically Inactive Pop.</u>			
Both Sexes	1.9	-0.2	8.3
Male	5.9	2.7	8.4
Female	0.5	-1.9	8.2

Source: Computed from 1960, 1970, 1984 & 2000 Population Censuses of Ghana.

During the 1984-2000 period, however, growth in the labour force slowed down. With the exception of the male labour force, which grew at 2.7 per cent and equalled the growth in population, the general growth of the labour force (2.5 per cent) and particularly that of the female labour force (2.3 per cent) grew at a much slower pace. This slower rate of growth may be due to an increase in the number of economically inactive persons particularly students over the 1984-2000 periods. The number of economically inactive persons increased from a negative 0.2 per cent in the 1970-1984 periods to 8.3 per cent in 1984-2000 periods. The rate of growth of the labour force has to be much faster to be able to absorb growth in population because of the larger absolute increases of population relative to the

labour force. This therefore places a greater burden on the economy to create more job opportunities.

In order to assess the contribution of variation in age composition to economic dependency, various age dependency ratios are examined. Total dependency ratio is computed as the ratio of the combined child population (0-14 years) and aged population (65 years and older) to the population in the economically productive ages (15-64 years). Similarly, child and aged dependency ratios are computed as the proportion of children (0-14 years) and of aged (65 years and older) to the population in the economically active ages (15-64 years).

Total dependency, which was over 102 in 1970, meaning that more than one non-working person had to be supported by one working person, had gradually declined over the years to 87 in 2000 (Table 5.4). This gradual drop in dependency ratio is encouraging since it is a reflection of the easing of economic burden on the intermediate working population. It is a reflection of the declining fertility regime and a gradual aging population observed over the period.

**Table 5.4: Age Dependency, 1960,1970,1984,2000**

Census Year	Total Dependency Ratio	Child Dependency Ratio	Aged Dependency Ratio
1960	91.0	110.0	7.8
1970	102.0	120.5	9.4
1984	96.2	88.3	7.9
2000	87.1	77.2	9.9

Source: Census Office: 1960 and 1970 Population Census  
Ghana Statistical Service: 2000 Population and Housing Census

### ***Regional Distribution of Population and Labour Force***

In Table 5.5, the distribution of both population and labour force are presented for the years 1970, 1984 and 2000. It is generally observed that the percentage distribution of the population is almost the same as the distribution of the labour force for all the years and for all the regions. Some differentials have however, been noticed in the proportional distribution for the three northern regions over the census years.

**Table 5.5: Population and Labour Force by Sex and Region, 1970, 1984, 2000**

		1970			1984			2000		
Region		Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
Western	Population	9.0	9.3	8.7	9.4	9.7	9.2	10.2	10.5	9.9
	Labour Force	9.2	9.9	8.6	9.8	10.1	9.5	10.3	10.8	9.9
Central	Population	10.4	13.2	7.7	9.3	9.2	9.4	8.4	8.1	8.7
	Labour Force	10.3	10.8	9.7	9.3	8.8	9.8	8.1	7.4	8.8
Greater Accra	Population	9.9	16.5	3.5	11.6	11.6	11.7	15.4	15.3	15.4
	Labour Force	10.9	14.9	7.0	11.6	12.2	11.0	16.6	17.0	16.3
Volta	Population	14.2	13.8	14.5	9.9	9.7	10.0	8.6	8.5	8.8
	Labour Force	12.3	11.3	13.3	10.0	9.2	10.8	8.4	7.9	8.9
Eastern	Population	19.6	19.7	19.6	13.7	13.8	13.6	11.1	11.1	11.2
	Labour Force	17.2	16.8	17.6	14.0	13.7	14.3	11.2	10.9	11.5
Ashanti	Population	24.4	24.2	24.6	17.0	17.0	17.0	19.1	19.4	18.8
	Labour Force	21.0	20.5	21.4	17.1	16.7	17.4	19.4	19.9	19.0
Brong Ahafo	Population	14.1	14.4	13.8	9.8	10.1	9.5	9.6	9.7	9.5
	Labour Force	12.0	12.5	11.5	9.8	6.7	6.5	9.9	10.0	9.8

Northern	Population	13.6	13.6	13.6	9.5	9.5	9.4	9.6	9.7	9.6
	Labour Force	10.4	11.5	9.2	8.4	9.4	7.5	8.8	9.2	8.3
Upper East	Population	9.0	8.7	9.4	6.3	6.1	6.5	4.9	4.7	5.0
	Labour Force	7.9	7.6	8.1	6.4	6.2	6.6	4.3	4.2	4.5
Upper West	Population	3.6	3.4	3.7	3.6	3.4	3.7	3.0	3.0	3.1
	Labour Force	3.6	3.3	3.9	3.6	3.3	3.9	2.9	2.8	3.0
All Regions	Population	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Labour Force	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	Population	8,559,313	4,247,809	4,311,504	12,296,081	6,063,848	6,232,233	18,912,079	9,357,382	9,554,697
	Labour Force	4,543,348	2,227,000	2,316,348	5,580,104	2,724,481	2,855,623	8,292,114	4,170,609	4,121,505

Source: *Census Office: 1960 and 1970 Population Census*

*Ghana Statistical Service: Demographic and Economic Characteristics 1984 Population Census*

*Ghana Statistical Service: 2000 Population and Housing Census*

The proportional share of the population of Northern has reduced by 29 per cent from its 1970 share of 13.6 per cent to 9.6 per cent in 2000. Similarly, between 1970 and 2000, the percentage share of the labour force in the region has reduced by 15 per cent from its 1970 level of 10.4 per cent to 8.8 per cent in 2000. Upper East (33 per cent) and Upper West (19 per cent) declined in their share of the labour force between 1984 and 2000. Upper East declined by almost a third of its share of both male and female labour force, compared to Upper West which had a reduction of about 23 per cent of its female labour force and 15 per cent of the male labour force between the period 1984 and 2000. Male and female labour force in Northern, on the other hand, increased slightly by about a tenth.

The drop in the proportional share of labour force in the three northern could indicate that these regions are constantly losing labour, especially females to the southern regions to work as porters (Kayaye) and do other menial jobs. Five regions, Greater Accra, Western, Eastern, Ashanti and Brong Ahafo, account for two thirds of all the labour force in the country.

### **Rural–Urban Distribution of Population and Labour Force**

Table 5.6 shows that it is only in Greater Accra (88.3 per cent) and Ashanti (50.7 per cent) that the proportion of urban labour force is higher than the rural labour force. Both regions are the highest receivers of migrant labour, which is not unexpected since the two regions have the highest concentration of industrial and commercial activities and have the two largest cities, all of which serve as pull factors. The pattern is the same with regard to male and female labour force.

**Table 5.6: Economically Active Population (15 years and older) by Region, Sex and by Locality**

Locality	All Region	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Bron. Ahafo	Northern	Upper East	Upper West
<b>Both Sexes</b>											
Total	8,292,114	856,830	671,003	1,377,903	697,752	927,699	1,612,467	819,190	727,553	360,508	241,209
Urban	43.8	34.8	36.1	88.3	26.0	33.4	50.7	36.3	23.9	15.4	15.9
Rural	56.2	65.2	63.9	11.7	74.0	66.6	49.3	63.7	76.1	84.6	84.1
<b>Male</b>											
Total	4,170,609	448,649	308,186	707,783	331,188	452,686	829,294	416,171	383,580	176,863	116,209
Urban	43.9	34.2	36.2	88.6	25.9	32.4	51.1	34.7	24.0	16.0	17.0
Rural	56.1	65.8	63.8	11.4	74.1	67.6	48.9	65.3	76.0	84.0	83.0
<b>Female</b>											
Total	4,121,505	408,181	362,817	670,120	366,564	475,013	783,173	403,019	343,973	183,645	125,000
Urban	43.7	35.6	36.1	88.1	26.1	34.4	50.4	38.0	23.8	14.9	14.9
Rural	56.3	64.4	63.9	11.9	73.9	65.6	49.6	62.0	76.2	85.1	85.1

Source: Ghana Statistical Service, 2000 Population and Housing Census

The pattern of concentration of labour force distribution in rural areas in the 2000 census does depart from what was observed in previous censuses, when ratio of rural to urban labour force was on average 2:1. The ratio for 2000, following the shift in level of urbanization, is 14:11.

### **Labour Force Participation and Marital Status**

The extent to which marriage has an influence on the participation of individuals in the labour force is examined. In 2000, almost two out of every three persons in the labour force are either married or living in a consensual union (Table 5.7). The proportion married increases with age to about age 49 years before it begins to decrease gradually. On the other hand, the proportion of the never married in the labour force is highest in the age group 15-19 years and remains fairly high up to age 29 years before declining consistently with age (Table 5.7). This is reflective of the fact that the majority of persons in younger age groups will be in educational and training institutions and it is only after schooling that they would move into the labour force.

Within the sexes, the proportion of females in the labour force who are never married is lower than the proportion of males for all age groups. On the other hand, the proportion of separated, divorced or widowed males in the labour force is lower than for females at all age groups. Perhaps, this may be an indication that single parenthood is about to be an issue in the country. There may be the need to research into this to ascertain its relevance and effects.

**Table 5.7: Economically Active Population (15 years and older) by Age, Sex and Marital Status**

Age Group	Married	Consensual Union	Separated	Divorced	Widowed	Never Married	Total
<b>Both Sexes</b>							
All Ages	57.6	7.7	2.0	5.2	4.0	23.5	100.0
15 -19	16.2	4.7	0.9	0.9	0.4	76.8	100.0
20 -24	33.2	9.6	1.3	1.7	0.4	53.8	100.0
25 -29	52.2	10.9	1.6	2.6	0.7	32.0	100.0
30 -34	68.3	10.0	2.0	4.2	1.2	14.3	100.0
35 -39	74.4	8.7	2.2	5.2	1.8	7.8	100.0
40 -44	75.4	7.3	2.4	6.5	3.0	5.2	100.0
45- 49	75.0	6.2	2.5	7.8	4.6	3.9	100.0
50 -54	72.1	5.1	2.7	9.4	7.6	3.1	100.0
55 -59	69.4	4.5	2.8	10.3	9.8	3.2	100.0
60 - 64	63.7	3.5	2.7	11.4	15.3	3.3	100.0
65- 69	59.6	3.3	2.7	11.8	18.6	4.0	100.0
70 -74	56.6	2.9	2.5	11.7	22.5	3.8	100.0
75 and Older	53.0	4.0	2.6	10.2	20.2	9.8	100.0
<b>Male</b>							
All Ages	56.1	6.9	1.6	3.8	1.8	29.8	100.0
15 -19	11.1	2.6	0.7	0.8	0.4	84.4	100.0
20 -24	19.4	5.8	0.8	0.9	0.4	72.6	100.0
25 -29	40.5	9.8	1.2	1.6	0.4	46.6	100.0
30 -34	63.3	10.1	1.6	2.9	0.7	21.5	100.0
35 -39	73.6	8.9	1.8	3.7	0.8	11.2	100.0
40 -44	77.8	7.6	1.9	4.5	1.2	7.0	100.0
45- 49	79.5	6.4	2.0	5.4	1.9	5.0	100.0
50 -54	79.6	5.4	2.2	6.4	2.4	4.0	100.0
55 -59	78.6	4.9	2.3	7.2	3.2	3.8	100.0
60 - 64	76.7	4.0	2.3	7.9	5.0	4.1	100.0
65- 69	73.8	3.9	2.4	8.5	6.6	4.8	100.0
70 -74	73.8	3.5	2.2	8.5	7.6	4.5	100.0

75 and Older	62.4	4.1	2.6	9.2	10.9	10.8	100.0
<b>Female</b>							
All Ages	59.0	8.5	2.4	6.7	6.3	17.1	100.0
15 -19	21.4	6.9	1.1	1.1	0.5	69.1	100.0
20 -24	45.5	13.0	1.7	2.3	0.5	36.9	100.0
25 -29	63.0	12.0	2.0	3.6	0.9	18.6	100.0
30 -34	73.0	9.9	2.4	5.4	1.7	7.6	100.0
35 -39	75.2	8.5	2.6	6.6	2.7	4.4	100.0
40 -44	72.8	7.1	3.0	8.7	5.0	3.3	100.0
45- 49	69.8	5.9	3.2	10.6	7.9	2.6	100.0
50 -54	64.2	4.6	3.3	12.5	13.1	2.2	100.0
55 -59	58.6	4.1	3.5	13.9	17.5	2.5	100.0
60 - 64	50.0	3.0	3.2	15.1	26.2	2.5	100.0
65- 69	43.4	2.6	3.1	15.5	32.3	3.1	100.0
70 -74	36.8	2.3	2.8	15.5	39.6	3.1	100.0
75 and Older	39.4	3.9	2.7	11.8	33.7	8.5	100.0

Source: Ghana Statistical Service, 2000 Population and Housing Census

### **Children in the Labour Force**

The extent to which children are engaged in the labour force has become a source of worry all over the world. According to the 2000 Census, 9.0 per cent of children under 15 years are in the labour force. The distribution of male and female children in the labour force is about equal (Table 5.8), though slightly more for boys than girls.

Table 5.8: Working Children (7-14 years) by Sex and Locality of Residence, 2000

Locality	Both Sexes		Male		Female	
	N	per cent	N	per cent	N	per cent
Total	474,204	9.0	385,288	9.2	361,916	8.8
Urban	181,319	5.0	84,020	4.6	97,299	5.4
Rural	565,885	12.1	301,268	12.9	264,617	11.4

Source: Ghana Statistical Service, 2000 Population and Housing Census

There are nearly three times as many male and two times as many female children in rural areas as there are in urban areas who are economically active. Agriculture, being a dominant economic activity, especially in the rural areas, serves as a source of entry into the labour market for working children. Comparable data do not exist for the other census years, but the 9 per cent of young children aged 7–14 years recorded as economically active is consistent with the findings of GLSS 3 of 1991/1992, which recorded 8 per cent. This is a situation which should be a matter of worry to all well-meaning people since, at that age, children are expected to be in full time education/school.

### **Measures of Economic Activity**

Measures that relate to the labour force or the economically active population are referred to generally as activity rates. Based on the data available, it is possible to compute crude, general, age-specific and age standardized rates for various economic activities.

#### **Crude Activity Rate**

The crude activity rate (also known as crude labour force participation rate) for the country represents the number of economically active persons as a per centage of the total population.

It is crude because it is influenced by age composition. Crude activity rates vary even for a country over time depending on the various proportions of people engaged in economic activity at different levels and at different ages. The main significance of crude activity rate is that it measures the relative number of persons working in a given population, irrespective of what factors are involved. It is also a means of bringing out the effect of different levels of natural increase and migration on economic activity.

Table 5.9 indicates that over the period 1960–2000, the crude activity rate has hovered between 40 and 45 per cent, except in 1970 when it fell below 40 per cent.

**Table 5.9: Indicators of Activity Rate by Sex, 1960, 1970, 1984, 2000**

Sex	Crude				General				Refined			
	1960	1970	1984	2000	1960	1970	1984	2000	1960	1970	1984	2000
Both Sexes	40.5	38.9	45.4	43.8	73.0	73.7	82.5	74.7	73.9	74.2	83.2	76.2
Male	49.3	43.8	44.9	44.6	89.0	83.5	83.5	76.7	90.1	84.1	83.6	77.7
Female	31.4	34.1	45.8	43.1	56.7	63.6	81.9	72.7	57.5	64.7	82.9	74.7

Source: Ghana statistical Service, Analysis of Demographic Data, Vol. 1, 1995  
Ghana Statistical Service, 2000 Population and Housing Census

### **General Activity Rate**

One way of going about the problem associated with crude activity rate is to compute a general activity rate, which is the rate for persons in the working ages. Since this also is a measure of the labour force as a per centage of persons aged 15 years and above, there is the possibility of underestimating the rate, if a large number of people, especially young people below the cut off age, are economically active but are not captured in the measure.

Female general activity rates exhibited more fluctuating changes over the 1960–2000 period than the male rates indicating instability in the female labour force over the period.

### **Refined Activity Rate**

This is computed as the per centage of the labour force in the working age population (15–64 years) and shows a similar distribution pattern as that of the general activity rate. It is refined because it cuts off all old persons who may not be contributing to economic activity from the denominator.

Table 5.9 also shows that while female activity rate picked up in 1970 from the relatively low figure in 1960 and maintained relative stability in 1984, it dipped slightly in 2000. While the differences between the 1960, 1970 and 1984 rates are normally attributed to the out migration of Ghanaians to neighbouring countries especially in the Economic Community of West African States (ECOWAS) sub region and also to the return of these migrants during the 1980s, the decline in the rates between 1984 and 2000 cannot be said to follow a similar reasoning. It has been argued that the slight decrease in activity rates over the censal years 1984–2000 may be attributed to the outcome of educational reform programme introduced over that period which saw many young people going to and remaining in school rather than seeking employment in the labour market.

Activity rates may also be adjusted or standardized such that the resultant figure would represent what rate would have occurred if the sex and age composition of a standard population were to have been applied to an observed population. Using 2000 Census distribution by age and sex as the standard, the adjusted activity rates for the previous census years do not vary as was observed in the 1994 exercise when the 1984 census distribution was used to standardize 1970 and 1960 figures. Adjusted or standardized rates will, therefore, not feature in this analysis.

### **Participation at Regional Level**

Participation in economic activity at the regional level is consistently higher for males than for females for 1970 and 2000 in all regions; in 1984 female rates were slightly lower than male rates in only Greater Accra, Brong Ahafo, Northern and Upper regions (Table 5.10). These low female rates may be attributed to the low premium put on home activities that tend to underestimate female work as homemaking.

**Table 5.10: General Activity Rates by Sex and Region, 1970, 1984 and 2000**

Region	1970		1984		2000	
	Male	Female	Male	Female	Male	Female
Western	85.4	71.7	84.7	85.7	79.1	75.4
Central	80.2	71.3	80.9	84.4	74.4	74
Gt. Accra	84.4	78.8	81	73.9	73.1	68.6
Volta	78.4	73.7	79.7	85	73.1	71.7
Eastern	80.4	72.2	81.4	84.9	76.7	74.5
Ashanti	83.5	71.7	82.9	84.7	78.6	75.2
Brong Ahafo	86.1	72.9	84.6	84.3	80.3	78.2
Northern	88.9	30.2	89.5	68.2	79.3	69.4
Upper East	86.1 <sup>+</sup>	30.3 <sup>+</sup>	89.7 <sup>+</sup>	80.6 <sup>+</sup>	74.5	64.8
Upper West					78.1	70.4

Source: Ghana statistical Service, Analysis of Demographic Data, Vol. 1, 1995

Ghana Statistical Service, 2000 Population and Housing Census

Note: includes Upper West

Activity rates for both males and females dropped from the 1984 figures to below 80 per cent in 2000. This development, as has been observed earlier, may be the result of increasing number of young persons either dropping out of the labour market due to inability to cope with the realities of finding their feet in a competitive market environment or because they may have been in education.

### **Age-Sex Specific Activity Rate**

Computation of age-sex specific activity rates is the most widely used measures of economic activity as well as that which is used in projecting labour force or economically active population. It is obtained by dividing the economically active population in a particular age-sex group by the total population in that age-sex group and multiplied by 100. Age-sex specific activity rates for the four census years are presented in Table 5.11.

**Table 5.11: Age-Sex Specific Activity Rate, 1960, 1970, 1984, and 2000**

Age-group	Male				Female			
	1960	1970	1984	2000	1960	1970	1984	2000
15 -19	61.0	42.3	42.8	39.7	53.3	39.2	52.9	40.3
20 -24	90.9	82.6	83.0	69.5	52.7	61.4	85.4	70.5
25 -29	96.5	95.5	96.3	85.3	51.6	65.0	90.1	81.8
30- 34	97.5	97.5	97.7	92.6	57.4	71.5	91.3	86.7
35- 39	97.6	98.0	98.3	94.2	59.7	73.9	92.1	88.3
40- 44	97.4	97.8	98.4	94.4	65.6	77.9	92.7	88.6
45 -49	96.8	97.5	98.4	94.4	66.7	78.0	93.0	88.4
50- 54	95.8	96.6	97.6	93.4	70.1	79.0	91.8	85.4
55- 59	94.2	95.2	96.3	91.0	70.5	75.5	90.2	82.0
60- 64	89.5	91.6	94.2	80.3	64.3	71.1	85.9	71.7
65+	71.3	75.4	83.6	75.5	42.6	47.6	64.3	65.8

Source: Ghana statistical Service, Analysis of Demographic Data, Vol. 1, 1995  
 Ghana Statistical Service, 2000 Population and Housing Census

An important observation of the data is that it conforms to the generally known observation of near universal or complete participation in economic activity by males aged 25–54 years. For the 1960, 1970 and 1984 censuses, male age specific activity rates for the ages 25–54 years were all above 95 per cent. In 2000 however, although male age-specific activity rates for these age groups still remained high, they were all below the 95 per cent rate recorded in the earlier censuses. Age group 25-29 even recorded 85 per cent.

On the other hand, female age-specific activity rates have remained lower than those for males. A comparison of the female activity rates over time shows that with the exception of the 15–19 age group, all other age groups recorded increases during the two intercensal periods 1960–1970 and 1970–1984, with the highest increase occurring within the 20–24 age group (25.1 percentage increase).

The increase in economic activity rate over the period 1960–1984 is suggestive of the increasing exposure of females to productive employment as opposed to their being recorded as homemaker in the economically inactive population.

As expected, age-sex activity rate for age group 15–19 is generally low with an average of two out of five males and females working. Participation in economic activity decreased with increasing age after 64 years. In 2000, for example, activity rate for males declined by 24 per cent between age group 60–64 and age group 65 years and older, while that for females declined by 38 per cent for the same age categories.

### **The Aged in the Labour Force**

By law, public and private formal sector employees are expected to compulsorily proceed on retirement on attainment of age 60. This provision does not apply to the private informal sector, and people continue working for as long as they consider themselves healthy. Even in the formal sector, it has been observed that some persons reduce their ages in order to be able to stay longer in employment beyond age 60. In some cases, upon retirement from the formal/public sector, people continue to work on contract or in the private sector.

According to the 2000 Census, 10.2 per cent of the economically active population (15 years and older) are aged 60 years and older. The proportion of males aged 60 years in the labour force (11.0 per cent) is higher than that of females (9.3 per cent) in the same age group. The proportional share of persons aged 60 years and over in the working population, however, declines with increasing age. Two thirds (65.6 per cent) of the aged (60 years and older) in the labour force are engaged in the agricultural sector, with an additional 14.3 per cent in sales/services sectors which are more attractive to aged females (19.1 per cent) than males (10.3 per cent) as shown in Table 5.12. This may be so because at that age some may have acquired enough capital to set up their own businesses.

**Table 5.12: Occupation of Economically Active Persons aged 60 Years and Older by Sex, 2000**

Sector	Both Sexes	Male	Female
Agriculture	65.6	66.0	65.1
Sales/Services	14.3	10.3	19.1
Production	11.8	12.9	10.5
Prof/Adm.Clerical	7.3	9.4	4.7
Other	1.0	1.4	0.6
N	871,446	474,766	396,680

Source: Ghana Statistical Service, 2000 Population and Housing Census

The private informal sector (80.9 per cent) is the largest sector in which the labour force is engaged. About 80 per cent of economically active persons aged 60 years and older are engaged in activities in this sector (Table 5.13). About 5 per cent of males and 2 per cent of females aged over 60 years are in public sector employment. This may be on account of their vast experiences, which needs to be harnessed for national development.

**Table 5.13: Employment Sector of Employed Persons Aged 60 Years and Older by Sex, 2000**

Sector	Both Sexes	Male	Female
Public	3.9	5.1	2.4
Private Formal	8.0	10.2	5.5
Private Informal	85.8	81.6	90.8
Semi Public	1.2	1.7	0.7
NGO/Int. Org.	0.9	1.2	0.5
Other	0.2	0.2	0.1
N	871,446	474,766	396,680

Source: Ghana Statistical Service, 2000 Population and Housing Census

### **5.3 The Working Population (The Employed)**

#### **Size of the Workforce**

Population growth and consequent expansion of the labour force require adequate provision of jobs for the workforce. Economic activities and occupations of the employed persons show how labour is being utilized. The working population of the country which, from 1960 to 1984, constituted about 94 to 97 per cent of the economically active population, dropped to 89.6 per cent in 2000; the drop was for both males and females (Table 5.14). Both the 1984 and 2000 censuses defined engagement in economic activity as at least one hour of work for pay, profit or family gain during the week preceding the census. In 1960 and 1970, the qualifying minimum period was at least one day of work during the preceding month of the census. The shortening of the minimum qualifying period was a factor in the rise in the

proportion of the workforce between 1970 and 1984. The same minimum period was adopted for the 2000 Census and one would have expected a higher or at least the same proportion of employed persons in 2000 and not a decline below that of 1960. People who may be doing some work in the informal sector may consider themselves unemployed because they do not have paid-jobs or regular income and may therefore have responded that they were looking for work. This may have lowered the actual proportion of the working population.

**Table 5.14: Selected Indicators of the Employed Persons (15 years and older)  
by Sex, 1960 – 2000**

Selected Indicator	Sex	1960	1970	1984	2000
Of Total Population	Both Sexes	38.0	36.6	44.1	39.2
	Male	46.1	40.4	43.5	40.1
	Female	29.8	32.8	44.7	38.5
Of Economically Active	Both Sexes	94.0	94.0	97.2	89.6
	Male	93.5	92.3	96.8	89.9
	Female	94.8	96.1	97.5	89.3
Sex Ratio		158.2	121.4	94.7	101.9
N	Both Sexes	2,559,383	3,133,049	5,422,480	7,428,374
	Male	1,567,965	1,717,928	2,637,029	3,748,887
	Female	991,418	1,415,119	2,785,451	3,679,487

*Source: Ghana Statistical Service; Analysis of Demographic Data Vol. 1 1995  
2000 Population and Housing Census*

The effects of structural adjustment and other socio-economic policies and programmes in the 1980s and 1990s still continue to be felt on the country's labour market. The redeployment in the public sector and the retrenchment in the private formal sector were programmes instituted to solve key employment problems, such as low productivity arising out of low capacity utilization in industry and overstaffing in the public sector. The Programme of Actions to Mitigate the Social Cost of Adjustment (PAMSCAD) was aimed at cutting down the number of workers in the lower grades of the public sector and retraining them for self-employment. The retrenched or redeployed labour was expected to be absorbed in the private informal sector. Information on the number who could effectively operate in the very competitive informal sector is not available, but the restructuring programme could also be a factor in the drop in the proportion of the workforce.

Under the previous school system, middle school leavers joined the labour force at an average age of about 17 years. The current junior secondary school (JSS) is aimed at turning out school leavers with vocational skill orientation to be easily absorbed by the labour market. Contrary to this expectation, a large number of JSS leavers, unable to continue their education, are entering the labour market at an average age of 15 years with no job skills. Many may be engaged in sales and services activities, but the great majority may be unemployed, again leading to the low proportion of working population.

### **Sex and Age of the Workforce**

Males have always predominated the employment market in Ghana, except in 1984 when the share of females was proportionately higher than males. In 1960, over 60 per cent of the workforce were males. While the male proportion has declined from the high of 61.3 per cent in 1960 to 50.5 per cent in 2000, the proportion of females in the workforce has, as a complement, steadily increased from 38.7 per cent in 1960 to almost one male to one female (49.5 per cent) in 2000 (Table 5.15). The labour laws in the country are non-discriminatory towards females and these have helped in the improvement in the female share in the workforce. In addition, it is no longer a fashion for females to be homemakers; both males and females need to work.

There is a gradual change in the age structure of the working population. In 1960 three-quarters (75.6 per cent) of the employed population were under 45 years of age, while 4.7 per cent was above 65 years (Table 5.15). The proportion of workers below 45 years declined to 71.3 per cent in 2000 while that for the over 65 years rose to about 6.8 per cent. While the proportion of working females aged 15–24 years has been decreasing, the proportion of those between 25–44 years has been increasing steadily; this is not the case with the males. For example, in 1960, 48.5 per cent of agricultural workers were under 35 years of age, compared with 10.7 per cent that were over 60 years. In 2000 the proportion under 35 dropped to 45.7 per cent, while that of workers 60 years and older rose to 13.6 per cent. With expansion in education, an increasing number of young adults are leaving agriculture for other areas. Employment opportunities in industry are limited, making the services sector the main outlet for many who would otherwise have been in agriculture.

**Table 5.15: Employed Persons (15 years and Older) by Age and Sex, 1960, 1970 and 2000**

Age Group	Sex	Y e a r		
		1960	1970	2000
15 – 24	Total	24.2	21.0	21.0
	Male	22.1	19.0	20.3
	Female	27.5	23.5	21.8
25 – 44	Total	51.4	51.2	50.3
	Male	52.6	51.3	49.2
	Female	49.5	51.0	51.5
45 – 64	Total	19.7	21.7	21.8
	Male	20.2	22.8	22.9
	Female	18.8	20.3	20.6
65 <sup>+</sup>	Total	4.7	6.1	6.8
	Male	5.0	6.9	7.6
	Female	4.2	5.1	6.1
All Ages	Total	100.0	100.0	100.0
	Male	100.0	100.0	100.0
	Female	100.0	100.0	100.0
N	Total	2,559,383	3,133,047	7,428,374
	Male	1,567,965	1,717,928	3,748,887
	Female	991,418	1,415,119	3,679,487

*Sources: Census office: Economic characteristics, 1960 Population Census Vol. IV  
Census office: 1970 Population Census  
Ghana Statistical Service: 2000 Population and Housing Census*

An increasing number of persons in the 15–24 age groups (especially the females) are now going to school as a result of changes in the educational policy, coupled with more opportunities to continue schooling. The trend is likely to continue as education continues to be promoted extensively as a means of improving the quality of the nation’s manpower and economic potential.

The proportion of workers aged 65 years and older, however, increased steadily for both sexes. As health care improves, more of this group will be available to work. Unlike in developed countries where adequate provision is made for retirement, most elderly persons in Ghana need to work as long as they are physically able; a few though continue to work as a means of whiling away time. Many professionals and similar groups, on retiring, organize themselves and engage in agriculture, go into consultancies or other areas.

### **Education of the Workforce**

Table 5.16 shows the type of school attendance of the workforce from 1960 to 2000. The middle/JSS to tertiary educational classification in 2000 is not directly comparable with the previous censuses. The post-secondary classification includes agriculture, teacher and nursing training and others. Notwithstanding that, some trend can still be observed.

In 1960 more than 80 per cent of the working population had no education and over 90 per cent of the females had never attended school. In spite of the improvement in educational facilities in the country, about 50.0 per cent of the employed population in 2000 had no formal education; close to 60 per cent (56.9 per cent) of those who had attended school had only up to middle/JSS education. The segment of the workforce having secondary or higher education increased from 1.8 per cent in 1960 to 16.2 per cent in 2000. About a fifth (20.3 per cent) of male workers and 12.2 per cent of female workers had secondary or higher education in 2000 compared with 2.4 per cent for males and 0.6 per cent for females in 1960.

**Table 5.16: Employed Persons (15 years and Older) by Type of School Attended, 1960 – 2000**

Type of School Attended	Sex	Y e a r			
		1960	1970	1984	2000
None	Total	81.6	72.2	55.1	49.2
	Male	75.9	63.5	45.5	42.1
	Female	90.6	82.7	64.3	56.6
Primary	Total	6.2	7.9	8.5	5.6
	Male	7.1	8.2	7.9	5.1
	Female	4.7	7.4	9.1	6.1
Middle / JSS	Total	10.3	14.9	30.1	28.9
	Male	14.3	20.4	37.3	32.6
	Female	4.0	8.3	23.3	25.0
Secondary	Total	0.9	2.8	3.2	6.6
	Male	1.4	4.8	4.9	8.6
	Female	0.2	0.5	1.6	4.7
Commercial/Technical/ Vocational	Total	0.5	0.7	1.5	3.9
	Male	0.6	1.1	2.1	4.8
	Female	0.3	0.3	0.3	3.1
Teacher/Training/Post Secondary	Total	0.2	1.0	1.1	3.2
	Male	0.2	1.3	1.4	3.5
	Female	0.1	0.6	0.7	2.9
University / Tertiary	Total	0.2	0.4	0.5	2.5
	Male	0.2	0.6	0.8	3.4
	Female	0.0	0.2	0.1	1.5
All School Types	Total	100.0	100.0	100.0	100.0
	Male	100.0	100.0	100.0	100.0
	Female	100.0	100.0	100.0	100.0
N	Total	2,559,383	3,133,047	5,422,480	7,428,374
	Male	1,567,965	1,717,928	2,637,029	3,748,887
	Female	991,418	1,415,119	2,785,451	3,679,487

Source: Census office; Economic characteristics, 1960, Population Census Vol. IV

Census Office; 1970 Population census

Ghana Statistical Services: Demographic and Economic characteristics, 1984 Population Census

Ghana Statistical; service: 2000 Population and Housing Census

Despite this improvement, Ghana cannot be said to have a well-trained workforce, since less than 10 per cent of the total workforce had vocational, technical, post-secondary and tertiary education in 2000. It is at these levels that skills and specialized training are acquired. There is therefore the need to increase the size of this sector of the labour force in order to enhance the quality and productivity of the country's manpower.

### Industry and Occupation of the Workforce

Industry and occupational distribution of a country's working population is directly related to the stage of its economic development. As an economy develops, workers are drawn from primary or extractive production into secondary occupations and later to tertiary employment. Industry refers to the activity of the establishment in which the employed persons work, while occupation classifies the employed by the kind of work individuals actually perform and not necessarily what they normally do or have been trained to do.

Table 5.17: Employed Persons by Sex and Major Occupation, 1960-2000

Major Occupation	Sex	Census Year			
		1960	1970	1984	2000
Professional, Technical & Related Workers	Total	2.3	3.8	4.1	6.6
	Male	3.1	5.3	5.4	8.3
	Female	1.3	2.0	2.8	4.8
Administrative and Managerial	Total	0.5	0.4	0.3	0.3
	Male	0.8	0.6	0.6	0.4
	Female	0.0	0.0	0.1	0.2
Clerical & Related Workers	Total	1.7	2.7	2.4	4.5
	Male	2.6	4.2	3.4	7.0
	Female	0.3	0.9	1.4	1.9
Sales Workers	Total	13.5	13.2	13.8	15.2
	Male	4.3	2.9	3.1	8.6
	Female	28.0	25.7	24.0	22.0
Services Workers	Total	2.2	2.9	2.4	5.8
	Male	2.5	4.0	3.2	4.3
	Female	1.6	1.5	1.6	7.4
Agric, Animal Husbandry, Forestry, Hunters, Fishermen	Total	61.1	57.4	60.7	50.3
	Male	62.9	59.8	65.7	50.8
	Female	58.2	54.5	55.9	49.7
Production and Related Workers, Transport and Equipment Operators and Labourers	Total	18.7	19.6	16.4	17.3
	Male	23.8	23.1	18.6	20.6
	Female	10.6	15.4	14.2	14.0
All Occupations	Total	100.0	100.0	100.0	100.0
	Male	100.0	100.0	100.0	100.0
	Female	100.0	100.0	100.0	100.0
N	Total	2,559,403	3,133,049	5,422,480	7,428,374
	Male	1,567,985	1,717,928	2,637,029	3,748,887
	Female	991,418	1,415,119	2,785,451	3,679,487

Source: Compiled from Economic, Characteristics, 1960 Population Census Vol. IV; Census Office  
 Ghana Statistical Service, Analysis of Demographic Data Vol. 1 1995  
 Ghana Statistical Service: 2000 Population and Housing Census

With the exception of agriculture and administrative/managerial groups, proportions of the employed persons in all categories of occupations increased between 1984 and 2000. The proportion of workers in agricultural activities (agriculture, animal husbandry, forestry, hunting and fisheries), which had been around 60.0 per cent between 1960 and 1984, dropped to about 50.0 per cent in 2000 (Tables 5.17).

Employment in the professional/technical and clerical occupations doubled between 1984 and 2000. In 1960 the professional/technical group constituted only 2.3 per cent of the working population. The group experienced an annual rate of increase of 4.7 per cent between 1960 and 2000. The annual growth rate between 1960 and 1970 was over 7.0 per cent, which was the result of the immediate post-independence accelerated education programme. Improvement in education has contributed to the increase in the supply of professional and technical workers. As the country develops and manufacturing and tertiary sectors expand, demand for this group of workers will further rise. While job creation for general labour has lagged behind demand, supply of this class of workers has been inadequate owing to constraints on intake into training institutions. Other factors

contributing to the deficit between demand for, and supply of, this class of workers are the migration of professionals to other countries, and resignations from some of these professional jobs into non-professional occupations because of unattractive remuneration, leaving some critical job positions either vacant or filled with less qualified workers.

The slight increase (from 16.4 to 17.3 per cent) in the proportion of production workers was the result of the improvement in mining and construction activities (Table 5.17). These activities virtually collapsed in the 1980s. Injection of capital and legalizing of small-scale mining has provided employment both in the formal and informal sectors of the mining industry. Improvement in road works and the building industry doubled the proportion of construction workers between 1984 and 2000.

There was very little change in the proportion of workers in manufacturing, having moved to 10.7 per cent in 2000 from the 1984 figure of 10.9 per cent; the 1970 level was 12.1 per cent (Table 5.18). Manufacturing has the potential of providing jobs for different professional and technical skills because of its diverse range of economic activities. It is expected that the setting up of the Export Processing Zone and introduction of other food processing initiatives will provide more employment opportunities in manufacturing.

The proportions of sales and services workers which together had accounted for about 16 per cent of the workforce between 1960 and 1984 rose to 21.0 per cent in 2000. Petty trading has always been a feature of the country's employment market, because not much working capital is required. The period after 1984 has, however, experienced a substantial increase in the proportion of sales and services workers. Patterns of micro trading and services have multiplied in the cities and towns, as people seek for jobs outside agriculture. These occupations may provide personal subsistence returns to the individual but socially may not be very productive for the economy. Policies are needed to de-emphasize these areas and draw labour to more productive sectors.

Table 5.18: Industry of Employed Persons (15 years and older) by Sex, 1960-2000

Major Industry	Sex	Census Year			
		1960	1970	1984	2000
Agriculture, Hunting, Forestry and Fishing	Total	61.8	57.0	61.1	53.1
	Male	63.9	59.1	66.4	54.3
	Female	58.4	54.5	56.0	52.0
Mining and Quarrying	Total	1.9	1.0	0.5	1.4
	Male	2.9	1.7	0.9	1.9
	Female	0.3	0.2	0.1	0.9
Manufacturing	Total	9.1	12.1	10.9	10.7
	Male	8.6	9.7	7.5	10.1
	Female	10.0	15.1	14.0	11.2
Electricity, Water and Gas	Total	0.6	0.4	0.3	0.4
	Male	0.9	0.7	0.5	0.5
	Female	0.0	0.0	0.1	0.2

Construction	Total	3.5	2.3	1.2	3.0
	Male	5.5	4.1	2.3	5.0
	Female	0.3	0.2	0.1	1.0
Wholesale and Retail Trade, Restaurants	Total	14.4	13.9	14.6	17.3
	Male	6.0	3.9	4.2	11.0
	Female	27.7	26.1	24.4	23.8
Transport, Storage and Communication	Total	2.6	2.7	1.2	3.1
	Male	4.3	4.8	2.3	5.2
	Female	0.1	0.2	0.1	0.9
Finance, Insurance, Real Estate and Business	Total	0.1	0.3	0.5	1.5
	Male	0.1	0.4	0.8	2.1
	Female	0.0	0.1	0.3	0.9
Community, Social and Personal Services	Total	6.0	10.2	8.7	9.5
	Male	7.8	15.6	12.9	9.9
	Female	3.2	3.6	4.8	9.1
All Industries	Total	100.0	100.0	100.0	100.0
	Male	100.0	100.0	100.0	100.0
	Female	100.0	100.0	100.0	100.0
N	Total	2,559,383	3,133,047	5,422,480	7,428,374
	Male	1,567,965	1,717,928	2,637,029	3,748,887
	Female	991,418	1,415,119	2,785,451	3,679,487

*Sources: Ghana Statistical Service, Analysis of Demographic Data Vol. 1 1995  
Ghana Statistical Service: 2000 Population and Housing Census*

### **Major Economic Sector Employment**

Table 5.19 shows the distribution of the workforce by the three major sectors of the economy. The data show a steady decline in the proportion of agricultural employment. The serious famine in 1983 resulted in intense agricultural activities in 1984 (both commercial and backyard farming) for both males and females (and especially for the males, a number of whom had then returned from Nigeria). The 1984 agricultural momentum was however short-lived, as the declining trend continued to 2000.

The proportion of the employed in industrial production has remained fairly stable around 15–16 per cent. The proportion was even lower in 1984 (12.9 per cent) during the general economic decline in the country. This suggests that the drop in the proportion of agricultural employment was a shift into the service sector and not a draw into the secondary production sector.

Expansion of industrial output (especially manufacturing) is a vital element in sustained economic growth because it increases the processing of primary products. Economic activities, such as finance and insurance in the service sector act as a catalyst to industrial development, while health and education improve the quality of a country's manpower. Entry into such essential occupations requires training and skill development. Expansion in the services sector has, therefore, been mainly in the area of sales and services.

**Table 5.19: Employed Persons (15 years and older) by Sex and Major Sector of Economy, 1960-2000**

Major Sector	Sex	Census		Year	
		1960	1970	1984	2000
Agriculture	Total	61.8	57.0	61.1	53.1
	Male	63.9	59.1	66.4	54.3
	Female	58.4	54.5	56.0	52.0
Industry	Total	15.1	15.8	12.9	15.5
	Male	17.9	16.2	11.2	17.5
	Female	10.6	15.5	14.3	13.3
Service	Total	23.1	27.2	25.0	31.5
	Male	18.2	24.7	20.2	28.2
	Female	31.0	30.0	29.6	34.7

Sources: Ghana Statistical Service, *Analysis of Demographic Data Vol. 1* 1995  
Ghana Statistical Service: 2000 Population and Housing Census

### **Sex and Occupation**

Patterns of male-female participation in the different occupations are also observed, principally as a result of education and changes in life styles. The level of poverty in the country makes it necessary for people to work, and both males and females compete for the available jobs, as indicated by a sex ratio of 101.9 (Table 5.20); in 1960 the ratio was 163.2. There was improvement in male-female ratio for most occupations. Females continue to pre-dominate the wholesale and retail trade, but the proportion of male sales workers rose significantly between 1984 and 2000. Spare parts and other shops keep springing up by the day and these are being manned mostly by males. Both males and females participate in pavement and street vending.

The proportion of female services workers (caterers, hairdressers, bartenders) increased by almost five times (from 1.6 per cent to 7.4 per cent) reducing male-female ratio from 187.9 in 1984 to 59.0 (Table 5.20). There has been a significant improvement in the sex ratios for professional/technical and administrative/managerial grades. More females now enrol in professional and management institutions and assume positions of chief executives, heads of institutions, and other management responsibilities.

**Table 5.20: Sex Ratio of Employed Persons (15 and Older) by Occupation, 1970, 1984 and 2000**

Major Occupation	Census Year		
	1970	1984	2000
All occupations	121.4	94.5	101.9
Professional and Technical	326.0	180.3	175.0
Administrative and Managerial Workers	1,832.3	1,029.9	255.6
Clerical Workers	546.5	235.5	367.0
Sales Workers	13.9	12.4	39.8
Service Workers	330.1	187.9	59.0
Agriculture Workers	133.0	111.3	104.3
Production Workers	170.1	123.0	149.6

Source: Census Office: 1970 Population Census

Ghana Statistical Service: *Demographic and Economic Characteristics 1984 Population Census*

Ghana Statistical Service: 2000 Population and Housing Census

## **Employment Status**

Employment status indicates a worker's attachment to the job he/she is doing, whether as an employee or self-employed. Self-employment has been a dominant feature of Ghana's employment market and continues to be an important avenue of employment. The proportion of the self-employed in the working population has been rising since the 1960s, from 62.7 per cent in 1970 to 73.5 per cent in 2000. On the other hand, the proportions of wage earners (employees) and non-wage earners (unpaid family workers) have consistently declined between 1970 and 2000 (Table 5.21).

**Table 5.21: Employed Persons by Employment Status and Sex, 1970 – 2000**

Employment Status	Sex	1970	1984	2000	Rate of Change of Proportion (1970-2000)
Employees	Total	22.1	16.2	15.8	(28.5)
	Male	35.0	25.4	21.8	(37.7)
	Female	6.5	7.4	9.7	49.2
Self-Employed	Total	62.7	69.7	73.5	17.2
	Male	53.5	62.6	68.0	27.1
	Female	73.9	76.4	79.0	6.9
Unpaid Family Workers	Total	13.1	12.5	6.8	(48.1)
	Male	7.9	9.4	5.7	(27.8)
	Female	19.4	15.5	7.8	(59.8)
Others	Total	2.0	1.6	2.9	45.0
	Male	3.6	2.6	4.4	22.2
	Female	0.2	0.7	3.4	1,600.0
All Employed	Total	100.0	100.0	100.0	
	Male	100.0	100.0	100.0	
	Female	100.0	100.0	100.0	
N	Total	3,133,047	5,422,480	7,428,374	137.1
	Male	1,717,928	2,637,029	3,748,887	118.2
	Female	1,415,119	2,785,451	3,679,487	160.0

Source: Ghana Statistical Service; Analysis of Demographic Data Vol. 1 1995

Ghana Statistical Service; 2000 Population and Housing Census

Similarly, the proportions of males and females who are self-employed have been increasing over the same period though that of the female is higher. It is worth noting, though, that the proportion of male self-employed has increased much faster (27.1 per cent) than that of females (6.9 per cent) and that the employee proportion has increased by 49.2 per cent when that of males has decreased consistently over the 1970-2000 period. Agricultural activities and wholesale/retail trade together account for almost 73.0 per cent of the self-employed in 2000. Only 10.7 per cent of the self-employed are in manufacturing. In all the three activities, the proportion of females is higher than for males.

The proportion of females in self employment was even higher in 1984 during the period of economic decline when many males migrated outside the country, a reflection of the support for female income-generation initiatives (Table 5.22). As expected, 92.2 per cent of the self-employed work in the private informal sector. The remaining 7.8 per cent are made up of professionals such as doctors, engineers, accountants, in private practice in the private formal sector.

**Table 5.22: The Self-Employed (15 years and older) by Sex, 1970 - 2000**

Census Year	Sex		
	Both Sexes	Male	Female
1970	1,964,845	46.8	53.3
1984	3,777,675	43.7	56.3
2000	5,458,245	46.7	53.3

*Source: Census Office: 1970 Population Census*

*Ghana Statistical Service: Demographic and Economic Characteristics 1984 Population Census*

*Ghana Statistical Service: 2000 Population and Housing Census*

Two major reasons explain the continuous increase in the proportion of the self-employed in the workforce. Self-employment entails economic risk and remuneration depends directly on profit. People, however, need to earn their livelihood; as paid job openings are scarce, self-employment then becomes the only option. Many of the self-employed are engaged in activities which require less working capital, skill and education, making it possible for the multiplicity of the same kinds of jobs.

There are others also in paid-employment who, realizing they can earn more by working for themselves, resign and set themselves up in self-employment. The restructuring of the civil service and state-owned enterprises entailed redeployment of unskilled employees through retraining programmes in artisanal skills. The policy was to generate employment outside the public sector to absorb the redeployed. Out of 72,000 redeployed persons, over 63 per cent were reported in 1997 to have been provided with tools to start their own enterprises.

Self-employment has many positive aspects for the country's development; its promotion through agencies, such as the National Board for Small-Scale Industries (NBSSI), EMPRETEC, and others is yielding results, including lessening the burden of government to provide jobs. In addition, the multiplicity of jobs creates an environment of competition, which builds up entrepreneurial capabilities. Over 47 per cent of the self-employed are under 35 years of age (Table 5.23) and, therefore, have years of opportunity ahead of them to acquire more skills and be more productive.

**Table 5.23: Self-employed by Age and Sex, 2000**

Age Group	Both Sexes	Male	Female
15 – 34	47.6	45.7	49.3
35 – 59	41.0	41.7	40.4
60 <sup>+</sup>	11.4	12.6	10.3
Total	100.0	100.0	100.0
N	5,458,245	2,551,087	2,907,158

*Source: Ghana Statistical Service, 2000 Population and Housing Census*

Over 21 per cent of the working population is in the 15–24 age group; two-thirds of those are in self-employment. Ideally, this should have been the period for this age group to continue schooling or training to develop themselves through greater knowledge and skills. A number of them do not continue schooling. Other studies (2001 Ghana Child Labour Survey) have indicated that some children are working and not going to school because of the cost of education (affordability) and the need to contribute to the support of households (poverty). With no skills, they either go into self-employment to support themselves (or even sometimes to support other family members) or become socially disoriented. It may also be noted that of the 73.5 per cent of the workforce who reported self-employment as their status in

employment, it is difficult to know those who were gainfully self-employed or otherwise, considering the rising level of criminal activities which has, in turn, generated employment in private security services.

As much as self-employment is beneficial for the country, it becomes socially problematic, where skilled labour or professionals give up paid employment and go into self-employment in areas outside their field of training because of low remuneration. There are cases where many trained teachers, nurses and others leave their professional field of training for sales and services that do not require that level of skill development. This is a situation of underutilization of trained capabilities. It may yield private returns but it is a social loss in training costs, which need correction through appropriate income policy.

Only 7.1 per cent of the self-employed are employers engaging other workers. This suggests that about 93 per cent of the establishments are micro enterprises producing at levels that do not derive the benefit of large-scale production.

While there has been a steady increase in self-employment, the proportions of employees and unpaid family workers among the working population have been declining. The proportion of male employees has dropped from 35.0 per cent in 1970 to 21.8 per cent in 2000 while that of females has been rising (Table 5.21). As more females go to school and acquire the requisite skills, they compete with males for paid jobs. The general economic decline in the country, with its attendant lack of raw materials, underutilised industrial capacity and low production resulted in retrenchment in both private and public establishments. The rate of improvement in economic performance has been slow and has not generated adequate paid jobs.

The proportion of unpaid family workers has been declining while there have been increases in self-employment. In 1984, the self-employed constituted 76.0 per cent of agriculture workers while 20 per cent were unpaid family workers. In 2000, the proportion of the self-employed in agriculture rose to 83.9 per cent while that of unpaid family workers dropped to 10.8 per cent. No definite trend is observed in the male unpaid family workers, but the proportion of unpaid female workers has been declining. Unpaid family workers are principally females and are mostly in agriculture. Over 90 per cent (91.7 per cent) of unpaid family workers in 1984 and 80.3 per cent in 2000 were engaged in agriculture. Children now go to school and are not available to help on farms. Those who complete school move from agriculture and set up their own jobs or move to urban areas. Wives are also trading or even cultivating their own farms and becoming self-employed instead of being unpaid family workers.

Less than one in twenty (2.8 per cent) employed persons in 2000 are apprentices; over three quarters (76.8 per cent) are aged 15–29 years and 57.6 per cent are males. The males are mainly in auto-mechanics, carpentry, tailoring and driving while the females are primarily in dressmaking, hairdressing and catering. Annual budgets have emphasized the importance of skills training through apprenticeship, and programmes have included registration and placement of job seekers, equipping National Vocational Training Institute and others with modern equipment to train JSS school leavers. The effectiveness of the programmes needs to

be assessed because there is still a large army of the youth on the streets selling. Some of them might have undergone apprenticeship training but due to constraints in setting themselves up, or poor market for their products, they fail to practise the acquired trade.

### **Unemployment**

The number reported as unemployed in 1984 increased more than five times, raising the unemployment rate from less than 3 per cent to 10.4 per cent in 2000 (Table 5.24). This substantial increase was experienced by both urban and rural areas as well as among males and females.

**Table 5.24: Unemployment Rate by Sex and Locality of Residence, 1960 – 2000**

Year	Locality	S e x		
		Both Sexes	Male	Female
1960		6.0	6.5	5.2
1970		6.0	7.6	3.9
1984	Total	2.8	3.2	2.5
	Urban	6.0	6.6	5.5
	Rural	1.4	1.6	1.1
2000	Total	10.4	10.1	10.7
	Urban	12.8	12.4	13.1
	Rural	8.6	8.3	8.9

Sources: Census office: *Economic characteristics 1960 Population Census Vol. IV*  
 Census office: *1970 Population Census*  
 Ghana Statistical Service, *Analysis of Demographic Data Vol.1 1995*  
 Ghana Statistical Service: *2000 Population and Housing Census*

Though the urban unemployment rate was still higher than the rural rate, the increase in rural unemployment was very steep. The main source of employment in rural areas is agriculture and the traditional pattern of working is for household members to share in whatever work has to be done. Underutilization is therefore reflected in inadequate work and consequence reduction in standard of living and not in unemployment. Conditions in rural areas, however, are changing fast, access to land is becoming increasingly difficult, limiting the number of persons who may want to have their own farms. Returns from agriculture cannot support the increasing population as indicated by the level of rural poverty. People, especially the youth who have had formal schooling, are therefore seeking non-agricultural jobs. Unemployment rates for females were lower than for males between 1960 and 1984. In 2000 however, there were more unemployed females in absolute terms and proportionally in both rural and urban areas.

Table 5.25 presents unemployment rates by region for 2000. More than four out of every 10 unemployed persons are in Greater Accra and Ashanti. Greater Accra alone accounts for more than a fifth (21.4 per cent) of the unemployment and more than a third (36.4 per cent) of urban unemployment, while Ashanti accounts for 21.1 per cent of all unemployed and 25.4 per cent of urban unemployment. Unemployment rates in Upper East and Upper West, for both rural and urban, are much higher than the national average. The urban rates in Greater Accra and Ashanti are high, because these regions are destinations for migrants from other regions and from rural areas within the regions. Upper East and Upper West do not

have the pull, yet Upper East has the highest unemployment rate. More than one out of every 5 economically active persons in the region have no job; it is difficult to assign reasons for such high unemployment rates in the region. Continuation of this phenomenon would even deepen the level of poverty in the region and increase migration from the region to the south; there is the need for further investigation.

**Table 5.25: Unemployment Rates by Region and Locality of Residence, 2000**

Regions	Total	Urban	Rural
Ghana	10.4	12.8	8.6
Western	8.8	12.4	6.8
Central	8.1	10.2	6.9
Greater Accra	13.4	13.9	9.7
Volta	7.5	9.0	7.0
Eastern	8.4	10.2	7.5
Ashanti	11.3	14.4	8.1
Brong Ahafo	7.3	10.0	5.8
Northern	9.5	12.7	8.5
Upper East	20.1	14.9	21.0
Upper West	15.0	18.6	14.3

*Ghana Statistical: 2000 Population and Housing Census*

All age groups experienced large increases in unemployment levels in 2000. The trend in unemployment in the country between 1960 and 1984 is that of an increasing unemployment proportion among the 15–24 age group, a decreasing proportion among the 25–44 age group and very low unemployment levels among the other age groups. Table 5.26, however, shows that in 2000 unemployment is proportionally more spread out among all age groups, indicating that unemployment is no longer a problem for the youth, but also for adults and even for the elderly. The levels of poverty in the country make it necessary for both the old and the young to find jobs to do. This is even more so among females.

**Table 5.26: Unemployed Persons by Age and Sex, 1960 – 2000**

Age Group	Sex	1960	1970	1984	2000
15 – 24	Both Sexes	63.8	71.7	74.5	36.1
	Male	59.9	67.5	70.5	35.8
	Female	71.7	82.0	79.5	36.5
25 – 44	Both Sexes	28.2	24.6	21.8	38.4
	Male	32.5	28.2	25.9	37.0
	Female	19.5	15.6	16.7	39.7
45 – 64	Both Sexes	6.4	3.2	2.6	15.6
	Male	6.3	3.8	2.8	16.0
	Female	6.6	1.8	2.4	15.3
65 <sup>+</sup>	Both Sexes	1.6	0.6	1.1	9.8
	Male	1.4	0.5	0.8	11.2
	Female	2.2	0.6	1.3	8.6
Total		100.0	100.0	100.0	100.0
N	Both Sexes	163,643	198,571	157,646	863,740
	Male	109,093	141,467	87,452	421,722
	Female	54,550	57,107	70,194	442,018

Source: Census Office; Economic Characteristics, 1960 Population Census Vol. 1  
Ghana Statistical: 1970 Population Census

A fifth (19.9 per cent) of the unemployed have secondary/JSS or higher education, with almost a quarter of these having vocational technical education (Table 5.27). This group of potential workers has acquired some level of skill and knowledge, which the country needs. The post-secondary group consists mainly of teachers and nurses, while the tertiary comprises the polytechnics and university graduates. Any level of unemployment among these groups reflects ineffective functioning of the system and loss in social cost of training.

**Table 5.27: The Unemployed by Education and Sex 2000**

Level of Education	Both Sexes	Male	Female
None	44.7	39.2	49.9
Pre-school	0.2	0.2	0.2
Primary	5.7	5.2	6.2
Middle / JSS	29.5	31.6	27.4
Secondary/JSS	9.6	11.8	7.6
Vocational/Technical	4.8	5.6	4.0
Post Secondary	2.8	3.1	2.5
Tertiary	2.7	3.2	2.1
Total	100.0	100.0	100.0
N	863,740	421,722	442,018

Source – 2000 Population and Housing Census

### **Underemployment**

Underemployment reflects underutilization of productive capacity of the employed population. Data on time worked helps to measure the full contribution of individuals to production and provides information for the determination of potential underemployment among groups of workers.

The ILO recommends the measurement of underemployment to be primarily based on the current capacities and work situations reported by the employed and to be time-related. The ILO also defines time-related underemployment to comprise all persons in employment who:

- a) are either willing or available to work additional hours
- b) or currently work less than a threshold relating to working time, the threshold being the hours of work specified in relevant legislation, collective agreements or labour practices.

The 2000 Census collected data on days and hours worked by the employed. There was, however, no question on the willingness or availability to work more hours. In Ghana, a 40-hour working week is the norm, and specified in collective agreements and other labour regulations. Applying 40 hours a week threshold to the information collected could give an indication of the probable levels of underemployment among the employed population.

Table 5.28 shows that less than a tenth (8.8 per cent) of the workforce worked less than 20 hours a week; indeed, only a fifth (21.4 per cent) worked less than 30 hours. The Ghana Living Standards Survey (GLSS) in 1998 asked the question on willingness or availability to work more hours and the results showed that 26 per cent of the workforce was underemployed. Part-time work is not a common phenomenon in Ghana and working for a few hours a day is generally not a choice. The indication then is that about a quarter of the man-hour capacity of a fifth of the workforce is underutilized, though they are in employment.

**Table 5.28: Employed Persons by Sex and Hours Worked, 2000**

Hours Worked	Both Sexes	Male	Female	Sex Ratio
Less than 10	3.0	2.6	3.4	78.4
10 – 19	5.8	4.5	7.0	66.5
20 – 29	12.6	10.6	14.7	74.4
30 – 39	22.8	21.9	23.8	94.9
40 – 49	50.8	54.9	46.5	121.4
More than 50	5.0	5.4	4.6	119.8
All Hours	100.0	100.0	100.0	102.8

Source: Ghana Statistical Service: 2000 Population and Housing Census

Another fifth (22.8 per cent) of the employed population worked 30–39 hours, while half (50.8 per cent) worked 40–49 hours. People generally do not choose to work excessively long hours, but desire rest and leisure. To work more than 50 hours or especially seven days a week is a reflection of real economic need; a person must work all week so as to make a living. This does not appear to be prevalent on the work market scene, as only 5.0 per cent worked 50 hours or more. Proportionally more males worked longer hours than females. Higher proportions of females worked up to 39 hours a week, while higher proportions of males put in longer hours.

### **Working Children**

The 2000 Census collected data on economic activity of all persons aged 7 years and older who worked for pay, profit or family gain in the week preceding the census. Out of the total of 8,026,279 persons aged 7 years and older who worked, 7.4 per cent were children between 7 and 14 years. International labour regulations stipulate 15 years as the minimum working age. According to the 1998 Children's Act of Ghana children under 15 years of age are not supposed to be employed. They can, however, do light work if they are 13 or 14 years old. Thus a child below 13 years is not expected to engage in any economic activity.

Table 5.29 shows the economic activities engaged in by children aged 7–14 years. About 70 per cent of the children are engaged in agriculture, while 8 per cent are in trading activities. In the rural areas, children partake in farming activities while children in urban areas are seen selling in the markets, on the streets and pavements. About 4 per cent (3.6 per cent) also work in private households. Males make up 51 per cent of the working children; and the majority of both male and female are in agriculture.

**Table 5.29: Working Children (7 - 14 years) by Age, Sex and Industry in 2000**

Industry	Total			7 – 9			10 - 14		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Agriculture and fishing	70.5	74.2	66.6	70.1	72.3	67.9	70.8	75.6	65.6
Mining and quarrying	4.6	4.5	4.7	5.3	5.4	5.5	4.0	3.8	4.1
Manufacturing	6.5	5.9	7.3	6.5	6.1	7.1	6.5	5.7	7.5
Wholesale and retail	8.0	6.3	10.0	7.4	6.3	8.4	8.5	6.3	11.2
Personal services	1.7	1.4	2.0	1.6	1.4	1.8	1.8	1.4	2.1
Private household	3.6	2.8	4.5	3.5	3.1	3.9	3.7	2.6	5.0
All others	4.9	4.9	4.9	5.6	5.4	5.5	4.8	4.5	4.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	597,905	310,427	287,478						

Source: Ghana Population and Housing Census: 2000

Table 5.30 shows the employment status of working children. The majority are engaged in family-based enterprises, either on their own or as unpaid labour. Close to 50 per cent are self-employed, while about one-third are unpaid family workers. These children are at the age when they should be schooling fulltime.

**Table 5.30: Employment Status of Children aged 7 - 14 years: 2000**

Employment Status	Sex		
	Total	Male	Female
Employee	5.9	5.9	6
Self-employed	47.7	47.7	47.7
Unpaid family worker	33.4	34.3	32.5
Apprentice	5.3	5.2	5.4
Domestic employee	5.3	4.7	5.8
Other	2.4	2.3	2.4
Total	100.0	100.0	100.0
N	597,905	310,427	287,478

Source: Ghana Population and Housing Census: 2000

### **The Economically Inactive**

The economically inactive are persons of working age (15-64 years) who, for reasons such as engagement in household duties, attendance at educational institution, retirement/old age, infirmity and others, are not in the labour force. They are potential sources of manpower, in that they could become economically active if their circumstances changed at a later period.

The inactive population constituted about 27 per cent of the adult population in both 1960 and 1970 and dropped to less than 20 per cent in 1984. The drop between 1960 and 1984 may be accounted for by the decrease of homemakers but the rise from 17.5 per cent in 1984 to 25.3 per cent in 2000 is difficult to explain since more homemakers now go out to work (Table 5.31).

Homemakers alone constituted more than two-thirds of the 1960 inactive population. As more females participate in the labour force, the proportion of homemakers among the economically inactive has steadily dropped from over two-thirds in 1960 level to about one-quarter (27.7 per cent) of the 2000 inactive population (Table 5.32). Homemakers also constituted over 18 per cent of the 1960 adult population and only 5.2 per cent in 2000.

The idea of married women staying home to take care of the house and children is no longer the norm. Most females now go out to work and those who stay at home are mostly engaged in economic activities in their home environment. With females going out to work, it requires that there should be more pre-school facilities, with convenient hours of closing for working mothers. Pre-school establishments are springing up and this is offering employment for an increasing number of retired teachers and for young females as nursery attendants.

**Table 5.31: Economically Inactive Population (15 years and Older) by Sex, 1960 - 2000**

Sex	Adult	Economically Inactive	Inactive as per cent of Adult
	Population (15 year & older)		

			Population
<u>Both Sexes</u>			
1960	3,730,309	1,007,283	27.0
1970	4,543,348	1,211,730	26.7
1984	6,760,967	1,180,863	17.5
2000	11,105,236	2,813,122	25.3
<u>Male</u>			
1960	1,884,552	207,494	11.0
1970	2,227,000	367,605	16.5
1984	3,261,069	536,588	16.5
2000	5,435,829	1,265,220	23.3
<u>Female</u>			
1960	1,845,757	799,789	43.3
1970	2,316,348	844,125	36.4
1984	3,499,898	644,275	18.4
2000	5,669,407	1,547,902	27.3

*Source: Census Office; Economic Characteristics, 1960 Population Census Vol. 1  
Ghana Statistical Service: 1970 Population Census*

The student population has increased steadily from about 4 per cent of the adult population in 1960 to about 8 per cent in 2000. While it constituted less than 16 per cent of the total inactive population in 1960, it is a third in 2000 (Table 5.32). The drop in the proportion for total and male students between 1984 and 2000 is difficult to explain because more youth are going to school and relatively more adults take study leave or leave of absence and go back to school as mature students. Female students constituted only 4.3 per cent of 1960 inactive female population compared with 84.6 per cent homemakers. The proportion of female students has steadily increased, thereby bridging the wide gap between the sexes (Table 5.32). Students are potential participants of the labour market requiring creation of different grades of jobs for the different levels of graduates that join the labour force annually.

A significant increase in the proportion of 'others' is observed (from 0.9 per cent in 1960 to 20.4 per cent in 2000). The increase is probably due to the many persons without a job but who may not have been actively seeking for one either out of frustration or from a perception that there was no need trying because of the lack of opportunities for employment.

**Table 5.32: Economically Inactive Population by Sex, 1960 – 2000**

Status	Sex	1960	1970	1984	2000
Home Maker	Total	68.3	51.6	26.1	27.7
	Male	5.4	5.9	5.7	18.1
	Female	84.6	71.5	43.1	35.5
Students	Total	15.8	32.7	57.0	33.3
	Male	59.8	72.5	79.4	42.4
	Female	4.3	15.4	16.6	25.8
Old Age	Total	-	-	-	11.8
	Male	-	-	-	9.0
	Female	-	-	-	14.2
Persons with Disability <sup>1</sup>	Total	14.7	13.7	13.5	3.4
	Male	29.7	16.9	9.9	3.6
	Fema	10.8	12.4	16.6	3.1
Income Recipient/Retired/ Pension	Total	0.3	0.7	1.5	3.4
	Male	1.4	1.8	2.6	5.0
	Female	0.0	0.2	0.6	2.1
Others	Total	0.9	1.3	1.9	20.4
	Male	3.6	3.0	2.4	21.9
	Female	0.3	0.5	1.4	19.2
N	Total	1,007,238	1,221,730	1,180,863	2,813,122
	Male	207,494	367,605	536,588	1,265,220
	Female	799,789	844,125	644,275	1,547,902
Sex Ratio		25.9	43.5	83.3	81.7

Source: Ghana Statistical Service; Analysis of Demographic Data Vol. 1 1995  
2000 Population and Housing Census

Note: <sup>1</sup> includes Old Age for 1960, 1970, 1984

## 5.4 Disability, Social Security and Retirement

### Disability

The International Classification of Impairments, Disabilities and Handicaps (ICIDH) distinguish three dimensions of disability – impairment, disability and handicap. Impairment focuses on a loss or deviation of function or structure of an organ or body part, which could be physiological, neurological or anatomical (organ or body part dimension). Disability reflects limitation that a person experiences in performing an activity considered normal, such as speaking, walking, learning (individual dimension). Handicap describes limitation in the relationship between a person with disability and the social or physical environment in such areas as education, occupation (social dimension). The ICIDH also lists the main aspects of functional limitation in daily life to include seeing, hearing, speaking, moving/mobility, body movement, gripping/holding, learning behavioural, personal cares and others.

Data on all these areas and causes of disability, though difficult to compile, are required to formulate appropriate policies and programmes to mitigate the effects of organ, individual and social dimensions of disability. For example information on the total population with disability and its regional/district distribution is a basic data requirement for the determination of the rate of prevalence of disability.

The main source of information on disability used in this report is derived as a response to reasons for being economically inactive in censuses. This obviously provides information only on a part of the population with disability. There are also organizations concerned with physically challenged persons such as the Ghana Association of the Blind, (GAB), Ghana Society of the Physically Disabled (GSPD), Ghana Association of the Deaf (GAD) and others operating under the umbrella organization of the Ghana Federation of the Disabled. These associations keep lists of their respective members. As at the end of March 2003 the GBA had a total of 2015 registered members, while GSPD had a list of about 2000 members. These are only the registered members and cannot therefore represent the total number of the blind or the physically disabled in the society. Even among the registered members, records are not clear on the economically active members. It is therefore currently not known the number or proportion of persons with disability who are gainfully employed in the country.

Access to paid work is necessary for achieving self-reliance and ensuring the well-being for all adults. For persons with disability, participation in economic activity gives some measure of social and economic well-being. There are government sponsored rehabilitation centres in all the regions, except Upper West, as well as private rehabilitation centres. All these centres train persons with disability in crafts to prepare them for self-employment. The Ghana Education Service used to employ some trained teachers as craft instructors, but with the introduction of the JSS, craft instructors are no longer in demand. Self-employment in crafts can be a satisfying avenue of earning a livelihood. Persons with disability, however, need not be confined to crafts and self-employment. They need to be encouraged to acquire degrees and diplomas so as to be able to compete favourably with able-bodied persons in the job market.

Table 5.33 shows that the proportion of economically inactive persons with disability among the adult population has been declining since 1960 (from 4.0 per cent in 1960 to 0.9 per cent in 2000). With no information on the total population with disability, it is difficult to conclude whether prevalence of disability is declining as indicated by the declining trend or that more persons with disability are becoming economically active.

**Table 5.33: Proportion of Economically Inactive Persons with Disability of Adult Population**

Sex	Census Year			
	1960	1970	1984	2000
Total	4.0	3.7	2.4	0.9
Male	3.3	2.8	1.8	0.8
Female	4.7	4.5	3.0	0.9
Total	148,323	166,250	159,712	94,401
Male	61,722	61,984	52,988	45,710
Female	86,601	104,260	106,724	48,691

*Source: 1960,1970,1984 & 2000 Population Censuses of Ghana*

There are proportionally and in absolute terms more economically inactive females with disability than males, probably because males are more aggressive and go out to work while females may feel uncomfortable and stay home. Disability is considered a social stigma in many homes and areas of the country and some families are known to hide their relatives with disability. With the current push to press the rights of the physically challenged and in

the face of economic hardships, many persons with disabilities now come out to the streets to beg or work in some trade.

Unlike the situation in developed economies where a significant number of persons with disability reside in institutions, in Ghana over 99 per cent of persons with disabilities live in households (Table 5.34). This practice needs to be encouraged and supported, because living in households helps with the social integration of persons with disability.

**Table 5.34: Inactive Persons with Disability by Type of Residence, 2000**

Sex	Type of Residence					
	Total	Household	Homeless	Educational Institution	Infirmaries	Other
Total	94,401	93,536 (99.1 per cent)	201 (0.2 per cent)	95 (0.1 per cent)	406 (0.4 per cent)	163 (0.2 per cent)
Male	45,701					
Female	48,691	45,192 (98.9 per cent)	123 (0.3 per cent)	69 (0.2 per cent)	190 (0.4 per cent)	36 (0.1 per cent)
		48,344 (99.3 per cent)	78 (0.2 per cent)	26 (0.1 per cent)	216 (0.4 per cent)	26 (0.1 per cent)

*Source: Ghana Statistical Service, 2000 Population and Housing Census*

### **National Disability Policies**

The Ghana Labour Regulation, L1632 of 1969 provides that 0.5 per cent of jobs be reserved for persons with disability, that disablement centres be attached to employment centres and that a disablement council be set up to advise the Minister in charge of labour on matters of employment of persons with disability. The 1992 constitution also provides for incentives to be given to self-employed persons with disability as well as to employers who employ significant numbers of persons with disability. These measures are fine polices, which seek to encourage employment of persons with disability. In practice, however, they have not worked to that effect. The advisory council to advise the “Minister of Labour” has not been set up and disablement centres have never functioned. The specified employment quota of 0.5 per cent translates to one person with disability per 200 employees. Relatively few establishments in the country employ that number of persons. Most organizations are therefore not obliged by law to employ persons with disability. Since the law is not effectively enforced, even establishments with 200 employees or more do not comply. There is the need, however, for public education on the law, since many employers may not even be aware of its existence.

Ghana may not have the resources to formulate policies and programmes that seek to address the three dimensions of the situation of physically challenged persons so as to enable them live independent fulfilled lives. A few practical measures can however help minimize the social dimension of disability. For example, a few special furniture in classrooms can provide comfortable seating for some persons with disability at very little cost. The university admission requirement was recently lowered two-points to encourage more females to enrol in the engineering school while a number of places were reserved for students in rural areas with very high aggregate. The same provision can be made for persons with disability for admission to tertiary institutions. In addition, where an able-bodied person

scores the same mark as a person with disability for a school or a job vacancy, the latter could be given the opportunity. The next population census could make special effort to collect data on disability to provide the basic information on the frequency and distribution of disability in the population. Alternatively, a national survey on disability could be undertaken to provide the needed data to reform policy.

### **Social Security and Retirement**

The Government has instituted a Social Security and National Insurance Trust (SSNIT) with the mandate to provide cutting-edge income replacement schemes to Ghanaian workers and their dependents in the event of old age, permanent disability or death. The number of contributors as well as the total contributions to the fund has been increasing over time; however, the number of persons in the labour force or who are actually working does not match this increase. The number of employees covered under the scheme increased by 8.5 per cent from 597,141 in 1997 to 652,791 in 2001 (Table 5.35).

**Table 5.35: Share of Contributors by Type of Establishment, 1997-2001**

	Type of Establishment			Total	N	Rate of Change
	Private	Government	Subvented			
1997	52.1	42.5	5.4	100.0	597,141	
1998	49.7	44.8	5.5	100.0	627,117	5.0
1999	52.0	43.3	4.7	100.0	616,663	(1.7)
2000	53.6	41.7	4.7	100.0	626,471	1.6
2001	54.0	41.4	4.6	100.0	652,791	4.2
N	1,632,236	1,333,056	154,820	3,120,112		

Source: Social Security and National Insurance Trust, Annual Statistical Report, 2001 (Area and Government Operations Department)

If the number of contributors in 2000 (626,471) is taken against the total number of employed persons from the 2000 Census (7,428,374) it means that the scheme covered only 8.4 per cent of the employed. When unpaid family workers, apprentices, domestic employees and others are subtracted from those who worked, coverage of the scheme is still lower than one in ten. If informal sector workers are excluded, coverage would have been 44.1 per cent. The import of this is that the majority of Ghanaian workers are still not covered by the Government insurance scheme.

These figures may appear to be a little exaggerated because the concept of work as used in the census captured all who worked for at least one hour for pay or profit during the seven days before census night. To be covered under the SSNIT scheme, however, one must be on regular monthly income. Private sector contributors constitute over half of total contributors.

For 2001, as in previous years, the Services has the highest number of contributors (57 per cent), with manufacturing (9.6 per cent) and commerce (7.2 per cent) as the significant others (Table 5.36).

**Table 5.36: Number of Contributors by Economic Activity, 2001**

Economic Activity	Contributors	per cent
Agriculture	20,160	3.1
Mining	18,523	2.8
Light Manufacturing	45,716	6.9
Heavy Manufacturing	17,731	2.7
Construction	25,900	3.9
Power/Energy Generation	9,315	1.4
Commerce	47,891	7.2
Transport	15,933	2.4
Services	378,113	57.2
Domestic Assistants	182	0.0
Others	81,701	12.4
Total	661,165	100.00

Source: SSNIT, Benefits Department, Operational Report, 2002 (Information Technology Department)

Age distribution of contributors indicates that two thirds of all contributors to the scheme fall within the age ranges of 30-49 years (Table 5.37). The number of persons who have reached the statutory retiring age of 60 years but are still contributing to the scheme has reduced considerably by eight fold between 1997-2001, with the slack being picked by the 20-29 and 50-54 age groups.

**Table 5.37: Age Profile of Contributors, 1997 - 2001**

Age group	1997	1998	1999	2000	2001
<20 years	0.0	0.1	0.1	0.1	0.1
20-29	10.0	10.8	11.7	11.3	13.6
30-39	33.2	33.7	32.4	31.8	31.3
40-49	31.7	34.0	35.3	35.7	34.1
50-54	10.4	11.5	12.3	12.1	12.2
55-59	6.6	6.8	7.1	6.8	7.6
60+	8.1	3.0	1.2	2.2	1.1
Total	100.0	100.0	100.0	100.0	100.0
N	669,787	632,235	494,582	418,113	541,208

Source: Social Security and National Insurance Trust, Annual Statistical Report, 2001 (Information Technology Department)

If part of the aged (60 years and older) who are contributing to the fund are from the formal (public and private) sector, then it means that the policy of mandatory retiring age is not being strictly enforced, and also that the retired are holding on to positions thereby depriving younger employees from gaining access to the job market or hindering upward movement of younger employees.

### **Old Age Support**

The number of pensioners who benefited from the SSNIT scheme between 1998 and 2001 indicates that aged males were the most beneficiaries. This is reflective of the fact that females have traditionally been employed in agriculture, services and sales, with very few in public and private formal sector. This explains why females constitute only 7.5 per cent of

the total number of pensioners in 1997. This figure increased slightly to 9.7 per cent of the total number of pensioners (46,493) in 2001 (Table 5.38).

**Table 5.38: Age and Sex Profile of Pensioners, 1998-2001**

Age	Both Sexes				Male				Female			
	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001
<55	1.3	1.3	1.4	1.4	1.2	1.3	1.4	1.7	1.3	1.5	1.6	1.7
55-59	21.7	17.6	14.8	14.8	21.0	17.0	14.2	14.7	29.5	24.0	20.5	22.1
60-64	47.2	47.9	46.1	46.1	46.9	47.4	45.5	40.7	50.9	53.1	53.5	46.7
65-69	24.3	26.7	27.5	27.5	25.1	27.5	28.2	31.6	15.4	18.5	20.6	54.4
70+	5.5	6.5	10.1	10.1	5.7	6.8	10.7	11.4	2.9	3.0	3.7	5.0
N	30,936	35,115	41,669	46,493	28,483	32,190	38,190	42,002	2,453	2,925	3,550	4,491

Source: Social Security and National Insurance Trust, Annual Report, 2001 (Benefits Department)

Between 1998 and 2001, two out of every five pensioners belonged to the 60-64 age group. This is not unexpected since age 60 is the beginning of the mandatory retiring age. The female proportion in this age group is higher than that for males in all years. The fact that female proportion is also higher in all years for the 55-59 age group means that females are more likely to proceed on voluntary retirement earlier than males.

### **Contributions and Disbursements**

Contributions to the SSNIT scheme has been increasing over time as a result of increases in the number of contributors as well as increases in remunerations of contributors overtime. The private sector has so far remained the highest contributor to the scheme, accounting for as high as 65 per cent of total contributions in 2000 (Table 5.39) although its share of contributors is a little over 50 per cent. On the other hand, contributors in the public sector who constitute over 40 per cent of all contributors account for only about a third of contributions made. This probably means the contributions of public sector workers are not forwarded at the required times.

**Table 5.39: Annual Contributions by Type of Establishment, 1992 – 2001**

Year	Private	Government	Subvented	Total	N
1992	62.3	32.9	4.8	100.0	32,316
1993	37.2	59.5	3.3	100.0	85,795
1994	50.3	45.3	4.4	100.0	86,302
1995	52.7	39.8	7.5	100.0	115,645
1996	55.1	39.5	5.4	100.0	170,023
1997	64.3	30.0	5.7	100.0	202,638
1998	64.0	31.5	4.5	100.0	268,863
1999	59.2	37.6	3.2	100.0	375,340
2000	65.1	30.8	4.1	100.0	461,453
2001	57.1	39.7	3.2	100.0	723,205

Source: Social Security and National Insurance Trust, Annual Statistical Report, 2001 (Area and Government Operations Department)

Monthly payments of pension to beneficiaries have also increased over the period 1995-2001. There was, however, a vast difference between the lowest and highest monthly pension. While lowest monthly pension increased only 3 times over the period (₺5,000 to ₺15,000), highest pension increased 12 times from ₺1,033,000 to ₺12,000,000. The annual

changes in pension payments favoured those in the higher income brackets than those in lower income brackets (Table 5.40). This discrepancy between lowest and highest pension is suggestive of the fact that there exists a wide gap between earnings of employees in various sectors of the economy.

Table 5.40: Per centage Change in Annual Pension Statistics 1995 - 2001

Description	1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001
Highest Monthly Pension (HMP)	32.2	285.0	14.0	(10.2)	157.4	14.6
Average Monthly Pension	1.5	38.4	(10.7)	24.1	35.0	34.4
Lowest Monthly Pension (LMP)	0.0	70.0	0.0	0.0	17.6	50.0
Highest 25 per cent Lump Sum	33.5	81.7	57.0	151.2	156.3	(9.2)
Lowest 25 per cent Lump Sum	(97.8)	7,767.3	(94.0)	440.0	(9.3)	(49.0)
HMP	1,032,925	3,976,764	4,533,511	4,073,206	10,438,539	12,009,114
LMP	5,000	8,500	8,500	8,500	10,000	15,000

Source: Social Security and National Insurance Trust, Annual Statistical Report, 2001 (Benefits Dept.)

The Ministry of Manpower Development and Employment has drafted a National Policy on Ageing with the objective of promoting the social integration of older persons to enable them participate fully in society. One of the areas of concern of the policy is the promotion and support of reasonable and sufficient income for the elderly. The policy further notes that one way of achieving this is the promotion of pension plans “which include as far as possible universal coverage, indexation, portability, supervision and control”.

Furthermore, Government is entreated to enact legislation to synchronise the compulsory retirement of public officers and the commencement of the receipt of social security retirement benefits. To ensure that retired persons get the best out of retirement, the policy calls for careful planning by the youth towards their retirement and the encouragement of pre-retirement counselling services. These are to ensure that retirement does not become a bother to the retirees.

It appears however that going on retirement is not a pleasant experience for most people. In an article titled “Improving the Pension Scheme-What some Pensioners Say”, which appeared in the Saturday 23 November 2002 Edition of the Mirror, almost all the pensioners interviewed were of the opinion that the SSNIT Pension scheme as presently managed does not meet the aspirations of the people. There is therefore a call for either an increase in the monthly pension or better remuneration during the working life of contributors since the computation of one’s pension is based on the monthly income.

## 5.5 Future Trend of the Labour Force (Labour Force Projections)

A projected labour force has to be derived from a projected population. Thus, the accuracy of the projected labour force will be dependent on the assumptions underlying the population projection as well as assumptions made about the future course of labour force participation rates. The number of people who would be available for work in future depends on a complex interplay of existing conditions today as well as how those conditions are likely to change in future. For example, the future composition, size, of the labour force will depend to some extent on the educational system that is currently in place. This will include all

policies and programmes outlined for both formal and informal education, not forgetting skill development programmes for currently unemployed youth.

Activity rates could be projected using one of these four methods:

- the trend in activity rates of the economically active population for future years will be an extrapolation of the past trend,
- current activity rates will be maintained in future years,
- activity rates in future will be the same as current rates in the more developed areas of the country and
- activity rates will depend on projected changes in such factors as the country's manpower needs, school enrolment, the growth of the urban population, the development of pension schemes and nuptiality and fertility rates.

An observation of activity rates for 1970, 1984 and 2000 indicates that while there were increases in the rates at all ages between 1970 and 1984, the reverse was the case between 1984 and 2000. The slowing down of activity rates during the 1984-2000 intercensal period was explained partially by changes in the educational system, which kept people in school rather than in the job market. If we assume that this trend will continue for some time before the products of the school system enter the labour market, then activity rates will continue to decline linearly over the projected period.

Employment avenues are also being created throughout the country and skills development programmes are being instituted while private insurance companies and other financial institutions are embarking upon the introduction of various pension schemes. These initiatives are expected to take some time before the benefits are realised. In this respect, we would expect activity rates to continue their gradual reduction to about 2005 and pick up from 2010 till the end of the projection period. The projected rates are presented in Table 5.41.

**Table 5.41: Projected Activity Rates, 2005-2025**

Age group	2005		2010		2015		2020		2025	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
15-19	39.3	40.0	39.7	40.4	40.1	40.8	40.5	41.2	40.9	41.6
20-24	69.0	69.9	69.7	70.6	70.3	71.3	71.1	72.0	71.8	72.7
25-29	84.6	81.0	85.5	81.9	86.3	82.7	87.2	83.5	88.0	84.3
30-34	91.8	85.9	92.8	86.8	93.6	87.6	94.5	88.5	95.5	89.4
35-39	93.3	87.5	94.4	88.4	95.2	89.2	96.1	90.1	97.1	91.0
40-44	93.5	87.7	94.6	88.7	95.4	89.5	96.3	90.4	97.3	91.3
45-49	93.5	87.5	94.6	88.4	95.4	89.3	96.4	90.2	97.3	91.1
50-54	92.5	84.6	93.6	85.5	94.4	86.3	95.3	87.2	96.3	88.1
55-59	90.1	81.3	91.1	82.1	91.9	82.9	92.8	83.8	93.8	84.6
60-64	79.7	71.1	80.5	71.8	81.3	72.5	82.1	73.3	82.9	74.0
65+	74.9	65.1	75.6	65.8	76.4	66.4	77.1	67.1	77.9	67.8

*Sources: Projections based on the 2000 Population and Housing Census*

Activity rates for both sexes increase gradually from age 20 and continues till age 49 before a decline sets in. Activity rates for females are lower in all age groups except for ages 15-24 years. The sudden increase in activity rate (almost double) observed among the 20-24 age group may be explained partly by the fact that a number of people who finished senior secondary school (SSS) after age 19 may have entered the job market because they could not continue with their education, thus pushing up the figure. Male activity rates in the 60-64 age group were higher than 90 per cent and female rates higher than 85 per cent before the 2000 Census. The projected activity rates in the older age groups have however fallen by about 10 per centage points in most cases. The projection of the total labour force was obtained by multiplying the projected activity rates by the corresponding projected medium variant of the population by age and sex.

The results show that over the 25-year projection period, labour force would double from 8.3 million in 2000 to 16.9 million in 2025. This means that total labour force would grow at an average rate of 2.9 per cent per annum. Male (2.9 per cent) and female (2.8 per cent) labour force would also grow at about the same rate over the projection period. Male labour force is projected to be more than female labour force throughout the projection period. The growth in labour force would be faster than the growth in population, which is estimated at about 2.2 per cent over the same period (Table 5.42).

**Table 5.42: Projected Labour Force by Age and Sex, 2005-2025**

Age group	2005		2010		2015		2020		2025	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
15-19	428,221	433,822	498,957	508,688	562,957	579,098	633,406	638,920	680,579	684,449
20-24	641,757	659,173	744,485	755,954	868,885	887,646	981,647	1,011,676	1,106,013	1,117,411
25-29	659,684	668,781	779,047	760,526	905,003	873,295	1,058,029	1,026,984	1,197,235	1,171,978
30-34	610,111	615,137	707,555	703,744	836,050	801,189	973,329	921,777	1,139,863	1,085,616
35-39	523,498	536,785	612,984	620,430	710,714	710,573	841,800	810,866	981,319	934,495
40-44	445,546	452,951	516,00	530,999	604,339	614,455	702,592	705,560	833,226	806,620
45-49	375,916	363,819	433,730	442,989	502,363	519,942	590,806	603,321	688,678	694,134
50-54	305,597	283,850	356,953	341,516	412,187	416,542	479,638	490,393	565,841	570,322
55-59	227,891	206,238	279,975	260,490	327,721	314,257	380,353	384,665	444,292	454,166
60-64	161,263	144,964	183,430	167,647	226,300	212,633	266,354	257,681	310,606	316,636
65+	390,076	354,160	390,108	360,153	413,384	386,538	472,496	448,922	555,606	538,971
Total	4,769,561	4,719,679	5,503,228	5,453,137	6,369,903	6,316,168	7,380,450	7,300,767	8,503,259	8,374,798

*Sources: Projections based on the 2000 Population and Housing Census*

For both sexes, the age pattern of the projected labour force shows that increases are recorded up to age 25-29 and declines gradually thereafter. This situation may be accounted for by the fact that by ages 20-24 and 25-29, the majority of people would have completed their formal education or their apprenticeship and entered the job market either in the formal or informal sectors. It is also important to note that by year 2025, one out of every ten males and females in the labour force would be 60 years or older. This requires appropriate old age support programmes and pension schemes to take care of the numbers of elderly workers expected in the economy.

The faster rate of growth of the labour force (2.9 per cent) over the rate of growth of the population (2.2 per cent) over the projection period should be seen as a positive sign because

it gives an indication that economic burden is easing over time. As observed earlier on, it further demonstrates that a gradual fertility reduction regime is taking place. In 2000, total dependency ratio was 87.1 as against 81.0 by the end of the projection period. This means that every ten working adults must support about eight non-working people by 2025. This figure was about ten working people to almost nine non-working people in 2000. The expected large increase in the labour force is a real challenge to the economy, as avenues must be provided to enable the large army of potential labour force to work. Entrepreneurial development programmes have to be intensified and the various job creation initiatives embarked upon by Government have to be focussed and well directed.

Youth development centres at which leadership development programmes are taught are to be encouraged and set up in as many districts as possible. This, together with the entrepreneurial development programmes will make it possible for many youth to venture into the world of business without necessarily depending on the goodwill of Government.

## **5.6 Conclusions**

### **Summary Findings**

The analysis of the labour force and employment situation as well as the data on disability, ageing and social security in the country, has revealed the following results:

Female labour force has grown at a much faster pace than male labour force over the period 1960-2000 as evidenced by a narrowing of the gap reflected in a sex ratio of 101 of the economically active population by 2000.

A comparison of the growth rates of both total population and the labour force indicates that there is near equality in both rates during the 1984-2000 periods. The growth in female labour force was however slightly slower than that of the entire labour force over the same period, possibly due to a large number of economically inactive females who may be classified as students.

Proportional distribution of the labour force by sex and region is observed not to vary over all the census years except for the three northern regions, where slight variations were noticed. It is evident from the data that the southern regions were destinations for labour from the northern sector.

Rural labour force is greater in number than urban labour force in almost all regions except Greater Accra and Ashanti. Similarly, female labour force tends to be larger in size in rural than in urban areas. The effect of marriage on the labour force is noticeable in as far as for every three persons in the labour force, at least two were married or living in some form of union. Children were also observed to be participating in the labour force. The concentration of children in the labour force is however, more pronounced in rural than in urban areas.

Participation in economic activity tends to be higher for males than for females in most of the regions of the country. The age pattern of activity rates observed over the 1960-2000 period

shows that participation in economic activity is high (above 60 per cent) for all age groups except the 15-19 age group.

There has been a gradual change in the age structure of the working population; while the proportion of workers below 45 years has declined, the proportion of 65 years and older has increased. This is especially observed with agricultural workers. A little over 7 per cent of the workforce is made up of children aged 7-14 years and they are mostly into agriculture in the rural areas.

Although educational facilities have improved, 49 per cent of the workforce has still not attended school and less than 10 per cent has technical/vocational or higher education.

There has been growth in employment in the service sector of the economy at the expense of a decline in agricultural employment. With the exception of mining and construction, employment in other areas of industry has been virtually stagnant.

Proportion of the self-employed continues to rise while proportions of employees and unpaid family workers decline. Apprentices, who are mostly young adults, constitute 3 per cent of the working population.

Unemployment and underemployment levels are high. Unemployment increased 5 times between 1984 and 2000; it is no longer a problem for only the youth but for all age groups as well. About a quarter of the working population is underemployed.

The general employment pattern in the country does not favour sustained economic development. More than 50 per cent of a country's workforce in agricultural activities is high and should make the country self-sufficient in food production. Data, however, indicate that Ghana imports an increasing volume of food and beverages annually. Since industrial activity is still not so developed as to draw labour to it, it is important that agriculture is made more attractive and efficient. This will help to produce more food, cut down imports and retain labour in agriculture instead of labour drifting into socially non-productive areas.

Enhancement of employment opportunities should not be at the cost of the country's environment. Legalising small-scale mining has provided employment in a number of districts but at a high cost of destruction of the environment. The retail industry is also providing employment for a large proportion of workers, especially the youth, but is adding to the problem of litter in the cities and towns, as both buyers and sellers throw polythene and other materials along streets and elsewhere.

### **Policy Implications**

The analysis indicates that about 50 per cent of the country's workforce is in agriculture and, though the proportion has been declining over the years, labour is not moving to the other productive sectors of the economy. It is also observed that only about 16 per cent of the country's workforce has secondary or higher level of education, while 49 per cent has no form of formal education. Despite improved educational facilities, the country cannot be said to have a trained workforce. There is, therefore, the need to improve educational and

training facilities and direct more labour to productive areas of the economy, such as agriculture and industry.

Review of annual national budget statements gives a broad outline of government's employment policies, which include general as well as sectoral employment policies. Successive governments have recognized the need to create jobs to meet the employment needs of the growing population. It has also been recognized that job creation and economic growth are interdependent. While availability of jobs improves income levels and leads to increase in general demand, economic growth also generates demand and leads to more job opportunities. Budget statements, therefore, compliment policies on employment promotion with growth and poverty reduction. For example one major objective of the Ghana Poverty Reduction Strategies (GPRS) is to create employment at community levels to check the drift of young people to the urban centres.

Though proportion of agricultural employment has declined, agriculture (crop farming and animal rearing) continues to be the main occupation in the rural areas. Successive governments have recognized the need to improve agriculture activities so as to provide adequate employment for the growing rural population. Constructive policies and programmes have included increasing production of selected cash crops, introduction and replication of out-grower system of production, provision of credit facilities to small-scale farmers, support to medium-scale agricultural ventures, provision of agricultural extension services and others. Implementation of these policies has, however, been uncoordinated and at a scale far less than the need requires.

Farming in most rural areas still remains non-scientific cropping and animal rearing; and yields have been low. Where there have been improvement in yields, they have not been accompanied by adequate storage and processing facilities. A visit to most major markets in the country shows that large quantities of foodstuffs, such as plantains and oranges, go waste during harvesting period. There is the need to step up cheap means of processing of such food items, so that processed food would be affordable.

There is a need for an integrated system of production in the various farming areas to create new jobs for the rural population. For example, loads of sugar cane need not be brought to Accra and other cities to litter the streets but rather mini-processing plants can be established in sugar cane growing areas to semi-process the crops. This will create more jobs in planting, processing and marketing of sugar cane products. In addition, it will promote repair of machinery and equipment and other ancillary activities. Products from such small-processing plants will serve as intermediate input for the large-scale industries.

The analysis also shows continuous rise in self-employment. Promotion of self-employment has been a major policy to solve the declining paid-employment problem. The NBSSI and other agencies have provided technical and financial assistance to many people to start and operate their own enterprises. General promotion of small-scale enterprises is no longer socially beneficial. As the analysis indicates, employment in industry has been virtually stagnant and industry is the key to sustained economic development. Selected small-scale

industries need to be identified and promoted in specific locations, taking into consideration the economic activities of the areas.

A major aspect of the government's youth and manpower development programme is apprenticeship and vocational training which is annually reflected in budget statements. Several programmes have been introduced or experimented with in this area with the objective of improving access to, and methods of vocational training. For example, in 1996 an intensive apprenticeship-training project was experimented with in Accra, Kumasi and Takoradi. The project identified 32 trades and vocations, such as horticulture, and landscaping, woodcarving, exercise book making and others. Under the scheme, beneficiaries were given seed capital in the form of inputs and necessary logistics to go into gainful employment. The objective was to replicate the project in all regional and district capitals. The replication is yet to be undertaken. Highlighting new areas of vocational training and directing boys and girls to go into these areas broadens the base of vocational training (instead of the traditional dressmaking, cooking and hairdressing for girls and auto-mechanics and carpentry for boys). There is a limit to the demand for such services; a number of them become underemployed or go back into petty trading, after training.

It is estimated that over 60 per cent of JSS graduates enter the informal traditional apprenticeship system or join the ranks of the unemployed in urban centres. Under the GPRS, the National Vocational Training Institute (NVTI) is to open new centres in regional and district capitals. This is to increase intake and promote community and vocational/technical skill training. In addition, social welfare training centres as well as rehabilitation centres, hitherto exclusively reserved for persons with disability are to be opened up to the public. Vocational/technical training curricula are also being reviewed to include entrepreneurship and cooperative programmes so as to improve its relevance to the current labour market. Another programme would be to strengthen the traditional apprenticeship system so as to improve and increase productivity.

All these programmes address the supply side of skilled labour. Demand for skilled workers also needs to be addressed. Many of the young people on the street do not have skills. There are also many others who have acquired skills but are either on the street hawking or engaged in activities that require no training. They either do not have the necessary tools and logistics or do not have a market for their products. For example, with the current multiplicity of driving schools, some young people mobilize money to obtain professional driving licenses, but do not have vehicles to drive after training.

Institutions are training boys and girls in the same kind of vocations (basically, dress-making and hair-dressing for girls and carpentry, mechanics and others for boys). The policy to set up vocational centres in district capitals should not replicate the traditional vocational training. The type of training institution to be set up in each district or locality should be relevant to the economic activity in that district/locality.

Increase in demand for skilled workers requires growth in the industrial sector especially the sub-sectors of manufacturing, to absorb trained mechanics, welders, blacksmiths and others. Government's industrial policies concentrate on providing infrastructure and other conditions

that can attract both local and foreign investors to set up industries. Concentration on apprenticeship and skill training is an aspect of the infrastructure provision and requires a critical assessment. A close study of the current stock of artisans, the rate of absorption on the labour market and future demand will help streamline policies and programmes for artisans' training.

The analysis also shows that 7.4 per cent of the workforce is made up of children between 7-14 years of age, the age when they should be schooling fulltime. Other studies (Ghana Child Labour Survey, 2001) show that many children do not go to school but are engaged in economic activities because their parents cannot afford the cost of education. Government's policy on Free Compulsory Universal Basic Education (fCUBE) needs to be implemented to make education accessible to poor households.

It is observed that the number of people above 60 years is about 7.2 per cent of the total population. This must be a wake up call to government and indeed to all agencies and organizations that deal with issues of ageing to step up their strategies and programmes to ensure that elderly people are fully integrated into society. Perhaps, this may call for the provision of places where elderly people may meet and share ideas with their peers as well as with the youth that visit these centers. The health concerns of elderly persons will also have to be taken seriously and measures put in place for that purpose.

### **Recommendations**

The situation where the northern sector is losing labour to the southern sector needs to be addressed since the north is known as a major supplier of food to other parts of the country. The increasing downward drift of the youth will have a long-term effect on the economy. It may affect the quantity and quality of food production, which may in turn adversely affect the nutritional status of the people. Food imports may be increased to supplement the shortfall resulting from the inadequate produce. Since foreign exchange will be needed to finance the food bill, resources will be diverted to servicing debt, which may be contracted for the purpose and this may perpetuate the poverty cycle.

The momentum of rural job creation initiatives that have started must be sustained so as to make rural areas worthwhile to live in. Access to capital must also be made less stringent.

An increasing number of children are engaged in hazardous work. In most cases, this is done at the expense of their education. The various District Assemblies are to be empowered to increase the education currently going on about the consequences of child labour.

It has been observed that many elderly people are now working. This is indicative of improvement in life expectancy. In order to keep up the gains, the health delivery system must be well resourced to continue providing quality health care.

Coverage of the SSNIT pension scheme is limited. Fund administrators must devise strategies to capture many more persons so that in the event of retirement, people can have resources to fall on. The wide discrepancy between the highest and lowest monthly pension paid by SSNIT is suggestive of the fact that there is gross imbalance in the salary and wage

administration. Urgent steps must be taken to rationalize salary and wage issues. This is a call for a clear national income policy, which could help check the brain drain and under-utilisation of trained human resources. The Universal Salary Structure that Price Waterhouse Coopers recently recommended does not seem to find favour with the generality of the people. If nothing is done, the annual ritual of agitations for wage increases will forever live with us.

It was very difficult to get information on other pension schemes especially the Government pension to compare with what SSNIT is doing. This calls for an improvement in the whole system of data collection, storage, retrieval and dissemination.

Small-scale manufacturing enterprises (not just small-scale enterprises) that do not require much capital need to be encouraged so as to de-emphasize petty trading and minor services. Simple processing of selected perishable foodstuffs should be encouraged and be made affordable to most people.

There is the need to put in place a public education campaign by the Ministry of Manpower Development and Employment and other concerned agencies on the provisions of the law on employment of persons with disabilities. The establishment of a body responsible for the affairs of people with disabilities as recommended in the revised National Population Policy must also be given top priority by the Ministry. The draft National Policy on Disability must be finalized and widely disseminated. Other issues concerning disability that need to be considered are collection of adequate data during the next population census on disability so as to know its magnitude, and affirmative action policy in educational institutions, especially tertiary institutions, to consider needs of people with disabilities in the design of courses as well as in admission procedures.

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## **CHAPTER SIX**

### **POPULATION AND ECONOMIC GROWTH<sup>6</sup>**

#### **Executive Summary**

This report uses trend data from the 1960, 1970, 1984 and 2000 censuses and attempts to analyze the effect of population changes on economic growth and cost of living. Many developed economies achieved their level of development with a manageable population growth and size, while many other success stories have done so with large populations. The impact of population variables on the growth of the economy is therefore complex and not easy to establish. Ghana's population grew from 6,726,815 in 1960 to 8,559,313 in 1970, and then to 12,296,081 in 1984, an increase of 43.7 per cent from 1970. The headcount population of 18,912,079 in the 2000 Census shows an increase of 53.8 per cent over the 1984 population.

A unit growth in population requires a unit of real growth in the economy to be able to reflect in the living standards of the population. The country's economy recorded stagnation and declines in the 1970s and early 1980s and it required drastic policy measures to be taken since 1983 to reverse the trend. Some measure of success has been achieved but the modest growth is not enough to reflect in the standard of living of the average Ghanaian. The overall growth has not kept pace with the growth in population, thus leading to an overall reduction in the standard of living of Ghanaians.

The rest of the report provides a general overview of the economy by sector and a detailed analysis for the period 1960 to 2000. An analysis of the economic characteristics of the population shows that the economically active population (15 years and older) increased by 48.6 per cent in 2000 compared with 1984. It is found that in spite of several efforts to achieve an appreciable growth in the economy, overall growth was mostly in the range of 3-5 per cent. Agriculture contributed about 36 per cent to gross domestic product (GDP) and employed about 50 per cent of the economically active population in the year 2000. Suggestions are made for reducing food wastage and for improving roads and storage facilities to attain food security.

Poverty is the biggest problem facing a large proportion of the population in the country. The report discusses the incidence of poverty and price developments. Inflation, which eats into the wages and incomes of the people, is also discussed. By 1983, inflation had risen to 123 per cent and with the introduction of some measures and favourable weather conditions, it was brought down to 40 per cent in 1984, but it rose again to 70 per cent in 1999. New policy measures reduced it to 40.5 per cent by December 2000 and further down to 15 per cent at the end of 2002. The increase in fuel prices by nearly 100 per cent in February 2003 caused inflation to rise again to almost 30 per cent.

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<sup>6</sup> This chapter has been contributed by Prof. O.A.Y. Jackson and Mr. A. Amuzu.

The microeconomic environment is reviewed in the context of the investment code and other policies which aim at bringing into fruition the government's plan of the "golden age of business". The development of the free zones has yielded some results with exports from the zones increasing from \$145 million in 1998 to \$184 million in 1999.

Food security is vital to the survival of the population and the levels of production of some basic food crops are discussed and measures suggested to ensure food security. The country now produces over one million tons of maize and eight million tons of cassava. This is however, not enough for the current population and some food crops, particularly rice, are imported to supplement the local production. The policy of government is to reduce the growing import bill on rice by encouraging local production, milling and consumption. In this regard, some abandoned mills in the northern part of the country have been rehabilitated and modern equipment, including de-stoners, provided for producing high quality rice in the country.

Ownership of selected assets gives an indication of the level of well-being of the people. The possession of land, cars, houses and consumer durables such as refrigerators, television sets and radios provide some indication of the wealth of the people. Information is compared from the 1991/1992 and 1998/1999 Ghana Living Standards Surveys to assess the change in asset ownership over the period. In 1998/1999, 13.4 per cent of the sample households owned houses, while 48.2 per cent owned television sets and 82 per cent owned a radio. Efforts have to be made by both government and the private sector to enable more people own their houses or flats by having appropriate mortgage policies and the building of affordable dwelling places. These have however, been eroded by the high lending rates and mortgages demanded by financial institutions. The demand for high rent advances from tenants has also raised the level of the cost of living of households.

Exports, both traditional and non-traditional, are also reviewed in the report. The traditional exports of gold, cocoa and timber exceeded \$1,300 million in 2000 and non-traditional exports such as processed products, horticultural products, food items (pineapples and bananas) also yielded more than \$400 million in 2000. The informal sector, which now constitutes a large sector of business activity in the country and employs the large number of young school leavers, is also reviewed. The volumes of the country's exports have been increasing over the years but the values of exports either stagnate or dwindle due to the unstable world market prices.

Some related issues such as money supply and exchange rates are also discussed. Despite policies to reduce money supply and reduce inflation, money supply continues to increase. The cedi did not enjoy any stability in 2000 and depreciated by nearly 160 per cent against the U.S dollar between January and December 2000. It has, however, remained relatively stable with the current exchange rate of the cedi to the dollar at 8,700.

With an ever-increasing population, policy measures aimed at achieving realistic growth in the economy need to be vigorously pursued by government. The agricultural sector, which is the largest contributor to GDP, and engages more than half of the economically active population, needs to be given the needed push to ensure increased food production. Road

infrastructure must be developed and improved for easy transportation of food items to marketing centres. The provision of storage and processing facilities, will guarantee the availability of food throughout the year to ensure food security for the population.

Investment opportunities abound in the country but the cost of capital is still relatively high. Lending rates of the financial institutions need to be reviewed to make credit accessible and affordable for businesses to invest and expand their activities. The level of depreciation of the local currency during the past 20 years, and particularly in 2000, does not encourage investment. Policy measures must be taken to ensure the stability of the local currency. Finally, revenue mobilization must be stepped up, through the strengthening of the revenue collection agencies, to increase government revenue for infrastructure development.

## 6.1 Population and Economic Growth

### Introduction

The aspiration of every nation is to achieve growth in its economy, a growth that would lead to an improvement in the living standards of the citizenry. Sound, prudent and workable policies and programmes are needed for the attainment of growth in all sectors of the economy. The nation's population, depending on how it is harnessed, could have positive or negative impact on the performance of the economy.

Ghana's headcount population, which at 2000 stood at 18,912,079, had increased from 6,726,815 in 1960 to 8,559,313 in 1970 and then to 12,296,081 in 1984. The 2000 population made up of 9,537,382 males and 9,554,697 females, giving a sex-ratio (number of males to 100 females) of 97.9 represents a 53.8 per cent increase over the 1984 population. These translate into a growth rate of 2.6 per cent over the 1960-2000 period. Given that a 1.0 per cent growth in population requires a 3.0 per cent growth in the economy to lead to a real improvement in living standards, such high population growth places a heavy burden on the economy.

**Table 6.1: Share and Change in Population by Region, 1960, 1970, 1984 and 2000**

Region	Population				per cent Change		
	1960	1970	1984	2000	1970	1984	2000
Western	9.3	9.0	9.4	10.2	23.0	50.3	66.2
Central	11.2	10.4	9.3	8.4	18.5	28.3	39.5
Greater Accra	7.3	9.9	11.6	15.4	73.2	68.0	103.0
Volta	11.6	11.1	9.9	8.6	21.9	27.9	34.9
Eastern	16.3	14.7	13.7	11.1	15.3	33.2	25.3
Ashanti	16.5	17.3	17.0	19.1	33.6	41.1	72.9
Brong Ahafo	8.7	9.0	9.8	9.6	30.4	57.4	50.5
Northern	19.2 <sup>1</sup>	8.5	9.5	9.6	-43.5 <sup>1</sup>	60.1	56.3
Upper East	-	10.1 <sup>2</sup>	6.3	4.9	-	-10.4 <sup>2</sup>	19.1
Upper West	-	-	3.6	3.0	-	-	31.6
N	6,726,815	8,557,313	12,296,081	18,912,079			
Total	100.0	100.0	100.0	100.0	27.2	43.7	53.8

Source: Population Census of Ghana, 1960, 1970, 1984 and 2000.

Notes: 1. Includes Upper East and Upper West.

2. Includes Upper West.

Northern (including Upper East and West) had the highest proportion of the population in 1960 (19.2 per cent), followed by Ashanti (16.5 per cent) and Eastern (16.3 per cent). In 1970, Ashanti had the highest proportion of the population (17.3 per cent) with Eastern following with 14.7 per cent.

With the urban drift and the desire to work in the urban areas, the proportion of the population in Greater Accra began to increase while those of Central and Eastern started declining. In 1984, Greater Accra had the third highest proportion of the population following after Ashanti and Eastern. The results of the 2000 Census show that Ashanti has the highest proportion of the population (19.2 per cent) followed by Greater Accra (15.4 per cent). Thus, while Western, Greater Accra, Ashanti and Brong Ahafo appear to have gained proportionately, other regions have declined in their share of total population. Pressure of population is therefore more likely to be greater on the economies of these 4 regions than on the others.

The population in the Greater Accra (103.0 per cent) and Ashanti (72.9 per cent) recorded higher growths in 2000 compared to 1984. This is largely due to the influx of people from other parts of the country to Accra and Kumasi, the two largest cities and industrial centres, to engage in business activity.

An increase in the population should be matched with an appreciable growth in the economy that would cater for the needs of the population and translate into improvements in standards of living. Ghana's economy has gone through a history of ups and downs in the last twenty years. Several policy measures, including the Economic Recovery Programme (ERP) launched in 1983, have been implemented, all in a bid to bring about growth in the economy. With an ever-increasing population, economic policy measures must be aimed at improving the economy to reflect in the lives of the population. Pressure of population must certainly be part of the reason why many of the economic policies have failed to achieve the desired goals.

### **Economic Activity and Growth in Gross Domestic Product**

The economically active population is made up of the population 15 years and older who were engaged in some economic activity during the 7 days preceding the census, those who had jobs but did not work, and those who did not have jobs but were looking for jobs during the period. The 2000 Census recorded an economically active population of 8,292,114, representing 43.8 per cent of the total population. This shows an increase of 48.6 per cent of economically active persons compared with 1984.

The economically active population produces the goods and services that bring about growth in the economy. During the 1960 and 1970 censuses, this segment of the population constituted about two-thirds (68.6-69.0 per cent) of the total population. In 1984 however, this dropped to 45.4 per cent of the total population and further reduced to 43.8 per cent in 2000 (Table 6.2). The low proportions of this segment of the population in 1984 and 2000 could lead to a reduction in the production of goods and services for economic growth.

The regional distribution shows that 47.4 per cent of the population in Greater Accra are economically active, followed by Brong Ahafo (45.1 per cent), Ashanti (44.6 per cent) and Western (44.5 per cent). These incidentally are the regions that have gained in the share of national population, which indicates that the increased shares may be labour migrating into these regions rather than the national increase.

**Table 6.2: Economically Active Persons as Proportion of Population (15 years and older) by Region**

Region	1960	1970	1984	2000
Western	74.9 <sup>1</sup>	74.3	47.1	44.5
Central	-	75.5	45.5	42.1
Greater Accra	66.8	67.0	45.3	47.4
Volta	73.3	73.3	46.1	42.7
Eastern	74.2	71.9	46.5	44.0
Ashanti	74.3	72.3	45.6	44.6
Brong Ahafo	68.0	76.8	45.2	45.1
Northern	50.9 <sup>2</sup>	57.6	40.4	40.0
Upper East	-	48.9 <sup>3</sup>	46.3	39.2
Upper West	-	-	45.7	41.8
Total	68.6	69.0	45.4	43.8

Source: Population Census of Ghana, 1960, 1970, 1984 and 2000.

Note: 1.includes Central

2 includes Upper East and Upper West

3.includes Upper West

The proportion of the employed population engaged in agriculture (which is the largest contributor to gross domestic product) also showed significant reductions between 1960 and 2000. The proportion of the employed persons engaged in agriculture in 1960 which was 61.8 per cent, dropped to 57.2 per cent in 1970 and further to 50.7 per cent in 2000. This may be the result of out-migration from agricultural production areas to urban areas of Accra, Kumasi, Tema and Sekondi-Takoradi where such labour engage in selling petty items (small quantities of chocolates, toilet rolls, dry cell batteries), which activities are not very productive. Incentive packages in the form of agricultural tools, implements and start-up capital may be able to entice some of such labour (mainly the youth) to go back into agriculture to increase production and bring about sustained growth in the economy.

The drop in the proportion of the employed population between 1960 and 2000, partly due to a general decline in economic activity especially in the industrial sector, is quite significant. This implies that more jobs would have to be created in the other sectors to engage the growing population and increase output in those sectors to improve the economy.

About half (50.7 per cent) of the working population is engaged in agriculture, hunting, forestry, and fishing activities. These activities are predominant in Ashanti, Brong Ahafo, Northern, Eastern and Western. The manufacturing sector engages about 11.5 per cent of the working population, according to figures from the 2000 census (Table 6.3). The proportion of the population engaged in manufacturing, including mining and construction activities, is highest in Greater Accra, followed by Ashanti and Western, while wholesale and retail trading activities, as well as restaurants and hotels, engage a higher proportion of people in Greater Accra and Ashanti.

**Table 6.3: Employed Persons (15 years and older) Industry by Region, 2000**

Type of Industry	Greater					Brong			Upper		Upper	Total
	National	Western	Central	Accra	Volta	Eastern	Ashanti	Ahafo	Northern	East	West	
Agriculture, Hunting, Forestry	47.7	10.3	8.1	16.6	8.4	11.2	19.4	9.9	8.8	4.3	2.9	100.0
Fishing	3	12.3	8.4	2.4	9.6	12.6	17.6	13.8	12.7	6.1	4.4	100.0
Mining and Quarrying	1.9	10.8	16.1	20.0	18.0	12.9	4.5	8.2	8.6	0.5	0.5	100.0
Manufacturing	11.5	15.3	6.6	14.2	3.6	10.4	31.4	8.7	5.6	2.8	1.5	100.0
Electricity, Gas and Water	0.4	9.8	8.6	23.9	8.0	9.4	20.8	6.7	6.3	4.3	2.3	100.0
Construction	2.5	8.1	8.4	25.5	5.3	13.6	14.7	10.0	11.5	1.5	1.4	100.0
Wholesale and Retail Trade	15.3	7.7	7.5	36.8	6.9	7.7	21.7	4.8	3.0	2.1	1.8	100.0
Hotels and Restaurants	3	7.0	6.3	33.3	6.9	9.9	23.8	4.8	4.3	2.7	0.9	100.0
Transport, Storage and Comm.	3.6	9.7	7.8	31.2	5.6	10.1	22.9	5.0	4.6	2.2	0.9	100.0
Financial Intermediation	0.6	8.9	6.8	35.0	5.1	9.3	23.3	5.8	3.2	1.4	1.2	100.0
Real Estate/Business Activity	1.1	7.6	5.0	44.2	3.5	6.0	23.0	4.3	3.1	1.7	1.6	100.0
Public Administration	1.4	4.7	8.7	42.0	3.4	6.9	16.9	7.8	7.4	1.4	0.9	100.0
Education	2.9	7.9	5.5	47.4	6.1	7.2	12.5	5.5	4.0	2.4	1.5	100.0
Health and Social Work	0.9	9.3	9.0	20.4	9.4	11.7	20.7	8.9	5.3	2.8	2.4	100.0
Other Community Service	3.4	8.3	7.2	30.2	8.7	10.6	18.8	6.1	4.2	3.3	2.6	100.0
Private Households	0.8	6.9	8.0	29.4	5.6	11.7	21.9	8.8	4.2	1.8	1.5	100.0
Extra-Territorial Organization	0.1	5.8	4.6	33.9	3.1	5.7	15.4	6.9	12.7	7.4	4.5	100.0

Source: Population and Housing Census of Ghana, 2000.

### **Economic Growth between 1984 and 2000**

The Ghanaian economy experienced grave deterioration during the mid-seventies to the early part of the 1980s. By 1983, inflation had risen to a level of 123 per cent as a result of the severe droughts of 1983 leading to crop failure and the influx of refugees from neighbouring countries. Gross domestic product also registered a decline of 4.8 per cent in 1983. The Economic Recovery Programme (ERP), launched in 1983, was to reverse the decline in the economy.

The main feature of government economic policy in 1983 was the overhaul of policy in the area of incomes and pricing, including the pricing of foreign exchange, to provide incentives for production. The policy reforms for structural adjustment, which took root in 1984, led to an 8.6 per cent growth in real gross domestic product after an unusually poor performance in the preceding years (Table 6.4). The agricultural sector recorded a growth of 10 per cent; the industrial sector grew by 9.1 per cent while the services sector experienced a growth of 6.6 per cent.

Inflation, as measured by the consumer price index, dropped to 40 per cent in 1984 from the 1983 level of 123 per cent. The fall in inflation was due to the combined effects of a bumper harvest, increased availability of capital goods and consumer items and demand management through restraint on expansion of money supply. As a result of these measures, food prices fell by one-fourth in the second half of 1984 compared to the first half.

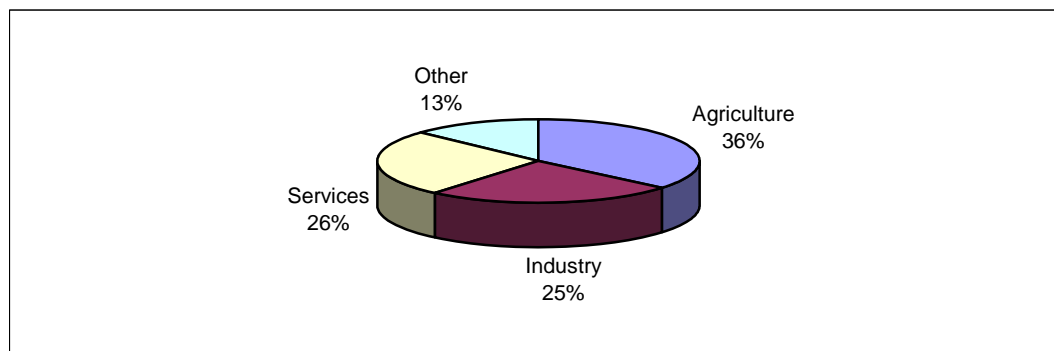
The main indicator for measuring growth in the economy is the growth in gross domestic product (GDP). Real GDP recorded a growth of 5.1 per cent in 1985 compared to the 8.6 per cent achieved in 1984 and stabilized around 5 per cent until 1990 when the growth rate fell to 3.3 per cent. The economy has experienced consistent growth of between 4.2 per cent and 5.2 per cent since 1991, except in 1992, 1994 and 2000, when it dropped to 3.8 per cent.

**Table 6.4: Economic Growth by Sector (1984-2002)**

Year	Total	Agriculture	Industry	Services
1984	8.6	10.0	9.1	6.6
1985	5.1	0.6	17.6	7.5
1986	5.2	3.3	6.6	6.7
1987	4.8	0.0	11.3	9.4
1988	5.6	3.6	7.3	7.8
1989	5.1	4.2	4.1	5.8
1990	3.3	-2.0	5.4	8.8
1991	5.0	4.0	3.9	6.1
1992	3.9	-0.6	5.8	6.3
1993	5.0	2.5	4.3	7.2
1994	3.8	1.0	1.3	5.0
1995	4.5	4.2	3.3	4.9
1996	5.2	4.3	4.2	6.3
1997	5.1	3.3	6.4	6.2
1998	4.6	5.3	3.2	6.0
1999	4.4	3.9	4.9	5.0
2000	3.7	2.1	3.9	5.4
2001	4.2	4.0	2.9	5.1
2002	4.5	4.4	4.7	4.7

Source: Budget Statement and Economic Policy of Government, 1984-2002

Ghana's economy is made up of three major sectors, agriculture, industry and services. The contribution of the various sectors to the nation's gross domestic product for 2001 is presented in Figure 6.1. The agricultural sector, which engages about half of the economically active population, continues to make the largest contribution to GDP with a share of about 36 per cent.

**Fig. 6.1: Relative Contribution of Sectors to Gross Domestic Product, 2001**

Agriculture continues to form the backbone of the nation's economy. Indeed, the performance of the sector largely determines the overall performance of the economy. The sector has, however, experienced a number of problems over the last two decades, mainly due to natural causes. Ghana's agriculture is mainly rain-fed and whenever the rains fail, the sector is severely affected. In 1983, for example, as a result of severe droughts and bushfires, there was a sharp fall in food production, leading to a high rate of inflation. The sector,

however, recovered in 1984 and recorded a growth of 10 per cent, the result of good rains. The number of people engaged in the crops, cocoa, forestry and logging sub-sectors increased by 23 per cent in 2000 compared to 1984, while for the fisheries, the number of persons engaged grew by about 146 per cent. This has, however, not reflected fully in the overall growth of the sector.

After the recovery of 1984, growth in the sector slowed down until 1995, as a result of unfavourable weather conditions which led to crop failure and the exodus of the youth to urban areas, leaving the aged to farm. Since 1995, average growth rate in the sector has been about 4.0 per cent (Table 6.4).

Output of crops and livestock has recorded an average growth rate of 4.4 per cent since 1996 (Table 6.5) except in 2000. The output of cocoa has not been consistent. The crop recorded an average growth of 6.0 per cent since 1996, except in 1999 and 2001, when it recorded negative growth. Growth in the forestry and logging sub-sector was consistently high during the period 1996-2001, to the extent of recording rates of 10.0 per cent in 1998 and 11.0 per cent in 2000. The output of fishing continued to be poor, recording a growth of not more than 2 per cent during the period 1996-2001. In spite of the increases in food production, food items such as rice continue to be imported to meet the consumption needs of the increasing population.

**Table 6.5: Growth in the Agricultural Sector, 1996-2001 ( per cent)**

Year	Sub-sector				
	All Agriculture	Crops and Livestock	Cocoa	Forestry and Logging	Fisheries
1996	4.3	3.9	6.0	2.3	2.0
1997	3.3	4.5	4.0	5.6	1.0
1998	5.3	4.4	11.0	10.0	1.8
1999	3.9	4.7	-0.5	6.8	1.0
2000	2.1	1.1	6.2	11.0	1.6
2001	4.0	4.6	-1.0	4.8	2.0

Source: Budget Statement and Economic Policy of Government 1997-2002

The government's policy for the agricultural sector since 1996 is to achieve a middle-income status by transforming the agricultural sector into a more productive one. The sector is estimated to be operating at just 20 per cent of its potential and government policy is to intervene and support the emergence of medium and large-scale agricultural ventures that would form the nucleus around which out-grower farmers would operate while, at the same time, improving the productivity of small-scale producers.

Selected farmers were to be encouraged to integrate agro-processing into their farming activities and serve as service and marketing outlets for the out-growers. Interventions in the form of training and extension service delivery, provision of infrastructure, credit delivery for input supply, production and marketing, were the focus of activities to address the numerous problems facing the agricultural sector.

In 2001, as part of government policy to reduce importation of rice by 30.0 per cent by 2004, support was given to smallholder farmers in the three northern regions to cultivate an

additional 4,100 hectares, using improved seeds, water management and harvesting techniques. The Afife Irrigation Project in the Volta Region was also rehabilitated and farmers were supported with credit, resulting in the doubling of the area under rice cultivation from 440 to 880 hectares. The Nasia Rice Mill in the Northern Region was reactivated to its maximum capacity, and rice mills with de-stoners were introduced to 12 rice-growing areas in the country. In addition, five private sector operators were organized to buy paddy rice, mill and bag, using their own labels.

Under the President's special initiative on cassava, planting materials were supplied to cover 993 hectares in four pilot districts. A total of 3,577 hectares of four improved varieties of cassava were multiplied in 43 districts across the country, under the Root and Tuber Improvement Programme (RTIP).

Government policy for the agricultural sector in 2002 was aimed at raising agricultural production and supporting efforts with enhanced facilities such as credit, marketing, storage and processing. It is not clear how many farmers benefited from these facilities, or whether they were in significant quantities to be beneficial. A much smaller population would certainly have ensured that these facilities reached many more farmers and in greater quantities too.

The industrial sector contributes about 25 per cent to GDP and employs 13.4 per cent of the economically active population. It recorded an average growth rate of 10.4 per cent between 1984 and 1988 but slumped to below 5 per cent growth rate from 1989, the result of the energy crisis which affected industry as a whole, hitting a low of 1.3 per cent in 1994. The sector recorded an average growth of 4.3 per cent between 1995 and 2000 and is projected to grow by 4.7 per cent in 2002 (Table 6.6).

**Table 6.6: Growth in the Industrial Sector, 1996-2001 ( per cent)**

Year	All Industry	Manu- facturing	Mining and Quarrying	Electricity and Water	Con- struction
1996	4.2	3.5	4.2	6.4	6.1
1997	6.4	7.3	5.6	4.8	4.4
1998	3.2	3.0	4.0	-10.0	5.5
1999	4.9	4.8	3.0	7.8	5.0
2000	3.9	3.8	1.5	4.5	5.1
2001	2.9	3.7	-1.6	4.2	4.8

Source: Statistical Service, Quarterly Digest of Statistics

Manufacturing, which makes the largest contribution to the industrial sector, performed well in 1997 compared to 1996. There were however, growth rates of less than 4 per cent recorded in 1998, 2000 and 2001.

As part of government efforts to assist the private sector to take advantage of the African Growth and Opportunities Act (AGOA), a garments and textiles training centre was established to train operators and computer-aided designers and manufacturers to take advantage of new developments in the textiles and garments industry. This sector of industry has the potential to increase manufactured exports, generate employment and move the nation's industry forward.

The National Board for Small Scale Industries (NBSSI) is also to provide entrepreneurial, managerial and technical skills training to enhance the capacity of small and medium-scale enterprises (SMEs) and improve their access to credit through increased supply of funds and simplified loan application and processing procedures.

Even though there has been some expansion in mining operations in the country, with the number of persons employed increasing by nearly 500 per cent in 2000 compared with 1984, the performance of the sub-sector in 2000 and 2001 was not encouraging, with output recording a decline of 1.6 per cent in 2001. The dismal performance was due partly to low production but largely to non-favourable world market prices. The effort of government to sustain mining operations involved increasing investment in the sub-sector and the diversification of the minerals base to relieve the economy of shocks and generate revenue.

The electricity and water sub-sector has also seen significant expansion. With Government determined to expand the industrial sector, electricity was extended to numerous communities across the country. This was to assist in the expansion of cottage industries which required electricity to operate. Potable water supply was extended to rural communities all over the country, while in the urban areas water supply systems were repaired or expanded to meet the ever-increasing demand for water. The provision of water to the rural areas is part of government effort towards poverty reduction.

The services sector which engaged one-third of the economically active population contributes significantly to the nation's economy. The sector has, in the last five years, contributed on average about 27 per cent to gross domestic product. The sector, which is made up of six sub-sectors, has undergone substantial expansion during the past few years. The sector experienced a growth of above 5.0 per cent in 2001 and was expected to grow by 4.7 per cent in 2002.

The contribution of the community, social and personal services sub-sector has grown from 1.1 per cent in 1997 to 7.0 per cent in 2001 (Table 6.7). The high growth is the result of the expansion in the provision of educational, health and other social infrastructure across the country. The provision of such infrastructure is part of the government's policy aimed at reducing poverty. The policy on the health sector is the expansion of coverage and the improvement in the quality of health services and infrastructure. As a result, significant improvements were made in public health service delivery.

Activities in the wholesale, retail trade, hotels and restaurants have also shown some improvement. The hotel industry continued to register a boom, as a result of government commitment to develop tourism, as the second largest foreign exchange earner. The number of persons employed by the hospitality industry has increased by about 1,300 times from 17,990 in 1984 to 251,203 in 2000. Tourism sites were identified and developed while workshops and training programmes were organized to improve the skills of operators in the hospitality industry. The sub-sector recorded an average growth rate of 6.5 per cent between 1996 and 2000.

The policy to develop Ghana as an internationally competitive tourism destination achieved some measure of success in 2001. The goal to develop tourism as a leading socio-economic sector must be pursued with policies such as building attractive and reasonably priced hotels and developing good tourist sites to accommodate population movements into the country as well as within the country.

**Table 6.7: Growth in the Services Sector, 1996-2001( per cent)**

Sub-sector	1996	1997	1998	1999	2000	2001
All Service	6.3	6.2	6.0	5.0	5.4	5.1
Transport, Storage and Communications	5.0	7.2	5.5	6.0	6.0	6.1
Wholesale and Retail Trade, Hotels and Restaurants	8.3	9.5	6.0	6.5	4.0	4.6
Finance, Insurance, Real Estates/ Business Services	4.2	6.7	6.5	4.0	5.0	5.0
Government Services	2.4	4.3	6.2	4.0	6.0	6.1
Community, Social and Personal Services	1.1	7.3	5.9	5.9	6.9	7.0
Producers of Private Non-Profit Services	1.8	7.2	5.1	4.1	3.1	3.2

Source: Statistical Service, Quarterly Digest of Statistics

Transport, storage and communications recorded consistent growth (average of 6.0 per cent) during the period under review. There have been a number of developments in the sub-sector, particularly with regard to communications. Private participation in telecommunications has grown significantly with the introduction of mobile phones and electronic mail. A substantial expansion has taken place in the provision of telephone facilities, with fixed telephone line subscription almost doubling between 1997 and 2001 (from 101,000 to 200,000) as a result. The provision of internet services has also grown over the last couple of years. The electronic media also received a big boost during the middle to the late 1990s. For the first time in the history of the nation, government allowed private participation in radio and television broadcast.

Finance, insurance, real estates and business services also enjoyed some growth during the period. A number of private financial institutions and insurance agencies were opened in the mid-1990s. Some of them have been mobilizing savings and providing credit to small-scale entrepreneurs for the expansion of their business activities to contribute to the growth of the economy.

The provision of infrastructural facilities (electricity, water, schools, hospitals) and services (hospitality, telecommunication, credit, loans) has obviously been in response to an available market and real demand from a population long deprived of these basic necessities of life.

While population may not have directly influenced the economic fortunes of the country, one cannot fail to observe that the economic fluctuations of the 1960-2000 period were accompanied by periods of net emigration or immigration. The period of the 1960s was one of net immigration from neighboring countries to work in the mines and cocoa farms. The expulsion, in 1969 of foreign nationals without valid papers, coincided with worsening economic fortunes, which continued into the 1970s and early 1980s. At the same time, the economies of Nigeria and la Cote d'voire improved, resulting in mass net emigration. With improvement in the economy after 1984, coupled with deterioration in the economic and political landscape in neighboring countries, Ghanaians were repatriated in 1986 from Nigeria, while others returned voluntarily. There is evidence of a return to net emigration

since the mid 1990s, mainly of professional and skilled labour, to European and American destinations.

Even though the 2000 Census indicates that the population has increased by nearly 54 per cent over the population in 1984, the economy has still not attained a growth that would reflect in the standard of living of the people. Poverty is still rife in the society and concerted efforts are needed to make life bearable for the ever-increasing population. An overall economic growth rate of 4 to 5 per cent and a population growth rate of 2.7 per cent means a real growth rate of 2.0 per cent. This is too low for the people to feel any real improvement in their standard of living.

## **6.2 Price Stability and Poverty Reduction**

### **Introduction**

The stability of prices of basic needs of the population (food, clothing, shelter,) is essential for a nation's development. When prices of basic needs are affordable, there is little agitation in the society and all energy is geared towards increased productivity for economic development. On the other hand, when prices are high and goods and services are unaffordable, there is agitation, particularly on the labour front, for increases in wages and salaries, sometimes leading to loss in productivity and to political instability.

This section reviews the levels of inflation over the last seven years and explores measures that can be taken to maintain reasonable levels of inflation. The standard of living of a person depends largely on how much income is derived from the economic activity the person is undertaking and his consumption expenditure pattern. Since inflation is dependent on the prices of commodities, the report also examines the levels of wages and salaries paid to workers and what needs to be done so that the average worker does not suffer from uncontrollable inflationary pressures. The performance of the economy and production of food is taken up in a follow-up section.

### **Inflation over the last seven years (1996-2002)**

After the severe economic declines that characterized the 1970s and early 1980s, the Economic Recovery Programme (ERP) was launched in 1983 to reverse the trend. The ERP was aimed at revamping the economy to achieve growth and bring down the level of inflation which had risen to as high as 123 per cent in 1983. The policy reforms led to a significant improvement in the economy, with inflation being reduced to 40 per cent in 1984. As mentioned earlier, this fall in inflation was due to the combined effect of a bumper harvest, increased availability of capital goods and consumer items, and demand management through restraint on the expansion of money supply.

The Consumer Price Index (CPI) is used as a measure of the changes in the prices of goods and services in the economy. These changes in prices are used in deriving the levels of inflation in the country. The level of inflation, at any given point in time, depends on a number of factors, both internal and external.

The inflation over 12 months, which stood at 40.9 per cent in December 2000, declined to 21.3 per cent at the end of December 2001. By end year 2002, inflation had declined further to 13.9 per cent. On the other hand, the prices of food items rose faster (19 per cent) between January and December 2002 than in 2001 (14.3 per cent). The annual average inflation for 2000, which was 16.7 per cent, increased to 34.1 per cent in 2001, before declining to 21.5 per cent in 2002.

### **Causes of inflation**

There are several causes of inflation in the country including the availability and prices of food and the use of imported items. The country imports a variety of goods, including food, crude oil, vehicles, machinery and several other products. Most household items, including clothing, found on the market, are imported with foreign currency. Locally manufactured goods also have a sizeable import of inputs. Thus, any changes in import prices and the foreign currency rates, affect the prices of goods on the Ghanaian market and hence, on inflation.

Another cause of inflation is the level of production and availability of locally produced food items on the market. Agricultural production is mainly rain-fed and thus production has relied on the vagaries of the weather. Storage and preservation of food is also deficient and thus, in the lean season of March to June of every year, food prices usually rise leading to seasonal increase in inflation until the rains fall after June.

Frequent increases in the price of fuel and fuel products, as well as utility tariffs, also lead to increases in the prices of goods. It is estimated that transportation charges constitute about 70 per cent of the marketing cost of food items. Consequently, when fuel prices are increased, the prices of commodities, particularly food items, which are transported from the hinterland, go up automatically.

An important factor in the level of inflation therefore is the population and its various components. The age sex structure could determine the types of goods to import, the size of population would determine demand for food and import of non-food items, while the educational, occupational and income composition could influence taste for goods and services and the ability to pay for these.

### **Policy suggestions for reducing and maintaining inflation**

The policy measures that need to be taken to reduce inflation include first, and foremost, an increase in the production of food crops and where Ghana has a comparative advantage, raw materials like cotton and palm oil. Food, especially the perishable ones, such as tomatoes and plantain, should be preserved where it cannot be used immediately. This will help to stabilize prices when there is no availability of fresh food in the lean season.

Prices can also be stabilized if there is judicious and prudent use of fuel and utilities as well as careful planning towards increasing the prices of fuel products and tariffs for utility services. Gradual increases in prices of these services, at determined intervals, will be more favourable than sudden high percentage increases.

The price and stability of foreign exchange, in relation to the cedi, depend on the economic fundamentals of the country as a whole, which requires a regime of more exports than imports, as well as increased production of what the country consumes, that is, imports substitution industrialization.

### **Wages and Salaries**

Wages in Ghana have been relatively low at all levels. The minimum wage, which is the level below which no employer should pay his workers, is currently at 9,200 cedis per day, slightly over one dollar a day (Table 6.8). The minimum wage has improved in real terms between 1997 and 2003, except in 2000. In nominal US dollar terms, the minimum wage has been quite stable around a dollar a day, except in 1990, 1993, 1994, 2000 and 2001.

**Table 6:8 National Minimum Wage, 1990-2003**

Year	Minimum Wage (Cedis)		Minimum Wage (US Dollars)	
	Nominal	Real	Nominal	Real
		1997=100		1997=100
1990	218.00	1.54	0.67	4.21
1991	460.00	2.74	1.25	6.97
1992	460.00	2.49	1.05	4.93
1993	460.00	2.00	0.71	2.24
1994	790.00	2.74	0.83	1.78
1995	1,200.00	2.61	1.00	1.71
1996	1,700.00	2.53	1.04	1.30
1997	2,000.00	2,000.00	0.98	0.98
1998	2,460.00	2,141.71	1.06	0.94
1999	2,900.00	2,201.76	1.10	0.85
2000	3,500.00	1,890.78	0.66	0.25
2001	5,500.00	2,449.62	0.77	0.22
2002	7,150.00	2,765.06	0.91	0.24
2003	9,200.00	2,879.19	1.07	0.25

Source: Computed from figures from Ministry of Manpower Development and Employment.

Note: Figures for 1990-1996 not comparable due to a change of CPI base in 1997.

Using 1997 as base, the change in the real minimum wage between 2000 and 2002 was 46.2 per cent, while the increase from 2002 to 2003 was only 4.1 per cent. This shows that even though increases in the normal minimum wage might be high, in real terms, the wage is still low. In relation to the U.S dollar also, the minimum wage has deteriorated over time, from US\$4.21 and consistently down to US\$0.2 in 2003.

Several attempts have been made at improving the levels of public sector wages which are particularly low. Wages in the informal sector are individually negotiated and determined by the establishment and are relatively low. Senior workers in the private formal sector, and to a lesser extent, the public sector, receive fringe benefits as additional emoluments. While Government and Employers recognize that levels of wages are low and make efforts at improvement, the low productivity levels that put a lid on the ability of employers to pay higher wages and the sheer numbers of the labour force, become serious obstacles in wages and salary negotiation.

### **Poverty Reduction Strategies**

The level and extent of poverty are indications of the living standards of a population and are dependent not only on the level of economic growth but also on the size and growth of the population. The Ghanaian economy suffered severe setbacks in the 1970s and early 1980s leading to deterioration in the living standards of the population.

A review of the performance of the economy under the ERP in 1986 showed that targets set for the growth in the economy could not be achieved. The limitations in the overall performance of the economy were attributed to the poor administration and implementation of key programmes. After the review, programmes such as the Ghana Living Standards Survey (GLSS) and the Programme of Actions to Mitigate the Social Cost of Adjustment (PAMSCAD) were instituted to find ways to cushion the population from the effects of measures taken under the recovery programme.

The Ghana Living Standard Survey (GLSS) of 1987/1988 showed that 36 per cent of the population was below the higher poverty line and 7 per cent below the hard core or extreme poverty line. Using a much more improved method and measurement procedure for the 1998-1999 survey, the estimates for the upper poverty has showed that the incidence of poverty in 1991-1992 was 51.7 per cent, with a lower poverty line incidence of 36.5 per cent (Table 6.9). The upper line incidence declined to 40 per cent in 1998/1999 while the lower line reduced to 27 per cent.

**Table 6.9: Incidence of Poverty by Locality, 1991/1992 and 1998/1999**

Locality	Upper Line = 900,000 Cedis		Lower Line = 700,000 Cedis	
	Poverty Incidence	Contribution to total poverty	Poverty Incidence	Contribution to total poverty
<b>GLSS3 – 1991/1992</b>				
Accra	23.1	3.7	11.3	2.5
Urban Coastal	28.3	4.7	14.2	3.4
Urban Forest	25.8	5.5	12.9	3.9
Urban Savannah	37.8	3.9	27.0	3.9
Rural Coastal	52.5	14.4	32.8	12.7
Rural Forest	61.6	35.3	45.9	37.3
Rural Savannah	73.0	32.6	57.2	36.3
Urban	27.7	17.8	15.1	13.7
Rural	63.6	82.2	47.2	86.3
All	51.7	100.0	36.5	100.0
<b>GLSS4 – 1998/1999</b>				
Accra	3.8	0.8	1.7	0.6
Urban Coastal	24.2	4.8	14.3	4.2
Urban Forest	18.2	5.4	10.9	4.8
Urban Savannah	43.0	5.2	27.1	4.9
Rural Coastal	45.2	16.7	28.2	15.3
Rural Forest	38.0	30.4	21.1	24.8
Rural Savannah	70.0	36.6	59.3	45.5
Urban	19.4	16.3	11.6	14.4
Rural	49.5	83.7	34.4	85.6
All	39.5	100.0	26.8	100.0

Sources: Ghana Statistical Service (1995), *Poverty Trends in the 1990s*.

This decline in poverty was however, not evenly distributed across the country. Poverty continues to be most prevalent in rural communities, especially in rural forest and rural savannah, where 46 per cent of the population live below the lower poverty line. The incidence of poverty is also high among food crop farmers, with 58 per cent of the poor living in households whose main economic activity is food crop cultivation. These are the groups of the population who lack the resources to be able to take advantage of whatever opportunities may be created in the economy.

The Ghana Poverty Reduction Strategy (GPRS) policy is to guide and support growth in the economy and reduce poverty over the period 2002-2015. It is based on the conviction that an effective management of the economy is needed to create wealth for the benefit of all Ghanaians. This is to be achieved through the transformation of the economy to promote growth, an accelerated poverty reduction and the protection of the vulnerable and the excluded. It also addresses population-related issues such as fertility reduction and spatial redistribution.

Poverty in Ghana is overwhelmingly a rural phenomenon; as such any programme aimed at poverty reduction would have to be targeted at the rural population. During the past few years, a number of policy measures have been taken to reduce the level of poverty. These include budgetary allocations to the social sectors for utilization in the provision of basic social services such as schools, clinics and potable water. This is to improve access to basic services in education, both formal and informal, primary health care and rural infrastructure. The poor are mainly food crop farmers (58 per cent) who need to be supported to either increase their production or add value to what they produce to earn more income. If poverty among this group is to be reduced, then agricultural policies must aim at providing inputs (both material and financial) to these farmers to increase their output and also have ready markets for their produce.

A major problem facing food crop production relates to post-harvest losses. It is estimated that about 20 per cent of food crop production is wasted. It is therefore necessary that markets are readily available for food crops produced. It is worth noting that the private sector is being encouraged to establish agro-processing and storage facilities to ease the problem.

The Village Infrastructure Project (VIP) initiative through the provision of rural water, rural transport and post-harvest and marketing infrastructure. was aimed at improving the quality of life of the rural population through improved village-level infrastructure and institutional strengthening. The provision of these facilities will help in reducing post-harvest losses, and provide ready markets and better prices for food crops.

The provision of good roads and simple vehicles for transporting food from the growing areas, would help reduce the cost of transporting food to the marketing centres. This would lead to low prices for food items and make them affordable to all. If the food could be readily transported at the farm gates, farmers would be relieved of the fear of their produce perishing, and are likely to receive reasonable prices for their produce and improve their incomes. This would ultimately help in ensuring sustainable food security for the population.

### **6.3 Microeconomic Environment and Investment Policy**

#### **The Microeconomic Environment**

A nation's development depends on the performance of business enterprises operating within the economy. The performance of these businesses in turn depends, to a large extent, on prevailing market conditions; it is important therefore that the microeconomic environment is conducive for the transaction of business.

The government's policy is to make the private business sector the "engine of growth" of the economy, creating the wealth needed for poverty reduction. A number of measures have been instituted to encourage the establishment of small and medium-scale enterprises (SMEs). These include training programmes to enhance the capacity of entrepreneurs and improve their managerial and technical skills. Many of these enterprises have, in the past, suffered from lack of credit, resulting from high interest rates, leading to their collapse.

The private sector engages 88.3 per cent of the economically active population and contributes significantly to the output of the economy. Its potential is enormous and every effort must be made to assist it to grow. Private businesses have had problems accessing credit to expand their operations and contribute to the growth of the economy. There are plans to support the establishment of at least 10 small and medium scale fruit processing plants, 3 tomato processing plants, and 10 small and medium scale brown sugar production plants. Appropriate financial arrangements need to be made to help in achieving these targets. A slow growing population would not exert too much pressure on the economy and would release resources that could be channeled into improving the macro economic environment for businesses.

#### **Treatment of Businesses**

The continued operation of a business enterprise depends on its production costs and its competitiveness in the marketing of its products. An enterprise that is not able to recover its costs and make profit will obviously not be able to reinvest for continued production and will be forced to fold up. It is important, therefore, that some measures are instituted that will not only protect these companies from competition, but also make them competitive on both the domestic and global markets.

Ghana is operating a liberalized market economy which allows for the free importation of all kinds of goods into the economy. Some of these imported goods compete with the locally produced goods in terms of pricing. In other countries, especially in the East, the population factor is important in low production costs. As a result, the prices of some imported goods are lower than those produced locally and attract higher patronage. In Ghana, labour could also play an important role if skills could be developed and employed in large numbers to produce finished and well packaged goods.

#### **Policies on Investment (The Investment Code)**

Investment is an important component of a nation's drive towards economic growth. Adequate investment is needed for the production and distribution of goods and services to

earn income for developmental purposes. Policies on investment must therefore aim at attracting both local and foreign investors to invest in the economy. The investor must have confidence and be assured that the investment made would grow and yield desirable results.

The Ghana Investment Promotion Centre (GIPC) was established as a corporate body to initiate and support measures that will enhance the investment climate in the country and promote investments in and outside the country through effective promotional measures. The Centre has registered 1,309 foreign direct investment (FDI) projects in the areas of manufacturing (368), tourism (153), building and construction (106) agriculture (105) and export trade (91). These were made up of 912 joint foreign-Ghanaian and 397 wholly foreign-owned projects.

The establishment of these projects is expected to lead to the creation of jobs (it is envisaged that 70,000 jobs would be created) and provide employment for the population and thereby bring income to the population. In addition, the output of these establishments has the potential of improving the growth of the economy.

The work of the Centre is crucial to the promotion of investment in the economy, since investors need information and all the assurances regarding an environment conducive for investment. The role of the Centre is a challenging one and there is the need for relevant research in order to make available to the potential investor enough information that will attract investment into the country.

### **Incentives for Investment**

A stable political environment is essential for attracting potential investors to invest in a country. Ghana has enjoyed relative peace compared to countries within the West African sub-region and has been practising a multi-party democratic system of government for the past 10 years. The fear of the overthrow of a ruling government, and the subsequent seizure of property, discourages potential investors from investing. A stable political climate, on the other hand, increases investor confidence and everything must be done to sustain the current political atmosphere prevailing in the country.

An attractive package is also essential for enticing investors to do business in the country. One way of attracting investment is to make incentives available to potential investors, both local and foreign. A number of automatic incentives and benefits, including import duty exemptions, tax exemptions and investment guarantees, have been provided under the law.

Potential investors to Ghana are exempted from the payment of import duty on plant and machinery, equipment and parts imported for investment purposes. With the exception of goods imported for the educational, health and agricultural sectors, all zero-rated goods attract a one per cent processing fee. Concessionary duty is provided for some selected equipment. Automatic data processing machines (and units thereof) attract a 12.5 per cent value added tax (VAT) and no import duty. In the case of knives and cutting blades as well as electric motors and generators, there is no VAT charged and import duty is 5 per cent. Air-conditioners, refrigerators, television sets and public address systems attract zero VAT and 10 per cent import duty. Imported vehicles, such as pickups, vans and trucks are not dutiable

but attract a value added tax of 12.5 per cent, while commercial vehicles attract an import duty of 5 per cent.

Other benefits to be derived by potential investors are in the areas of tax holiday and locational incentives. The levels of tax holiday range from 5 to 10 years, depending on the kind of investment. Investment in real estate, poultry and fish farming, livestock and cash crops attract a 5-year tax holiday, while investment in rural banks, cattle ranching and tree cropping attracts a 10-year tax holiday. Manufacturing industries locating in regional capitals other than Accra and Tema enjoy 25 per cent tax rebate, while those locating elsewhere in the country enjoy a tax rebate of 50 per cent.

Losses can be carried forward for up to 5 years for all companies, except those in insurance and mining. While insurance and mining companies carry forward their losses indefinitely, in the case of mining companies, it is restricted to the capital allowance granted for the year. There are guarantees to all enterprises investing in the economy, including the transferability of dividends or net profits attributable to the investment, payments in respect of foreign loan servicing and remittance of proceeds in the event of sale or liquidation of the enterprise.

### **Creation of the Free Zone Enclaves**

The Ghana free zone enclaves are areas of land, building, airport, river port, seaport or a lake port declared for the development and management of a licensed corporate body or partnership for promotion of economic development. The main objective for the creation of the free zones is to encourage the processing of goods for export. A free zone enterprise may produce any type of goods or services except goods that are environmentally hazardous. The enterprise may process and manufacture any foreign or domestic raw material, semi-finished or finished goods for export or re-export. Regulations governing the free zones make it mandatory for enterprises operating in the zones to sell 30 per cent of their annual production to the local market.

Since its creation, a number of enterprises have invested in the free zones in the area of manufacturing, embracing fish processing, furniture production, food processing and the production of garments and beauty products. By the end of 1996, 12 companies had been given approval to operate in the export processing zones and the number rose to 37 by the end of 1997. There were 59 approved projects operating within the free zones at the end of 1998. The revenue from the exports of the zones would help improve the foreign exchange earnings of the country. In 2001, 1,500 jobs were created within the free zones to provide employment for the people. An additional 6,400 jobs were created by 25 registered firms in 2002.

As an incentive, imports of a free zone developer or enterprise into a free zone are exempt from direct and indirect taxes and duties. In addition, free zone developers and enterprises are exempted from the payment of income tax on profits for the first 10 years of operation. This is to encourage both foreign and domestic investors to invest in the free zones.

These incentives have the potential of being abused. Goods designated for the free zones may be diverted for other purposes, while developers or enterprises may fold up their operations

after enjoying the ten-year exemption from income tax on profits. Regular visits to the enterprises and inspection of premises to ascertain whether firms are complying with the rules governing the establishment of the zones would help in checking any abuses that are likely to occur.

## 6.4 Export Activity and Monetary Developments

### Traditional Export Activity

Ghana continues to depend on the export of traditional commodities for its foreign exchange earnings. These are cocoa and cocoa products, lumber and wood products and minerals. The value of export of cocoa beans reached a high of 538.4 million U.S dollars in 1998, but this declined to 312.4 million U.S dollars in 2001 (Table 6.10). The export of cocoa products experienced a downward trend between 1997 and 1999, but the value of exports increased in 2000 and 2001.

The value of exports of timber and timber products has remained virtually unchanged over the past five years. With the ban on the export of round logs, it has become extremely important for industries to install modern equipment that would not only reduce waste in the industry, but also produce quality products that would compete on the international market.

**Table 6.10: Value of Export of Traditional Commodities (Million US\$)**

Commodity	1997	1998	1999	2000	2001
Coca Beans	384.8	538.4	497.3	380.9	312.4
Cocoa Products	85.2	79.0	55.0	56.3	65.7
Timber	171.0	171.0	174.0	175.2	169.2
Gold	579.2	687.8	710.8	702.0	625.8
Manganese	11.6	12.1	21.7	29.0	23.9
Diamond	11.4	10.6	9.0	11.8	20.5
Bauxite	10.8	7.4	7.6	13.1	15.7

Source: Bank of Ghana.

Gold has taken over from cocoa as the largest foreign exchange earner during the last couple of years. The unstable world market price has, however, not favoured the nation and has affected the foreign exchange earnings of the commodity. Export values increased from 579.2 million U.S dollars in 1997 to 710.8 million U.S dollars in 1999 but the following years saw a decline in the value of gold export. Manganese exports increased significantly between 1997 and 2001. Diamonds exports have not fared well until 2001. Earnings from bauxite also experienced an increase after a decline between 1997 and 1998.

The unstable world market prices of the major commodities (cocoa and gold) have compelled government to identify other export commodities that have the potential to earn foreign exchange for the nation. For example, the nation exported more cocoa in 1999 than in 1998 (Table 6.11) but the value of cocoa exports was lower in 1999 than in 1998.

**Table 6.11: Volume of Export of Traditional Commodities**

Commodity	Volume	1997	1998	1999	2000	2001
Gold	(fine oz)	1,747,018	2,346,918	2,550,766	2,503,858	2,289,865
Coca Beans	(metric tones)	261,251	327,327	346,768	348,031	305,264
Cocoa Products	(metric tones)	53,265	48,380	39,858	57,729	59,747
Timber	(cubic metres)	442,017	416,164	433,106	498,843	478,829
Manganese	(metric tones)	355,232	386,283	656,007	929,502	1,115,000
Diamond	(carats)	562,651	555,715	487,522	666,193	878,384
Bauxite	(metric tones)	536,732	341,120	355,762	503,825	750,000

Source: Bank of Ghana.

### ***Non-Traditional Non-Food Export Activity***

The “new” export products have been termed the non-traditional exports and their development for increased production would go a long way in reducing the over-dependence on cocoa and gold for foreign exchange. The foreign exchange earnings of some non-traditional products have increased significantly during the past five years. Processed and semi-processed products contribute largely to the export earnings from non-traditional products. Earnings from these products rose sharply between 1997 and 2001. Earnings from horticultural products have grown by nearly 40 per cent between 1997 and 2001 (Table 6.12). There has not been any appreciable increase in the earnings from seafood products and the other non-traditional export products.

**Table 6.12: Value of Export of Non-traditional Commodities (Million US\$)**

Commodity	1997	1998	1999	2000	2001
Processed/Semi Processed	266.9	317.5	313.3	321.1	342.8
Horticultural Products	19.2	19.8	27.2	28.1	26.8
Sea and Seafood Products	18.7	21.0	20.9	18.6	21.8
Other Agricultural Products	15.4	30.1	30.3	24.3	12.3
Handicrafts	4.7	6.4	6.7	5.0	7.9
Game and Wildlife	0.3	0.4	0.4	0.4	0.4

Source: Ghana Export Promotion Council.

Earnings from handicrafts could increase if the finishing for the products is improved. In many instances, the quality of wood used is inferior and this does not compete well on the international market.

The Ghana Export Promotion Council (GEPC) has been organizing training programmes to enhance the capacity of exporters and identify potential markets for their products. If the non-traditional export sector is to expand to supplement the earnings from traditional exports, then the GEPC would have to identify major products, promote their production and identify external markets for their export.

### ***Informal Sector Development***

Informal sector activity has been on the ascendancy in the Ghanaian economy. It is a common scene to see people selling on table-tops or make-shift kiosks in every corner of our cities and villages. In recent times, more refined methods have been developed where container shops are built to provide shelter and protection from the vagaries of the weather. Many residential premises in the cities and large towns have also been converted into shopping centres.

The 2000 Census results show that over 80 per cent of the economically active population are engaged in the informal sector. The proportion of the female population engaged in informal sector activities is higher than the male counterparts (85.1 per cent females and 75.6 per cent males). The informal sector, which is made up largely of wholesale and retail trading activities, engages about 15 per cent of the population and contributes significantly to the economy. Even though widespread across the country, the areas of concentration are the central parts of Accra, Tema, Kumasi and Takoradi.

The ever-growing population and migration from rural areas to the urban centres have resulted in congestion in many of the large towns and cities. In Accra, the central business areas of Makola, Okaishie and Agbogbloshie, are choked with business activity to the extent that vehicular and pedestrian movement is often impeded. Sellers dealing in all kinds of goods, including clothing, household consumer items and foodstuffs, have invaded the pavements in these parts of the city. Attempts have been made in the past to re-locate particularly those who sell on the pavements, but these have failed because the traders do not find the places suitable to operate from.

Considering the important role the sector plays in the economy, any attempt to regulate its activities must be thought out carefully. One way of decongestion will be to develop satellite markets in developing suburbs, where some of them can be re-located.

### **Exchange Rate Developments**

The availability of foreign currency and a stable exchange rate are essential factors for business to thrive in an economy. The stability of the exchange rate depends on sound macroeconomic policy and growth in the economy and the generation of enough foreign exchange. Ghana operates within a global economy and whenever there is a recession, the shocks throw economic policies off-track.

The exchange rate of the cedi to the world's major currencies, particularly the United States dollar (US\$) and the United Kingdom pound sterling, has not been stable over the years. The cedi depreciated by 160 per cent against the U.S. dollar between 1991 and 1994 while it depreciated by 124 per cent against the pound sterling during the same period (Table 6.13).

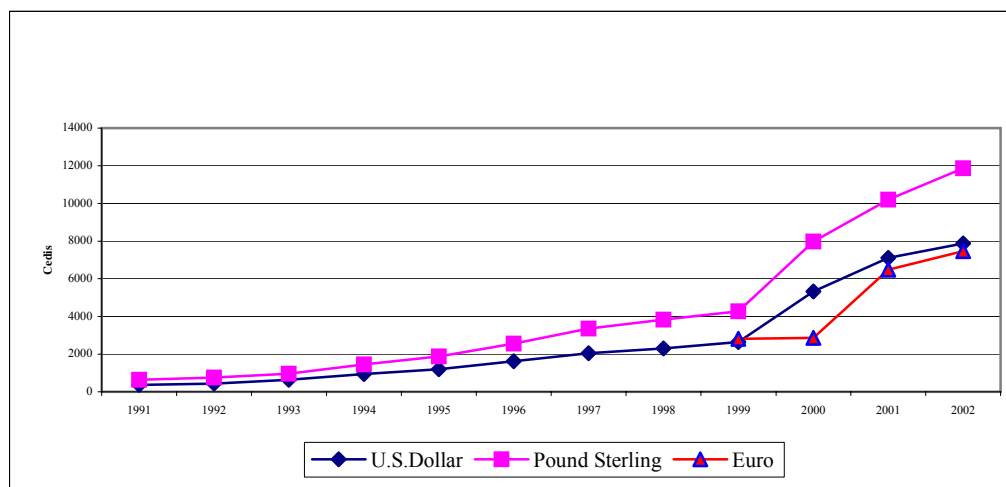
**Table 6.13: Annual Average Interbank Exchange Rates, 1991-2001**

Year	US Dollar	Pound Sterling	Euro
1991	367.78	649.53	
1992	437.09	768.55	
1993	648.98	968.69	
1994	956.71	1,453.69	
1995	1,200.39	1,883.65	
1996	1,637.24	2,559.23	
1997	2,050.28	3,359.07	
1998	2,314.17	3,834.28	
1999	2,647.28	4,278.33	2,811.63
2000	5,321.70	7,980.50	2,870.84
2001	7,103.98	10,194.89	6,480.29
2002	7,869.57	11,858.01	7,462.74

Source: Statistical Service, Quarterly Digest of Statistics

The yearly depreciation of the currency against the U.S dollar slowed down considerably to an average of 13.6 per cent between 1997 and 1999. From 1999 to 2000 however, the cedi depreciated by 101 per cent from 2,647.28 cedis to 5,321.70 cedis per U.S dollar (Fig.6.2) before reducing to 33.5 in 2001 and 10.8 per cent in 2002.

**Fig. 6.2: Exchange Rate of the Cedis to the U.S. Dollar, Pound Sterling and Euro**



Source: Statistical Service, Quarterly Digest of Statistics

This level of depreciation is a disincentive to the growth of business and the economy. Monetary policies by the central bank must therefore be directed towards maintaining some stability in the exchange rate.

### **Monetary Policies**

The monetary policy of the country has been conducted by the Bank of Ghana, under the direction of the Ministry of Finance. In the 1980s and 1990s, government had large budget deficits; these deficits were financed largely by Bank of Ghana and some of the commercial banks. The private sector was thus crowded out of banking finance for business. Over the last few years, especially the last two years, government has tried to live within collected revenues and funds provided by development partners. Thus, the deficit has been reduced and the private sector has greater access to banking finance.

In order to strengthen the hand of Bank of Ghana, the Monetary Policy Committee (MPC) was inaugurated in the third quarter of 2002 as part of the Bank of Ghana Act (Act 612). The MPC meets periodically to formulate monetary policy.

The use of currency, instead of cheques and other monetary instruments for most transactions in the country, has meant large increases in money in circulation. Over 2001 and 2002, narrow money (currency with public and demand deposits) has grown between 5 and 30 per cent, except for the first quarter of 2002, when there was a decline of 4 per cent. Broad money (narrow money plus savings, time deposits and foreign deposits) also grew between 5 and 21 per cent for the same two-year period.

High rates of inflation have meant very high lending rates by the banks. This has made the running of business very expensive. Inflation of 40 per cent gave rise to lending rates of about 50 per cent, but even though inflation declined to between 10 and 20 per cent, lending rates are still relatively high (between 30 and 40 per cent). Lending rates need to come down to stimulate the economy further. The very rapid depreciation of the cedi also led to high inflation and high monetary growth.

During the early part of 2002, the Central Bank introduced the prime rate as an instrument for signaling the Bank's assessment of inflationary pressures and monetary policy stance. In pursuit of its tight monetary policy, the prime rate was kept unchanged at 24.5 per cent during the year. The tight monetary policy of the Central Bank was meant to mop up liquidity in the economy and to reduce the level of inflation. This was done through higher interest rates and reduced growth of money supply. The end-of-period rate of inflation was consequently reduced from 40.5 per cent in 2000 to 21.3 per cent by the end of 2001 and further down to 13 per cent at the end of 2002. The supply of broad money, however, continued to grow well above budgetary projections. Broad money grew from 16.1 per cent in 1999 to 46.5 per cent in 2000 (Table 6.14).

**Table 6.14: Money Supply, 1999-2001**

	1999	2000	2001
<u>Broad Money</u>	4,533.3	7,228.4	10,193.1
Money	2,129.2	3,496.8	5,090.9
Quasi-Money	1,433.6	1,788.4	2,732.0
Foreign Assets	970.5	1,943.2	2,370.2
<u>Underlying Factors</u>	4,533.2	5,611.0	8,366.1
Net Foreign Assets	110.1	-963.2	1,169.1
Net Domestic Assets of which:	4,423.1	6,574.2	7,197.0
Net Claims on government	1,431.1	5,838.6	5,083.0
Claims on rest of the Economy (excluding cocoa financing)	2,890.0	5,049.0	6,369.9
<u>Memorandum Items</u>			
Rate of Inflation ( per cent)			
Annual Average	12.4	25.2	32.9
End-of-Period	13.8	40.5	21.3
Real GDP Growth	4.4	3.7	4.2
Exchange Rate (¢ per US\$)	3,500.0	6,889.8	7,255.2
(End-of-Period)			

Source: Bank of Ghana.

### **Fiscal Policies**

The fiscal policy of any government is to implement programmes that would generate revenue for executing development projects for the population. Since the beginning of the Economic Recovery Programme in 1983, a number of revenue measures have been taken, all aimed at improving revenue mobilization. One such measure was the passing of the value added tax (VAT) bill in 1994 to replace the sales tax. The VAT was to widen the scope of indirect taxation to include the retail and service sectors. The introduction of the VAT was to help in mobilizing enough revenue for the construction of roads, schools, provision of potable water and the extension of electricity facilities for the benefit of the population.

The misapplication of the VAT by traders and distributors led to sharp increases in the prices of food and other consumer items, leading to inflation rising to 70.8 per cent. In response to public discontent with rising prices, the VAT was withdrawn in 1995 and re-introduced in 1998. The rate for the value added tax was later increased to 12.5 per cent, with 2.5 per cent being used for the Ghana Education Trust Fund (GETFund) to provide educational facilities for the population.

Government revenue has derived from tax revenue (direct taxes, indirect taxes and international trade taxes) and non tax revenue, including grants from the donor community. The direct taxes include those on personal emoluments, companies and the self-employed. Total receipts by government increased by nearly 70 per cent between 1999 and 2000 (Table 6.15). There were significant increases in revenue from value added tax and import duties in 2000 and 2001, while export duty on cocoa recorded a modest increase.

**Table 6.15: Total Receipts of Government, 1999-2001 (Billion Cedis)**

Item	1999	2000	2001
Total Receipts	5,845.7	9,916.0	13,570.6
*Total Revenue and Grant	3,702.2	5,385.0	9,531.9
1. Total Revenue	3,399.2	4,810.7	6,904.5
A. Tax Revenue	3,089.2	4,414.7	6,556.9
(i) Direct Taxes	918.2	1,409.4	2,123.7
a. Personal	318.5	483.2	677.4
b. Self-employed	65.5	75.4	113.8
c. Companies	445.9	696.7	966.6
d. Other direct taxes	88.2	154.1	366.0
(ii) Indirect taxes	1,363.0	2,018.5	2,864.6
a. Value Added Tax	824.4	1,272.1	1,964.1
b. Domestic	375.6	385.2	508.8
c. Imports	448.8	886.9	1,455.3
d. Petroleum	411.0	531.8	646.6
e. Other indirect taxes	160.0	214.6	254.0
(iii) International trade taxes	8085.0	986.7	1,568.5
a. Import duties	554.0	807.9	1,268.5
b. Cocoa export duty	254.0	178.6	300.0
B. Non-Tax Revenue	310.4	396.1	347.7
2. Grants	302.3	574.3	2,627.3
A. Project	152.7	336.7	1,566.0
B. Programme	149.6	237.6	1,061.3
*Other Receipts	2,143.6	4,531.0	4,038.8
1. Divestiture receipts	53.0	322.6	154.4
2. Project loans	737.0	1,009.1	1,966.3
3. Programme loans	236.0	802.1	1,055.6
4. Net Domestic Financing	1,117.6	2,397.2	862.5
A. Banking	939.2	2,373.2	-755.4
On-Bank	178.4	24.0	1,617.9

Source: Budget Statement and Economic Policy of the Government of Ghana, 2002-2003.

The ever-growing level of government expenditure has been of great concern to many people both in government and civil society. This has been the result of the growing demand for the development of infrastructure at the national, regional and district levels. While there is a school of thought that pruning down the number of government officials will lower central government expenditure, another suggests the identification of more sources for revenue

generation to meet this increasing demand. Government expenditure is financed through revenue mobilization through taxes, so that the more pressure there is on government to provide infrastructure and utilities, the more it is forced to raise level or spread the net of taxation. The spatial distribution in favour of the cities and large towns also means that the distribution of facilities is also not equitable. Programmes to reduce population growth and also ensure distributive development will help ease the burden of taxation.

Government total payments are made up of statutory and discretionary payments. The statutory payments include external debt, payments to the District Assemblies' Common Fund (DACF), transfers to households, and in recent times, the Education and Road Trust Fund. Total statutory payments more than doubled between 1999 and 2000, mainly due to the result of external debt and domestic interest payments (Table 6.16). Growth in total payments between 2000 and 2001 was, however, low at about 39 per cent.

**Table 6.16: Total Payments of Government, 1999-2001**

Item	1999	2000	2001
Total Payments	5,848.0	9,916.0	13,806.1
*Statutory Payments	2,240.0	4,653.4	5,531.7
1. External Debt	1,030.0	2,454.6	1,611.1
a. Principal	751.0	1,867.5	1,133.4
b. Interest	279.0	587.2	477.7
2. Domestic Interest	872.0	1,446.2	2,309.5
3. District Assemblies Common Fund	165.0	193.1	148.2
4. Transfer to Households <sup>1</sup>	173.0	272.5	294.0
5. Education Trust Fund	-	32.0	140.0
6. Road Fund	-	254.9	303.4
*Discretionary Payments	3,608.0	5,262.6	8,274.4
1. Personal Emoluments <sup>2</sup>	1,516.0	1,956.2	3,181.8
2. Administration and Service	387.0	700.1	860.6
3. VAT Refunds	-	-	26.8
4. Total Investments	1,705.0	2,606.3	4,205.2
a. Domestic Financed (excl. DACF)	815.0	1,260.5	673.0
(i) Other Cash Expenditure	-	776.1	417.4
(ii) Net lending	-	484.4	255.5
b. Foreign Financed	890.0	1,345.8	3,532.3
Arrears clearance (road)	130.0	328.4	44.4
Non-road arrears clearance	-	156.0	442.4
Divestiture Liabilities	-	0.0	0.0
Utility Price Subsidies	-	0.0	0.0

Source: Budget Statement and Economic Policy of the Government of Ghana, 2002-2003.

Notes:

<sup>1</sup>Transfer to households includes pensions and gratuities.

<sup>2</sup>Personal emoluments includes social security contributions.

The major items under discretionary payments are personal emoluments (which includes social security contributions) and investments. Payments for personal emoluments rose by 62.7 per cent in 2001, compared with a rise of 29 per cent in 2000, while total investments also grew by 52.9 per cent in 2000 compared with 61 per cent in 2001.

These developments are an indication that more avenues have to be explored to generate additional revenue for the ever-increasing government expenditure. The major revenue collecting agencies, namely Customs, Excise and Preventive Service (CEPS), Internal

Revenue Service (IRS) and the Value Added Tax (VAT) Service, need to be strengthened and well resourced to improve on their revenue collecting activities.

The idea of broadening the tax base, through the VAT, must be vigorously pursued to rope in all traders and service providers who qualify to collect VAT. There is a large number of shop owners and traders who do not pay tax on their incomes. These shop owners and traders should be sensitized and encouraged to keep records of their accounts so that they can file returns for assessment at the end of the year for the payment of taxes.

Export-oriented enterprises need to be assisted with credit to expand their operations for the generation of enough foreign exchange for the nation. This way, the pressure on foreign currency purchases will ease and result in the stabilization of the local currency.

## **6.5 Food Production and Food Security**

### **Introduction**

The Ghanaian economy is dominated by agriculture, with about 53 per cent of the economically active population engaged in some agricultural activity. The fourth round of the Ghana Living Standards Survey (GLSS4) conducted in 1998/1999 estimates that about 2,740,000 households own or operate a farm or keep livestock. Although farming and livestock rearing are predominantly a rural activity, a significant number (480,000) of urban households also own or operate a farm or keep livestock.

In the rural areas, agricultural activity is most common in the savannah zone, where 93 per cent of households engage in an agricultural activity. In the rural forest zone, 86 per cent of households are engaged in an agricultural activity, while in the rural coastal area, the corresponding figure is 75 per cent.

Even though the population has been growing steadily in the 1990s, agricultural production has not kept pace with this growth. This is mainly due to the fact that the youth are leaving the farming areas for the urban centres and the ageing farmers, left behind in the rural farming areas, are not energetic enough to increase agricultural production significantly.

A large proportion of the food consumed by many households, particularly those in rural areas, comes from their own produce. Roots and tubers account for about 60 per cent of the total value of home consumption. The other staples which feature prominently in home consumption are cereals and cereal products (14 per cent), vegetables (7 per cent), and pulses and nuts (5 per cent).

The policy of government to extend support to the agricultural sector to increase production and ensure food security gives an indication of the importance of the sector in the growth of the economy. The levels of production of some food staples, trends in the importation of selected food items, the export of some food staples and measures needed to ensure food security for the population, are presented in this sections.

### ***Production of Selected Cereals, Roots and Tubers***

Agriculture, which is the mainstay of the country's economy, is mainly rain-fed and whenever the rains fail, there is shortage of food staples leading to price hikes and a rise in inflation. Severe droughts in 1983 and 1990 led to negative growths in the agricultural sector. The trends in the production of selected major staple crops are discussed in this section. They include maize, cassava, cocoyam, yam and plantain. Production of cereals has yet to hit the 2 million metric ton mark, though it has come close since 1995. On the other hand, the lowest yield of staples was 5 million metric tones in 1990 (Table 6.17)

Maize production has experienced a steady growth since 1987, when 597,700 metric tons were produced (Table 6.17). In 1990, as a result of the failure of the rains, maize production dropped to 553,000 before picking up again in 1991. The output of maize hit the one million ton mark in 1995, with an average production between 1995 and 2000 being 1,017,433 metric tons per year; the production of the crop almost doubled between 1987 and 2000. While the crop has dominated the production of cereals in the country, accounting for more than half of the production of cereals, yet its production is not able to meet consumption demand.

**Table 6:17 Production of Selected Food Crops ('000 metric tons), 1987-2000**

Year	Cereals					Starchy Staples				
	All Cereals	Maize	Rice	Millet	Guinea Corn Sorghum	All Staples	Cassava	Cocoyam	Yam	Plantain
1987	1,057.4	597.7	80.7	173.1	205.9	6,000.3	2,725.5	1,011.8	1,185.4	1,077.6
1988	1,137.0	751.0	95.0	130.0	161.0	6,815.0	3,300.0	1,115.0	1,200.0	1,200.0
1989	1,183.7	715.0	73.7	180.0	215.0	6,840.0	3,320.0	1,200.0	1,280.0	1,040.0
1990	845.0	553.0	81.0	75.0	136.0	5,208.0	2,717.0	815.0	877.0	799.0
1991	1,436.0	931.0	151.0	113.0	241.0	10,808.0	5,701.0	1,297.0	2,632.0	1,178.0
1992	1,254.2	730.6	131.5	133.3	258.8	10,277.6	5,662.0	1,202.2	2,331.4	1,082.0
1993	1,644.7	960.9	157.4	198.1	328.3	11,249.9	5,972.6	1,235.5	2,720.3	1,321.5
1994	1,593.9	939.9	162.3	167.8	323.9	10,347.5	6,025.0	1,147.7	1,700.1	1,474.7
1995	1,824.6	1,034.2	221.3	209.0	360.1	11,757.8	6,611.4	1,383.2	2,125.7	1,637.5
1996	1,770.0	1,007.6	215.7	193.3	353.4	12,761.2	7,149.6	1,551.8	2,274.8	1,823.4
1997	1,677.4	1,020.8	197.2	139.0	320.4	12,979.6	7,149.6	1,535.2	2,417.1	1,877.5
1998	1,813.8	1,015.0	281.1	162.3	355.4	13,363.4	7,171.2	1,576.7	2,702.9	1,912.6
1999	1,684.0	1,014.0	210.0	158.0	302.0	14,847.0	7,845.0	1,707.0	3,249.0	2,046.0
2000	1,711.0	1,013.0	249.0	169.0	280.0	15,027.0	8,107.0	1,625.0	3,363.0	1,932.0

Source: Statistical Service, Quarterly Digest of Statistics

Rice is an important staple food in the diet of the average Ghanaian. The production of the crop has experienced a steady growth over the last decade and a half. Rice production increased from an output of 81,000 metric tons in 1987 to 249,000 metric tons in 2000. The average production of the crop between 1995 and 2000 was 229,000 metric tons per annum. Its production has, however, not matched demand and large quantities have to be imported each year to supplement local production.

A number of policy measures have been taken to encourage the production of the crop on a large scale to meet demand. These include the development of valley bottom rice production in a number of selected districts across the country and the supply of high-yielding seeds to farmers. A number of measures, including the reactivation of some irrigation facilities and rice milling installations, have been taken to ensure the reduction of rice importation by 30 per cent by year 2004.

Apart from processing millet into flour for cooking, the crop is largely used for brewing “pito”, a local industry engaged in primarily by women in the northern parts of Ghana. The growth in the production of the crop has not followed any set pattern: production declined to its lowest of 75,000 metric tons in 1990, after which there has been fairly consistent growth in production. The average annual production of the crop between 1995 and 2000 was 171,767 metric tons. A substantial increase in the production of the crop could lead to an improvement in the incomes of women in the three northern regions, where the incidence of poverty is highest. The supply of improved seeds and the expansion of area cultivated would boost production of the crop.

Except in 1988 and 1990, production of sorghum has been fairly consistent. Production passed the 300,000 metric-ton mark in 1993 and remained so until it fell to 280,000 metric tons in 2000. The output of the crop constitutes about 20 per cent of cereal crop production in the country.

There has been a substantial increase in the production of roots and tubers from 6 million to 15 million metric tons during the past decade. Cassava production experienced the largest growth in production between 1987 and 2000, from 2.7 million to 8.1 million metric tons. If the President’s Special Initiative to promote cassava production for the processing of starch for export is fully implemented, the crop could contribute significantly to the foreign exchange earnings of the nation. Other cassava products such as “gari” and dried cassava chips could also boost local consumption and exports. Production of yam tripled while that of plantain doubled over the 1987-2000 period.

Table 6.18 shows that there have been dramatic increases and declines in food production over the years. Population changes however have not witnessed similar rises and falls, which means that several factors, other than those of population, may be at work. The effects of rain failure and after harvest farm management are acknowledged, but the importance of increased farm hands or the lack of these as a result of out-migration cannot be discounted. For instance, the much promoted PSI on cassava is reported to be under threat because the cost of labour production is believed to be higher than would market prices.

Cassava is a perishable crop and is either consumed in the fresh form or processed into other forms for preservation. The largest and most popular form in which the crop is preserved is “gari”. Other forms of preservation are “tapioca”, cassava chips and cassava flour. Any initiatives to develop the crop must therefore take into account the processing of the crop to avoid post-harvest losses. The provision of machinery, in the major growing areas for the processing of the crop, will greatly enhance the realization of the full potential of the crop.

**Table 618: Rate of Production of Selected Food Crops, 1987-2000**

Year	Cereals					Starchy Staples				
	All Cereals	Maize	Rice	Millet	Guinea Corn/ Sorghum	All Staples	Cassava	Cocoyam	Yam	Plantain
1987	-	-	-	-	-	-	-	-	-	-
1988	7.5	25.6	17.7	-24.9	-21.8	13.6	21.1	10.2	1.2	11.4
1989	4.1	-4.8	-22.4	38.5	33.5	0.4	0.6	7.6	6.7	13.3
1990	-28.6	-22.7	23.5	-58.3	-36.7	-23.9	-18.2	-35.1	31.5	-23.2
1991	69.5	68.6	86.4	50.7	77.2	107.5	109.8	59.1	200.1	47.4
1992	-12.7	-21.5	-12.9	18	7.3	-4.9	-0.7	-7.3	-11.4	-8.1
1993	31.1	31.5	19.7	48.6	26.9	9.5	5.5	2.8	16.7	22.1
1994	-3.5	-2.2	-3.1	-15.3	-1.3	-8.0	-0.9	-7.1	-37.5	11.6
1995	14.5	10.0	36.4	24.6	11.2	13.6	9.7	20.5	25.0	11.0
1996	-3.0	-2.6	-2.5	-7.5	-1.9	8.5	7.6	12.2	7.0	11.4
1997	5.2	1.3	8.6	28.1	-9.3	1.7	0.5	-1.1	6.3	3.0
1998	8.1	0.6	42.5	16.8	10.5	3.0	0.3	2.7	11.8	1.9
1999	-7.2	-0.1	-25.3	-2.6	-15.0	11.1	9.4	8.3	20.2	7.0
2000	1.6	-0.1	18.6	-7.0	-7.3	1.2	3.3	-4.8	3.5	-5.6

Source: Statistical Service, Quarterly Digest of Statistics

Cocoyam is another staple root crop, grown mainly in the rural forest areas of the country. The output of this crop has grown steadily over the last five years; the average annual output, between 1995 and 2000, was 1,563,150 metric tons.

The production of yam has increased three-fold between 1987 and 2000. The crop is grown widely in the middle belt and northern parts of the country. But for a decline in production in 1994, production levels have been above two million metric tons between 1991 and 2000. The average annual production of yam, between 1995 and 2000, was 2,688,750 metric tons.

In the last 7 years, yam has become such an important export crop that if the momentum is to be maintained, then measures must be taken to increase output to meet the export demand. If the seed crop can be improved to obtain better yielding varieties, the crop could become a net foreign exchange earner for the nation.

Plantain is widely grown across the country except the northern parts. The crop has also recorded some growth over the years, but not as much as the other starchy staples. As a result, there are periods during the year when there is scarcity of plantain on the market. There has been a steady growth in production between 1993 and 2000, with an annual average output of 1,727,600 metric tons during the period.

#### **Imports of Selected food items to supplement local production**

Ghana continues to import food items to supplement local food staples. Some of these food items are imported all-year while others are imported during the lean season when they are in short supply. The main food staples imported on a regular basis, and which are of grave concern to government, are maize and rice.

Maize production constitutes 60 per cent or higher of cereals produced in the country. This notwithstanding, as a result of population growth and the lack of storage facilities, the

country imports maize to supplement local production, especially during the lean season. Maize imports, which stood at 340,000 cedis in 1991, grew to as much as 862 million cedis in 1992 (Table 6.19). The total value of seed maize imported in 1992, apparently for supply to farmers for planting, was 503 million cedis.

**Table 6:19: Imports of Selected Food items (Million Cedis), 1991-2000**

Year	Maize Seed	Maize (excl. seed)	Rice in the husk (paddy or rough)	Husked (brown Rice)	Semi-milled or wholly milled rice	Broken rice
1991	-	0.3	2.8	0.2	1,038.2	200.4
1992	503.4	862.2	398.3	0.5	28,534.0	3,567.2
1993	-	704.8	144.6	0.1	21,942.8	9,292.6
1994	-	310.2	63.5	0.7	35,943.6	10,429.3
1995	11.3	198.2	2.2	1.1	21,490.8	2,947.9
1996	29.7	21.7	7.9	10.0	20,211.3	5,775.9
1997	25.0	51.3	917.8	138.7	26,661.8	7,048.0
1998	2.2	1,275.5	1163.4	1.0	35,318.7	19,959.8
1999	1.0	73.0	94.6	2.1	42,794.2	18,180.0
2000	0.5	4,599.7	6206.2	60.2	100,793.0	153,806.9

Source: Statistical Service, Quarterly Digest

The value of maize imports fell drastically between 1993 and 1996 (from 705 million cedis to 22 million cedis) after a decline of 22.3 per cent in 1993 compared with 1992. In 1998, maize imports rose again sharply and in 2000, the value of maize imports was nearly 63 times the value imported in 1999.

There has been some growth in rice production over the years; the level of output is however not enough to meet the ever-increasing demand for this food staple. As a result, a substantial amount of the crop continues to be imported to satisfy local demand. The import value of both semi-milled or wholly-milled rice, as well as broken rice, has risen sharply over the past ten years.

A total of 1,038 million cedis worth of semi-milled or wholly-milled rice was imported in 1991. The import figure for 1992 (28,534 million cedis) was nearly 28 times the value in 1991. There was a decline in the import of this brand of rice in 1993, 1995 and 1996, but this was short-lived. The import value of the crop in 2000 was about two and a half times the value in 1999. The situation is not different for broken rice. From an import bill of 200 million cedis in 1991, importation of the crop rose to 153,807 million cedis in 2000. The 2000 import value is nearly nine times the imports in 1999.

### **Export of food staples**

Ghana has a tradition of cross-border trade in food staples with its neighbouring countries, but the export of some food staples has expanded and gone beyond these countries to Europe, the United States of America and Asia, over the last few years. Countries within the West African sub-region, which import food staples from Ghana include Togo, Cote d'Ivoire, Burkina Faso, Niger, Mali and Nigeria. Food staples exported to countries within the West African sub-region are mainly maize, millet, cassava, yam and rice. Bananas and yams are the main exports to the European countries.

The value of cassava exported rose from 12.9 million cedis in 1991 to as high as 1,442.8 million cedis in 1996. Exports of the crop, however, declined the following year to 929.5 million cedis and dropping further by nearly 100 per cent in 1998 (Table 6.20).

**Table 6.20: Exports of Selected Food staples (Million Cedis), 1991-2000**

Year	Cassava	Yam	Cocoyam	Other roots and tubers	Bananas (including plantains)	Maize	Semi-milled or wholly milled rice	Broken rice
1991	12.9	171.3	0.4	0.0	4.5	0.1	-	-
1992	35.9	4,783.4	43.5	3.7	5.0	0.1	8.9	-
1993	153.3	1,905.9	8.4	2.1	21.2	1.4	784.4	-
1994	242.6	3,301.4	28.6	140.0	399.4	0.5	-	0.0
1995	312.7	3,270.8	12.4	0.75	1,069.9	1.3	0.1	-
1996	1,442.8	12,166.2	49.7	17.8	2,622.7	5,072.3	3,122.4	516.1
1997	929.5	10,488.6	89.3	0.6	13,768.3	738.0	125.3	7.8
1998	16.17	10,739.3	99.6	8.1	6,794.0	11,413.7	188.2	-
1999	42.2	12,602.6	95.8	176.1	7,030.7	839.7	359.1	-
2000	42.4	10,945.9	92.5	46.1	5,514.6	21.3	396.7	1,358.1

Source: Statistical Service

Yam has become an important export crop in the last few years and has found its way onto the European market. The crop has become popular with a number of exporters and, by 1996, the value of export of the crop was over 12,166 million cedis. The average value of exports between 1996 and 2000 was 11,388 million cedis per annum.

### ***Non-traditional Food Exports and Implications***

Ghana's economy has, for a long time, depended on the export of a few commodities notably cocoa, timber, gold, bauxite and manganese (known as the traditional exports) for its foreign exchange earnings. The unstable prices of these commodities on the global market brought about the need to diversify the economy and avoid the over-dependence on these traditional exports. As a result, other export products termed "non-traditional exports" were introduced onto the export market.

The non-traditional exports include food crops, horticultural products, wood products and handicrafts. The volume of exports of these products has increased in recent times, and in 2001, foreign exchange earnings from non-traditional exports amounted to US\$417.5 million, the earnings for the previous year being US\$400.7 million.

The diversification of the export sector is important to avoid any shocks resulting from low pricing for the traditional export commodities on the world market. Over-exportation of food crops could lead to food shortages for the population and necessitate their importation. The production of crops that have the potential for the export market must be raised in order to avoid any shortages during the lean season. Higher yielding varieties of these crops must be developed and distributed to farmers for planting.

There must be controls on the volumes of exports of some of these crops taking into account their production levels. In this way, the country could avoid the situation where these food staples are exported during harvest period and then imported during the lean season at a higher cost.

### **Policies for Ensuring Food Security**

Food security has been described as the availability of food to sustain life and health of the population across all income groups at all times. Food adequacy at the global level and an effective trading system are essential requirements for ensuring the adequacy of food at the national level.

Ghana has pursued a number of policies in the agricultural sector, all aimed at ensuring that there is enough food for the population all-year round. These policies have, however, failed to achieve the desired goals. Tackling food security problems does not only depend on increasing agricultural output but also ensuring that what is produced is available to the population throughout the year.

The production of some staple foods has increased during the last couple of years but much of this is wasted at the farm gate. It is important to put in place mechanisms for the preservation and storage of these food staples, whenever there is a bumper harvest. The absence of storage facilities and ready markets leads to wastage of a large proportion of the food produced. The tendency for low prices during bumper harvests also serves as a disincentive for farmers to increase their farm sizes or invest more money in food production. The private sector should be encouraged to put up storage facilities, in food growing areas, so that excess food can be stored for the lean season. The development of a good road network would also help in enhancing the haulage of excess food from areas of bumper harvest to deficit areas.

The country's agriculture is highly dependent on rainfall, and whenever the rains fail, there is crop failure. It is essential, therefore, that irrigation schemes are developed if agricultural production is to be increased and sustained. Since large-scale irrigation schemes are expensive to develop, consideration should be given to the development of small-scale irrigation schemes in farming areas with great potential for food crop production. In this way, whether the rains fall or not, the nation would not be totally dependent on food imports as has been the case in some bad crop years.

## **6.6 Ownership of Assets**

### **Welfare of the population**

The welfare of the population has been an underlying factor in government economic policy, which is aimed at achieving growth to improve the living standards of the population. The rate of growth of the Ghanaian economy has not matched the rate of growth of the population during the past 16 years. Ghana's population has grown from 12.3 million in 1984 to 18.9 million in 2000, an increase of nearly 54 per cent.

Programmes drawn up since 1983, to achieve growth, have included the Economic Recovery Programme (ERP), the Structural Adjustment Programme (SAP), Programme of Actions to Mitigate the Social Cost of Adjustment (PAMSCAD) and in recent times, the Ghana Poverty Reduction Strategy (GPRS). These programmes notwithstanding, the nation's per capita

income remains at levels below US\$400. Per capita income of the population is a measure of the wealth of the society, but in Ghana, this measure is not consistent, due to the instability of the cedi in relation to the major currencies.

In 1999 for instance, the average rate of the cedi to the dollar was 2,647. This increased to 5,322 in 2000. Thus, a per capita value of \$400 in 1999 would become less than \$200 in 2000, if there was no growth. Even at a real growth rate of 10 per cent, the GDP per capita would be about \$220. It has therefore, been very difficult to find any consistent data on per capita GDP.

The vision to make Ghana a middle-income nation has to be vigorously pursued in order to create wealth and make life bearable for the population. The key elements that measure the level of development of a nation, such as the basic needs of life and a decent dwelling place, must be available to the population.

A measure of income across countries, to take account of the purchasing power of the currency within the country, is that of “purchasing power parities” (PPP). One U.S dollar or 8,600 cedis at current rates, buys different items of food or other items, in the U.S.A and in Ghana. Attempts are made to price the same or similar basket of goods in the two different countries for comparison purposes. Whereas in U.S dollar terms, the 1999 per capita GDP is about \$400, the PPP per capita GDP is \$1,881 (as per the 2000 Human Development Report, UNDP). In 1999, per capita GDP in PPP terms increased by 8.4 compared with 1998, while in 2000 the per centage change over 1999 was 4.4 per cent. This shows some improvement in the living standard of the people, although rather small.

### **Ownership of Assets**

Assets ownership is a measure of the well-being and living standard of a household or an individual. These include both movable (durable goods) and immovable assets (land, houses). Household durable goods include cars, bicycle, television sets, refrigerators and radio sets.

The proportion of households owning a television set in 1998/1999 was almost double the proportion in 1991/1992 (Table 6.21). This could be partly due to the extension of electricity facilities to the rural areas in the last couple of years. People living in rural savannah areas

**Table 6.21: Households Owning Various Assets and Consumer Durables**

Asset	Urban			Rural				Total	National Estimates (m)	
	Accra	Other Urban	All Urban	Coastal	Forest	Savannah	All Rural		Household Owning	Total Owned
1991/1992										
House	6.3	13.6	11.4	34.7	33.9	39.6	35.8	27.3	0.91	0.96
Car	6.5	3.0	4.0	1.0	0.7	0.7	0.7	1.9	0.06	0.07
Television	38.9	19.4	25.1	4.3	4.1	0.8	3.2	10.8	0.36	0.37
Refrigerator	33.0	15.0	20.2	1.5	2.8	0.3	1.8	8.2	0.27	0.29
Radio Set	60.3	50.5	53.3	31.8	38.5	29.5	34.2	40.9	1.35	1.62
Bicycle	2.4	11.2	8.6	8.4	9.1	43.4	19.0	15.4	0.51	0.57
N	463	1,129	1,592	718	1,374	868	2,960	4,552	3.46	3.88
1998/1999										
Land/Plot	11.8	17.6	16.0	22.7	37.7	10.7	27.3	23.2	0.94	1.06
House	13.4	16.5	15.6	37.9	36.0	42.0	38.0	29.8	1.21	1.31
Car	7.3	2.6	3.9	1.3	1.6	0.5	1.3	2.2	0.09	0.10
Television	48.2	36.1	39.5	13.2	14.0	2.5	10.9	21.4	0.87	0.94

Refrigerator	40.6	26.5	30.5	8.6	8.0	1.1	6.4	15.2	0.61	0.71
Radio Set	82.1	71.2	74.4	44.1	57.7	43.6	50.9	59.4	2.43	2.61
Motor Cycle	0.6	1.5	1.2	0.4	0.7	1.8	0.9	1.0	0.04	0.04
Bicycle	6.1	12.4	10.6	10.7	13.3	48.8	21.6	17.6	0.72	0.82
N	620	1,579	2,199	899	1,940	960	3,799	5,998	6.91	7.59

Source: Ghana Living Standards Survey, 1991/1992 and 1998/1999

Note: proportions do not add up to 100 because of multiple responses

predominantly own bicycles. The estimated number of radio sets owned also increased significantly between 1991/1992 and 1998/1999 (from 1.62 million to 2.61 million). The results of the 1998/1999 GLSS indicate that 23.2 per cent of households owned a land or a plot of land.

Apart from income earned through employment, a major source of income for many Ghanaian households is remittances, both local and foreign. Urban households received more remittances than their rural counterparts but it appears that on average 40 per cent of households receive remittances (Table 6.22). In 1991/1992, the estimated total remittance received by urban households was 35 billion cedis, compared with 25 billion cedis received by rural households. The estimated remittances received by households in 1998/1999 were more than ten times the amount received by households in 1991/1992.

**Table 6.22: Mean Annual Remittances Received by Households**

Locality	Annual Receipts from Remittances		
	Average for Recipient Households (cedis)	Average for All Households (cedis)	Estimated Total National (billion cedis)
<b>1991/1992</b>			
<u>Urban</u>	83,000	30,000	35
Accra	121,000	47,000	16
Other Urban	66,000	23,000	19
<u>Rural</u>	33,000	11,000	25
Rural coastal	36,000	13,000	7
Rural Forest	37,000	15,000	15
Rural Savannah	16,000	18,000	3
Total	51,000	18,000	60
<b>1998/1999</b>			
<u>Urban</u>	853,000	340,000	507
Accra	1,284,000	453,000	191
Other Urban	710,000	295,000	316
<u>Rural</u>	277,000	110,000	285
Rural coastal	291,000	125,000	76
Rural Forest	391,000	133,000	175
Rural Savannah	156,000	52,000	34
Total	488,000	195,000	792

Source: Ghana Living Standards Survey, 1991/1992 and 1998/1999

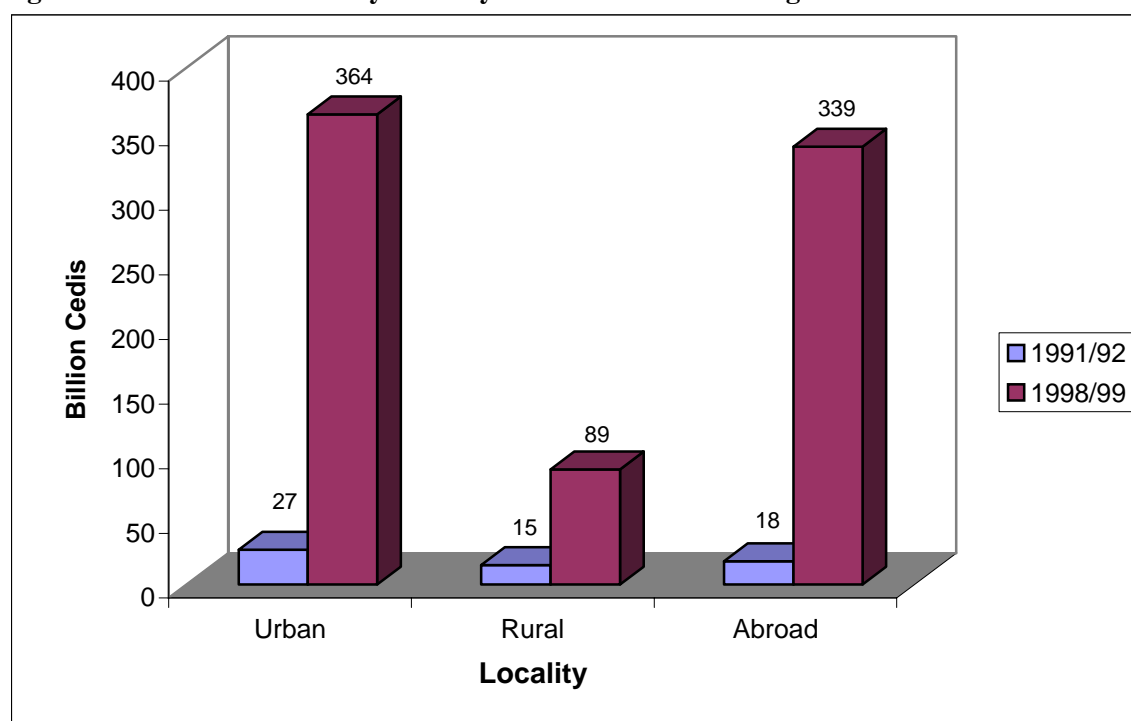
Remittances received by households were either from relatives living in other parts of the country or from abroad. In 1991/1992, households received a total of 27 billion cedis from relatives living in urban areas compared to 364 billion cedis in 1998/1999 while remittances received from relatives living abroad amounted to 18 billion cedis in 1991/1992 as against 339 billion cedis in 1998/1999 (Table 6.23). These should not be taken generally as income to the households as part of this is used for infrastructure development for those remitting.

**Table 6.23: Estimated Total Remittances by Locality and Residence of Sender**

Locality	Residence of Household Remittances			
	Urban	Rural	Abroad	Total
(billion cedis)				
1991/1992				
Urban	18	2	15	35
Rural	9	13	3	25
Total	27	15	18	60
1998/1999				
Urban	221	17	269	507
Rural	143	72	70	285
Total	364	89	339	792

Source: Ghana Living Standards Survey, 1991/1992 and 1998/1999

Remittances received in 1998/1999 from urban areas and from abroad far exceeded those received from the same sources in 1991/1992 (Figure 6.3). The large increases in remittances in 1998/1999 are as a result of an increase in outlets for receiving remittances (both formal and informal) from other parts of the world. In addition, many Ghanaians living outside the country are remitting relatives to invest in businesses enterprises and real estate development.

**Fig. 6.3: Total Remittances by Locality of Household Remitting**

Source: Ghana Living Standards Survey, 1991/1992 and 1998/1999

### **Policies for the acquisition of housing and land**

Shelter is one of the major factors used in determining the well-being of a population. A decent and affordable accommodation is needed by the population to protect it from the vagaries of the weather. Shelter, however, continues to elude a large proportion of the population and thus raises serious concerns.

The 1991/1992 Ghana Living Standards Survey shows that 27.3 per cent of households in the country owned a house. This proportion increased slightly to 29.8 per cent in 1998/1999. The proportion of households owning a house was higher in rural areas than in urban areas. No doubt the low cost and ease of construction of a house in rural areas explain the higher proportion of house ownership in rural areas. The fact that many workers in the urban areas intend to retire to live in their place of birth may therefore explain why many may not build where they currently reside.

The 2000 Census results indicate that there were 2,181,975 houses in the country. This shows an increase of almost 78 per cent over the 1984 housing stock in the country. The housing stock in Greater Accra (150 per cent) and Western (101 per cent) more than doubled between 1984 and 2000. Eastern (16.3 per cent) had the highest proportion of houses in the country in 1970, followed by Volta (14.6 per cent) and Ashanti (14.5 per cent). The trend was similar for 1984, but in 2000, Ashanti had the highest proportion, followed by Greater Accra and Eastern (Table 6.24).

**Table 6.24: Stock of Houses by Region, 1970, 1984, 2000**

Region	Relative Share of Housing Stock			Rate of Increase	
	1970	1984	2000	1970-1984	1984-2000
Western	9.2	10.5	11.9	48.5	101.0
Central	11.9	10.9	10.2	20.1	66.4
Greater Accra	8.1	9.4	13.2	50.5	150.1
Volta	14.6	14.1	12.1	26.0	52.8
Eastern	16.3	15.3	13.0	21.7	51.4
Ashanti	14.5	14.3	15.1	28.7	87.2
Brong Ahafo	8.6	9.5	9.9	44.0	85.7
Northern	7.6	7.9	8.1	35.1	83.2
Upper East	6.9	5.8	4.1	10.6	23.4
Upper West	2.2	2.2	2.4	26.2	95.1
Total	100	100	100	30.2	77.9

Source: Population Census of Ghana, 1970, 1984 and 2000.

Nearly 45 per cent of dwelling units in the country are compound houses, while a quarter (25.3 per cent) are separate house dwelling units. Compared with the growth in the population between 1984 and 2000, there are fewer persons to a house in 2000 (8.7 persons per house) than in 1984 (10.1 persons per house). In terms of tenure, however, only 57.4 per cent of the population own the houses in which they live (Table 6.25). A large proportion of the population live either in rented premises or do not have access to accommodation. More than one-fifth of the houses are rented premises, while about 20 per cent have occupants who do not pay any rent.

**Table 6.25: Type of Dwelling, Tenure and Ownership of Housing by Region, 2000**

Housing Condition	Per cent	Total	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
<b>Type of Dwelling</b>	<b>100.0</b>	<b>3,877,418</b>	<b>430,182</b>	<b>392,038</b>	<b>644,233</b>	<b>376,204</b>	<b>479,907</b>	<b>700,636</b>	<b>359,768</b>	<b>261,207</b>	<b>147,824</b>	<b>85,419</b>
Separate House	25.3	979,828	109,697	102,838	119,111	174,464	136,392	152,114	92,869	44,606	27,707	20,030
Semi-detached House	15.3	594,195	68,806	68,520	104,605	61,448	80,680	77,287	63,955	40,311	18,286	10,297
Flat/Apartment	4.4	170,824	20,267	11,043	52,005	5,004	13,318	56,120	6,511	2,967	1,296	2,293
Room(s) in a Compound	44.5	1,725,813	179,979	180,920	271,528	98,347	206,998	353,688	168,055	140,518	82,620	43,160
Separate Huts/Buildings	4.4	169,925	19,595	13,812	17,329	13,203	20,580	27,970	15,969	24,115	12,976	4,376
Hotel/Hostel	0.4	16,930	2,534	1,260	2,727	796	1,587	4,955	1,279	849	679	264
Tents	0.1	4,744	924	151	1,514	316	306	1,038	214	149	62	70
Kiosk/Container	1.4	53,348	4,124	4,682	24,810	1,816	4,137	9,233	3,180	780	233	353
Attached to Shop	0.4	15,905	2,014	1,101	5,180	1,178	1,432	3,005	1,039	446	267	243
Other	3.8	145,906	22,242	7,711	45,424	19,632	14,477	15,226	6,697	6,466	3,698	4,333
<b>Tenure</b>	<b>100.0</b>	<b>3,698,337</b>	<b>409,282</b>	<b>365,605</b>	<b>625,744</b>	<b>345,722</b>	<b>456,475</b>	<b>682,337</b>	<b>342,695</b>	<b>245,531</b>	<b>144,358</b>	<b>80,588</b>
Owning	57.4	2,123,503	234,063	213,286	253,339	221,618	265,504	324,628	211,316	209,581	125,166	65,002
Renting	22.1	818,019	90,052	63,032	234,444	55,739	95,493	179,067	54,407	21,295	13,756	10,734
Rent-free	19.5	720,231	80,893	85,987	128,509	64,622	92,225	171,453	73,915	13,348	4,910	4,369
Perching	1.0	36,584	4,274	3,300	9,452	3,743	3,253	7,189	3,057	1,307	526	483
<b>Ownership type</b>	<b>100.0</b>	<b>3,698,337</b>	<b>409,282</b>	<b>365,605</b>	<b>625,744</b>	<b>345,722</b>	<b>456,475</b>	<b>682,337</b>	<b>342,695</b>	<b>245,531</b>	<b>144,358</b>	<b>80,588</b>
Owner-Occupied	57.4	2,123,503	234,063	213,286	253,339	221,618	265,504	324,628	211,316	209,581	125,166	65,002
Being Purchased	1.1	41,645	4,746	2,526	14,506	3,032	2,856	9,185	2,735	1,154	507	398
Relative not a Hhold Member	12.5	461,098	43,039	73,954	57,183	42,779	58,263	113,029	58,202	11,095	1,718	1,836
Other Private Individual	19.3	714,628	75,810	59,749	197,153	45,088	87,374	168,672	54,095	14,690	6,465	5,532
Private Employer	4.1	152,459	22,855	6,412	32,342	14,414	23,964	36,020	7,164	1,802	4,367	3,119
Other Private Agency	0.4	14,941	2,128	1,295	3,467	702	2,153	2,981	1,251	518	286	160
Public or Government Owner	2.0	74,247	10,703	5,677	21,349	4,172	6,749	11,053	5,630	5,335	2,356	1,223
Other	3.1	115,809	15,938	2,706	46,405	13,917	9,612	16,769	2,302	1,356	3,486	3,318

Source: Population and Housing Census of Ghana, 2000

The ever-increasing urban population has put a lot of pressure on housing in the urban areas, particularly Accra and Kumasi. Tracts of land lying at the outskirts of major towns in the country, which were previously used for farming activities, have been sold to individuals and housing developers due to the high demand for accommodation. As a result, farming activities have to encroach on areas which hitherto had been demarcated for forests and forest reserves. This had led to the degradation of vast areas of forests, resulting in near desertification in some areas and a reduction in food production.

Since independence, a number of policies have been formulated and implemented with the aim of providing affordable housing for the people. These include the establishment of the erstwhile State Housing Corporation (SHC), whose aim was to put up housing units that the population could acquire on hire-purchase basis. This programme, however, collapsed as it became apparent that the SHC was incurring huge losses. The SHC later became a limited liability company, which needed to make profits to meet its running costs. Another programme was instituted by the Social Security and National Insurance Trust (SSNIT) to put up high-rise accommodation for workers. The maintenance of these buildings became so high that SSNIT decided to sell off these structures to individuals, some of whom could not afford the cost of the units.

Institutions such as the Building and Road Research Institute (BRRI) have experimented with the use of local building materials, notably burnt bricks, to provide affordable accommodation. As this technology rather turned out to be expensive for the local population, the good intentions of the project fizzled out.

In recent times, a number of real estate development agencies, under the umbrella of the Ghana Real Estate Developers Association (GREDA), have been developing estate buildings. Large tracts of land have been acquired by these developers, for the construction of estate houses for the population. The costs of these buildings are so high the ordinary Ghanaian can hardly afford to own one. Affordable mortgage finance is needed to enable income earners to own houses. A start has been made but a lot more needs to be done.

The process of renting accommodation in Ghana has taken a different turn due to the ever-growing population and the pressure and high demand for accommodation. Owners of premises have adopted a new form of agreement where large sums of money (termed rent advance) are demanded from potential tenants before offering them accommodation. Such amounts run into millions of cedis and with the low level of income, it is difficult for many people to rent accommodation. The demand for accommodation provides the license for house owners to increase rents or demand advance payments at will, thus increasing the expenditure of the already over-stretched tenants, leading to high costs of living. Those who are not able to afford these increases are ejected from their accommodation.

The banks and other non-bank financial institutions would have been of help but the high interest rates and mortgages required scare potential owners of estate buildings. As a result, only the affluent are able to acquire their own accommodation. It is important that some measures are taken to avert this situation. The lending rates of the banks would need to be lowered to enable people to take loans to put up houses. The initial deposits, demanded by the non-bank housing finance institutions for the acquisition of housing, are too high and need to be lowered for potential buyers.

High rent payments have compelled many people to make efforts at putting up affordable houses to live in. The increasing number of the population, however, puts a lot of pressure on the land available for acquisition for housing. As a result, one parcel of land is sold to more than one potential buyer, leading to several land disputes. There must be guidelines for the sale of land to potential buyers so that landowners who flout these are penalized. Processing of land title documents is also unduly delayed, creating room for acquired land to be re-sold to other buyers.

The rent law, which is supposed to protect both the landlord/landlady and the tenant, seems not to work effectively. The government agency responsible would have to take a second look at the law and make the necessary amendments so that tenants do not suffer unduly from the exploitation of house owners.

## **6.7 Conclusions and Recommendations**

### **Conclusions**

The Ghanaian economy, like those of some developing countries, has gone through many reforms during the past two decades. These reforms are aimed at attaining a level of growth that would translate into improved standards of living for the population, whose size has increased by 53.8 per cent to 18,912,079 in 2000 from that in 1984. The growth in the economy, however, has been below projected levels (at an average of 4 per cent) and the

economy continues to be donor-driven (i.e. dependent largely on external assistance), with a large proportion of the population finding it difficult to meet their basic needs of life.

The agricultural sector continues to be the largest contributor to gross domestic product. Agricultural production is still rain-fed and this makes it difficult for the sector to achieve significant growth to ensure food security for the population. The country still imports large amounts of food items to supplement local production. Several policy measures, which require total commitment to achieve set goals, have been implemented to improve production of some staple crops. Total agricultural production was unstable over the period due partly to unfavourable weather conditions and low productivity of ageing farmers. Growth in the industrial sector has been erratic, even though it has experienced a lot of expansion in the last few years. Lack of inputs and the availability of cheap imported items had led to the closing down of several industries.

The average growth in GDP of 4.0 per cent is not enough to propel the country into a medium-income state as envisaged. The level of inflation, which stood at 123 per cent in 1983, was reduced to 15 per cent at the end of 2002. However, a doubling of the prices of petroleum products in 2003 sent inflation to nearly 30 per cent. The cost of living therefore continued to rise and this is felt particularly in the urban areas where inadequate housing has led to large rent increases. Influx of the youth from the rural areas to the urban centres has also aggravated the situation.

Although wage policies have been geared towards improving incomes, wages in the country continue to be relatively low. The daily minimum wage of 9,200 cedis is slightly over one U.S dollar which is still inadequate. There is no pricing policy in the country and prices of goods and services are, in many instances, based on the exchange rate of the cedi to the major currencies and to the prices of petroleum products.

A large proportion (40 per cent) of the country's population remain poor. Poverty has been identified as a rural phenomenon and the most vulnerable are food crop farmers (58 per cent). The size of the urban poor is also considerable (14.4 per cent).

The private sector has been identified as the "engine of growth" for the economy. There is however, not enough credit for investment and, where this is available, the cost is quite high. The investment climate is stable, with the entrenchment of democracy in the country and a number of incentives, including the waiving of import duty on capital equipment, are available to potential investors. The NBSSI continues to provide skills training to entrepreneurs, while the GIPC promotes Ghana's investment potentials to the outside world.

The production of certain food staples, particularly maize, has increased significantly and the country now produces over one million metric tons of the crop annually. Roots and tubers have also increased in production and the President's cassava initiative as well as the Roots and Tubers Implementation Project of the Ministry of Food and Agriculture are aimed at improving production of the crop for the export market.

The local currency has continued to depreciate against the major foreign currencies. The cedi depreciated by nearly 160 per cent against the U.S dollar between 1991 and 1994. It further depreciated by 101 per cent between January and December 2000.

Money supply also experienced some growth, despite measures by the Bank of Ghana to reduce money supply to bring down the level of inflation. Broad money grew from 16.1 in 1998 to 46.5 per cent in 2000. Fiscal policies have been directed towards generating sufficient revenue and reducing government spending in order to reduce budget deficits which characterized budgets in the past. The introduction of the value added tax to replace the sales tax was meant to broaden the base for indirect taxation.

### **Policy recommendations**

This report has reviewed developments that have taken place within the Ghanaian economy during the past two decades in relation to growth in the population. The ever-increasing population requires that a higher level of growth be achieved in the economy to enable government to provide for the social needs of the people. Some of the policy measures that were implemented to achieve growth yielded positive results, while others failed to achieve the desired goals. Based on the issues arising from this review, the following measures are recommended:

- The government reviews policies drawn up for the attainment of growth in the various sectors that contribute to growth in gross domestic product, notably agriculture and industry.
- Policies for ensuring growth in the agricultural sector should be vigorously implemented to bring about the needed growth in the sector. In particular, the village infrastructure project (VIP), which is designed to provide basic infrastructure to promote agricultural production and marketing should be reviewed. Many of the projects under this initiative, such as the construction of community markets for the sale of farm produce, have been abandoned in various parts of the country and need to be revived.
- The Ministry of Food and Agriculture should collabourate with the Irrigation Development Authority to construct small-scale irrigation schemes to boost agricultural production, since the nation's agriculture cannot continue to rely on rainfall.
- Simple vehicles to carry food and agricultural produce from the growing areas to the marketing centres need to be produced. Improved versions of the goods-truck carrying vehicles used in the urban area markets will help in this area. This alone will relieve farmers of carrying loads and will dramatically improve the availability of agricultural produce on the markets.
- The Department of Feeder Roads should construct roads to link food-growing areas to major roads and should be regularly and properly maintained.
- Price stability can be achieved if waste in the agricultural sector can be reduced. Storage facilities need to be provided for the preservation of excess food when this is not needed immediately. Food availability at reasonable prices would lead to a reduction in inflation.

- Credit accessibility must be made more flexible by financial institutions for businesses to access for growth in the industrial and services sectors. The cost of credit is relatively high and fiscal policies must be targeted at reducing interest rates, so that businesses can access credit for expansion to create jobs for the unemployed to attain growth.
- The incidence of poverty is still rife in the country; the most vulnerable groups, who are mainly food crop farmers in the rural areas, must be targeted for pro-poor intervention programmes. Programmes to reduce poverty must be closely monitored to ensure that they achieve set targets.
- The level of depreciation of the local currency against the major currencies does not encourage investment. The central bank and government must implement policies that would lead to the stabilization of the cedi.
- Revenue is an important source of government income for undertaking development programmes. The revenue collection agencies, namely Customs, Excise and Preventive Service, Value Added Tax Service and the Internal Revenue Service must be provided with all the necessary resources, both human and material, to enable them function well to collect the needed revenue for developmental projects.
- Government at all levels ( national, regional, district) need to integrate population issues and concerns in development programmes more effectively to ensure that these programmes are population-centred. The fertility level has declined over the last two decades, but they are still too high for economic programmes to be effective. More education is needed on the negative effects of high fertility and fast population growth. Some attention also needs to be paid to efforts at more equal spatial distribution of the population by deliberately promoting medium towns as satellites to take off much of the inflow into the cities and regional capitals. If development is fairly spread out, population would cease to be concentrated in only a few centres which put pressure on the economy for the provision of additional facilities.

## List of Acornyms

AFEG	Action for Employment Generation
AGOA	African Growth and Opportunities Act
BAF	Business Assistance Fund
BRRI	Building and Road Research Institute
CPI	Consumer Price Index
ERP	Economic Recovery Programme
GDP	Gross Domestic Product
GEPC	Ghana Export Promotion Council
GLSS	Ghana Living Standards Survey
GPRS	Ghana Poverty Reduction Strategy
GREDA	Ghana Real Estate Developers Association
GSS	Ghana Statistical Service
ISSER	Institute of Statistics, Social and Economic Research
MDAs	Ministries, Departments and Agencies
MPC	Monetary Policy Committee
MSE	Medium and Small Enterprises
NBSSI	National Board for Small Scale Industries
NMP	National Mobilization Programme
PPP	Purchasing Power Parity
RTIP	Roots and Tubers Improvement Project
SBS	Small Business Services
SDA	Social Dimensions of Adjustment
SME	Small Scale Enterprise
STEP	Skills Training and Employment Programme
UNDP	United Nations Development Programme
US	United States
VIP	Village Infrastructure Project

## Annex Tables

**Table A6.1: Consumer Price Index Numbers (Base Year: 1977=100)**

	Combined	Food	Beverages and Tobacco	Clothing And Footwear	Gross Rent, Fuel & Power	Furniture, Furnish- ings & Household Equipment & Opera- tions	Medical Care & Health	Transport & Commu- nications	Recrea- tion, Enter- tainment, Education and Cultural Services	Miscell- aneous Goods & Services
<b>National</b>										
Weight	100.00	49.20	6.20	19.20	6.80	5.10	1.80	4.30	5.50	1.90
Annual Average 1991	16,927.4	11,596.8	22,215.7	20,135.7	24,935.2	22,540.6	14,684.2	30,822.8	21,731.5	18,586.7
" " 1992	18,629.8	12,800.4	23,286.1	21,875.4	30,069.0	23,869.1	15,627.3	31,500.5	25,185.9	20,747.9
" " 1993	23,279.7	15,994.6	29,151.3	25,730.9	39,397.7	29,445.6	17,242.6	42,024.8	33,829.6	26,517.8
" " 1994	29,069.4	20,134.7	35,985.6	32,578.6	46,083.9	37,624.7	19,582.6	49,863.0	45,666.9	32,430.6
" " 1995	46,354.6	32,660.9	55,025.0	52,277.1	67,336.7	57,613.3	25,778.9	83,463.1	79,041.5	48,387.5
" " 1996	67,938.0	44,345.0	81,723.0	80,508.0	90,500.0	86,255.0	36,772.0	164,557.0	108,897.0	69,240.0
" " 1997	86,882.0	53,631.0	107,583.0	101,206.0	122,027.0	105,930.0	44,480.0	229,453.0	151,253.0	89,887.0
" " 1998*	114.6	119.8	109.5	108.2	111.1	107.9	111.1	112.8	106.5	116.4
" " 1999*	128.9	130.2	129.2	125.8	120.5	120.7	120.2	140.0	122.3	157.7
" " 2000*	161.3	145.6	168.5	163.9	198.4	181.8	135.7	207.8	141.8	226.2
<b>Urban</b>										
Weight	100.0	48.6	5.5	16.4	9.6	4.8	1.2	5.4	6.8	1.7
Annual Average 1991	17,062.9	11,570.7	24,009.9	20,482.6	18,380.8	23,723.8	11,395.6	35,152.7	22,114.5	18,614.5
" " 1992	18,657.9	12,893.9	25,946.7	22,218.0	20,700.7	24,610.6	11,994.1	35,751.0	25,470.6	20,500.6
" " 1993	23,479.2	16,437.3	32,128.5	26,146.1	25,868.9	30,516.0	13,008.0	47,247.9	34,533.8	25,393.0
" " 1994	29,547.1	20,723.9	39,845.4	33,548.4	30,820.5	39,689.4	14,370.6	56,162.4	47,065.2	30,137.4
" " 1995	47,824.4	34,083.7	61,832.6	55,389.7	43,684.8	62,855.3	22,587.7	92,220.4	81,743.2	44,399.9
" " 1996	73,545.0	48,163.0	93,176.0	88,357.0	59,605.0	100,440.0	35,454.0	200,872.0	111,337.0	64,455.0
" " 1997	94,601.0	56,872.0	122,247.0	114,397.0	76,210.0	122,532.0	48,906.0	289,240.0	154,376.0	92,649.0
" " 1998*	114.8	119.3	101.3	106.5	111.5	110.4	111.7	120.2	106.3	118.8
" " 1999*	124.2	121.8	115.1	117.7	112.1	115.3	112.0	156.7	120.7	167.3
" " 2000*	158.6	145.1	144.2	157.7	144.3	161.7	105.6	239.6	137.9	248.1
<b>Rural</b>										
Weight	100.0	49.8	6.9	22.2	4.0	5.3	2.4	3.2	4.2	2.0
Annual Average 1991	16,783.8	11,640.8	20,753.6	19,871.9	41,149.3	21,440.8	16,255.1	23,333.8	21,090.4	18,562.9
" " 1992	18,613.4	12,706.9	21,481.0	21,614.9	53,229.4	23,168.0	17,465.8	24,106.0	24,709.2	20,960.1
" " 1993	23,092.0	15,551.8	26,725.3	25,415.2	72,844.1	28,433.6	19,385.4	32,938.2	32,650.7	27,483.8
" " 1994	28,597.5	19,545.5	32,840.4	31,841.0	83,818.5	35,672.4	22,220.0	38,901.1	43,326.6	34,399.9
" " 1995	44,880.5	31,238.0	49,477.4	49,909.7	125,809.2	52,656.8	27,393.8	68,227.8	74,519.2	51,811.9
" " 1996	62,230.0	40,527.0	72,391.0	74,538.0	166,881.0	72,843.0	37,439.0	101,379.0	103,809.0	73,348.0
" " 1997	46,039.0	50,390.0	95,634.0	91,173.0	235,298.0	90,233.0	422,410.0	125,440.0	146,026.0	87,514.0
" " 1998*	114.4	120.1	113.0	109.9	110.4	105.4	110.7	105.4	106.9	112.8
" " 1999*	132.9	136.7	135.1	133.2	131.6	125.6	124.8	123.1	124.3	143.9
" " 2000*	163.9	146.6	178.6	173.1	274.3	200.6	152.7	175.8	147.6	197.2

Source: Ghana Statistical Service, Quarterly Digest of Statistics.

\* New Series (Base year: Sept. 1998=100)

**Table A6.2: Gross Domestic Product in Purchasers' Values at Constant 1993 Prices (Billion Cedis) by Sector**

Economic Sector	1993	1994	1995	1996	1997	1998	1999	2000
<b>Agriculture</b>	<b>1,430.0</b>	<b>1,456.7</b>	<b>1,511.2</b>	<b>1,590.1</b>	<b>1,658.4</b>	<b>1,743.2</b>	<b>1,810.8</b>	<b>1,849.1</b>
Agriculture and Livestock	994.0	1,003.0	1,038.4	1,103.5	1,132.7	1,182.5	1,238.1	1,251.7
Cocoa Production & Marketing	108.1	121.3	134.7	138.6	151.5	168.3	167.5	177.9
Forestry and Logging	107.7	109.6	111.8	114.8	139.5	153.5	163.9	182.1
Fishing	220.2	222.8	226.3	233.2	234.7	238.9	241.3	237.4
<b>Industry</b>	<b>961.1</b>	<b>994.5</b>	<b>1,053.3</b>	<b>1,084.4</b>	<b>1,153.3</b>	<b>1,190.1</b>	<b>1,248.4</b>	<b>1,295.2</b>
Mining and Quarrying	211.4	222.1	234.3	244.2	257.8	273.5	281.7	285.9
Manufacturing	363.3	368.7	375.4	388.4	416.9	433.6	454.4	471.7
Electricity and Water	99.6	104.9	111.2	118.3	130.4	117.4	126.6	132.3
Construction	286.8	298.8	314.4	333.5	348.2	365.6	385.7	405.4
<b>Services</b>	<b>1,065.8</b>	<b>1,118.6</b>	<b>1,170.8</b>	<b>1,220.3</b>	<b>1,300.2</b>	<b>1,378.7</b>	<b>1,447.8</b>	<b>1,525.3</b>
Transport, Storage and Communication	166.0	176.1	183.5	192.7	206.6	218.0	231.0	244.9
Wholesale and Retail Trade, Restaurants and Hotels	224.7	237.1	252.5	273.4	299.4	317.4	338.0	351.5
Finance, Insurance, Real Estate & Business Services	158.8	165.2	170.1	177.3	189.2	201.5	209.6	220.0
Government Services	409.5	430.4	451.9	462.6	482.4	512.3	532.8	564.8
Community, Social & Personal Services	70.8	72.9	74.8	75.6	81.1	85.9	91.0	97.3
Producers of Private Non- profit Services	36.0	36.9	38.0	38.7	41.5	43.6	45.4	46.8
<b>Sub-total</b>	<b>3,456.9</b>	<b>3,569.8</b>	<b>3,717.3</b>	<b>3,894.8</b>	<b>4,111.9</b>	<b>4,312.0</b>	<b>4,507.0</b>	<b>4,669.7</b>
Net Indirect Taxes	415.6	429.3	442.7	456.4	422.0	434.7	449.9	472.4
<b>GDP in Purchasers' Values</b>	<b>3,872.5</b>	<b>3,999.1</b>	<b>4,160.0</b>	<b>4,351.2</b>	<b>4,533.9</b>	<b>4,746.7</b>	<b>4,956.9</b>	<b>5,142.1</b>

Source: Ghana Statistical Service, Quarterly Digest of Statistics.

**Table A6.3: Share of Gross Domestic Product in Purchasers' Values at Constant 1993 Prices by Sector**

Economic Sector	1993	1994	1995	1996	1997	1998	1999	2000
<b>Agriculture</b>	<b>36.9</b>	<b>36.4</b>	<b>36.3</b>	<b>36.5</b>	<b>36.6</b>	<b>36.7</b>	<b>36.5</b>	<b>36.0</b>
Agriculture and Livestock	25.7	25.1	25.0	25.4	25.0	24.9	25.0	24.3
Cocoa Production & Marketing	2.8	3.0	3.2	3.2	3.3	3.5	3.4	3.5
Forestry and Logging	2.8	2.7	2.7	2.6	3.1	3.2	3.3	3.5
Fishing	5.7	5.6	5.4	5.4	5.2	5.0	4.9	4.6
<b>Industry</b>	<b>24.8</b>	<b>24.9</b>	<b>24.9</b>	<b>24.9</b>	<b>25.4</b>	<b>25.1</b>	<b>25.2</b>	<b>25.2</b>
Mining and Quarrying	5.5	5.6	5.6	5.6	5.7	5.8	5.7	5.6
Manufacturing	9.4	9.2	9.0	8.9	9.2	9.1	9.2	9.2
Electricity and Water	2.6	2.6	2.7	2.7	2.9	2.5	2.6	2.6
Construction	7.4	7.5	7.6	7.7	7.7	7.7	7.8	7.9
<b>Services</b>	<b>27.5</b>	<b>28.0</b>	<b>28.1</b>	<b>28.0</b>	<b>28.7</b>	<b>29.0</b>	<b>29.2</b>	<b>29.7</b>
Transport, Storage and Communication	4.3	4.4	4.4	4.4	4.6	4.6	4.7	4.8
Wholesale and Retail Trade, Restaurants and Hotels	5.8	5.9	6.1	6.3	6.6	6.7	6.8	6.8
Finance, Insurance, Real Estate & Business Services	4.1	4.1	4.1	4.1	4.2	4.2	4.2	4.3
Government Services	10.6	10.8	10.9	10.6	10.6	10.8	10.7	11.0
Community, Social & Personal Services	1.8	1.8	1.8	1.7	1.8	1.8	1.8	1.9
Private Non- profit Services	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
<b>Sub-total</b>	<b>89.3</b>	<b>89.3</b>	<b>89.4</b>	<b>89.5</b>	<b>90.7</b>	<b>90.8</b>	<b>90.9</b>	<b>90.8</b>
Net Indirect Taxes	10.7	10.7	10.6	10.5	9.3	9.2	9.1	9.2
<b>GDP in Purchasers' Values</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Ghana Statistical Service, Quarterly Digest of Statistics

**Table A6.4: Gross Domestic Product in Purchasers' Values at Current Prices (Billion Cedis) by Sector**

Economic Sector	1993	1994	1995	1996	1997	1998	1999	2000
<b>Agriculture</b>	<b>1,430.0</b>	<b>1,967.1</b>	<b>3,006.0</b>	<b>4,417.2</b>	<b>5,050.1</b>	<b>6,229.0</b>	<b>7,362.8</b>	<b>9,577.2</b>
Agriculture and Livestock	994.0	1,306.9	1,827.0	2,750.5	3,192.6	3,899.4	4,654.3	5,976.0
Cocoa Production & Marketing	108.1	231.2	523.9	689.6	656.1	852.8	967.5	1,304.9
Forestry and Logging	107.7	138.6	211.2	297.1	477.2	614.4	747.5	1,055.1
Fishing	220.2	290.4	443.9	680.0	724.2	862.5	993.1	1,241.1
<b>Industry</b>	<b>961.1</b>	<b>1,295.9</b>	<b>1,882.8</b>	<b>2,673.5</b>	<b>3,622.6</b>	<b>4,370.1</b>	<b>5,229.8</b>	<b>6,897.8</b>
Mining and Quarrying	211.4	293.5	371.5	536.4	719.8	893.5	1,049.1	1,352.3
Manufacturing	363.3	473.8	723.3	978.7	1,277.5	1,554.5	1,857.2	2,448.3
Electricity and Water	99.6	138.6	205.8	301.9	425.7	448.4	551.3	731.6
Construction	286.8	390.0	582.2	856.5	1,199.6	1,473.7	1,772.3	2,365.6
<b>Services</b>	<b>1,065.8</b>	<b>1,423.0</b>	<b>2,151.4</b>	<b>2,976.3</b>	<b>3,935.8</b>	<b>4,882.9</b>	<b>5,847.2</b>	<b>7,824.1</b>
Transport, Storage and Communication	166.0	224.0	303.4	423.3	580.4	716.5	865.6	1,165.4
Wholesale and Retail Trade/Restaurants and Hotels,	224.7	299.4	454.9	654.5	917.0	1,137.4	1,380.8	1,823.6
Finance, Insurance, Real , Estate & Business Service	158.8	209.4	310.4	429.8	586.6	730.9	866.8	1,155.4
Government Services	409.5	540.1	825.5	1,122.4	1,377.0	1,710.9	2,028.5	2,731.0
Community, Social & Personal Services	70.8	102.7	185.4	249.1	341.6	423.3	511.2	694.2
Private Non- profit Services	36.0	47.4	71.8	97.2	133.2	163.7	194.4	254.4
<b>Sub-total</b>	<b>3,456.9</b>	<b>4,686.0</b>	<b>7,040.2</b>	<b>10,067.0</b>	<b>12,608.5</b>	<b>15,482.0</b>	<b>18,439.8</b>	<b>24,299.1</b>
Net Indirect Taxes	415.6	519.2	712.4	1,272.2	1,504.9	1,813.7	2,139.9	2,853.6
<b>GDP in Purchasers' Values</b>	<b>3,872.5</b>	<b>5,205.2</b>	<b>7,752.6</b>	<b>11,339.2</b>	<b>14,113.4</b>	<b>17,295.7</b>	<b>20,579.8</b>	<b>27,152.7</b>

Source: Ghana Statistical Service, Quarterly Digest of Statistics.

**Table A6.5: Share of Gross Domestic Product in Purchasers' Values at Current Prices by Sector**

Economic Sector	1993	1994	1995	1996	1997	1998	1999	2000
Agriculture	36.9	37.8	38.8	39.0	35.8	36.0	35.8	35.3
Agriculture and Livestock	25.7	25.1	23.6	24.3	22.6	22.5	22.6	22.0
Cocoa Production & Marketing	2.8	4.4	6.8	6.1	4.6	4.9	4.7	4.8
Forestry and Logging	2.8	2.7	2.7	2.6	3.4	3.6	3.6	3.9
Fishing	5.7	5.6	5.7	6.0	5.1	5.0	4.8	4.6
Industry	24.8	24.9	24.3	23.6	25.7	25.3	25.4	25.4
Mining and Quarrying	5.5	5.6	4.8	4.7	5.1	5.2	5.1	5.0
Manufacturing	9.4	9.1	9.3	8.6	9.1	9.0	9.0	9.0
Electricity and Water	2.6	2.7	2.7	2.7	3.0	2.6	2.7	2.7
Construction	7.4	7.5	7.5	7.6	8.5	8.5	8.6	8.7
Services	27.5	27.3	27.8	26.2	27.9	28.2	28.4	28.8
Transport, Storage and Communication	4.3	4.3	3.9	3.7	4.1	4.1	4.2	4.3
Wholesale and Retail Trade, Restaurants and Hotels	5.8	5.8	5.9	5.8	6.5	6.6	6.7	6.7
Finance, Insurance, Real Estate & Business Services	4.1	4.0	4.0	3.8	4.2	4.2	4.2	4.3
Government Services	10.6	10.4	10.6	9.9	9.8	9.9	9.9	10.1
Community, Social & Personal Services	1.8	2.0	2.4	2.2	2.4	2.4	2.5	2.6
Private Non- profit Services	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
<b>Sub-total</b>	<b>89.3</b>	<b>90.0</b>	<b>90.8</b>	<b>88.8</b>	<b>89.3</b>	<b>89.5</b>	<b>89.6</b>	<b>89.5</b>
Net Indirect Taxes	10.7	10.0	9.2	11.2	10.7	10.5	10.4	10.5
<b>GDP Domestic in Purchasers' Values</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Table A6.6: Employment Sector of Economically Active Population by Region and Sex, 2000**

Employment Sector	Per cent	Total	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West
<b>Both Sexes</b>	<b>100.0</b>	<b>9,039,318</b>	<b>913,792</b>	<b>704,698</b>	<b>1,439,383</b>	<b>754,643</b>	<b>978,720</b>	<b>1,731,130</b>	<b>890,407</b>	<b>897,509</b>	<b>429,602</b>	<b>299,434</b>
Public	5.9	533,811	49,762	35,889	156,125	41,427	52,815	103,830	37,696	27,145	15,495	13,627
Private formal	7.8	705,569	70,166	46,926	245,590	35,050	56,847	148,593	43,131	33,585	15,132	10,549
Private informal	80.3	7,263,081	744,459	569,785	960,668	659,606	820,786	1,328,782	757,010	784,208	373,994	263,783
Semi-public or Parastatal	2.9	258,928	24,127	35,578	30,592	8,488	29,824	59,557	33,048	25,303	9,016	3,395
NGOs or International Orgs.	0.8	76,519	6,895	4,354	12,823	2,994	3,721	33,258	4,453	5,393	1,556	1,072
Other	2.2	201,410	18,383	12,166	33,585	7,078	14,727	57,110	15,069	21,875	14,409	7,008
<b>Male</b>	<b>100.0</b>	<b>4,556,297</b>	<b>477,272</b>	<b>325,146</b>	<b>736,086</b>	<b>360,988</b>	<b>480,012</b>	<b>887,851</b>	<b>452,453</b>	<b>473,862</b>	<b>214,521</b>	<b>148,106</b>
Public	7.5	343,061	33,820	23,704	96,997	26,580	33,814	65,662	24,535	18,898	10,580	8,471
Private formal	9.8	445,252	48,986	28,635	155,898	20,219	35,182	94,588	26,853	20,296	8,575	6,020
Private informal	75.6	3,446,446	362,506	244,509	440,933	303,368	382,773	633,095	369,769	401,493	180,688	127,312
Semi-public or Parastatal	3.7	167,733	17,080	20,253	18,070	5,333	18,959	39,287	21,129	19,103	6,380	2,139
NGOs or International Orgs.	1.0	46,739	4,528	2,261	7,512	1,771	2,198	21,257	2,552	3,169	918	573
Other	2.4	107,106	10,352	5,784	16,676	3,717	7,086	34,002	7,615	10,903	7,380	3,591
<b>Female</b>	<b>100.0</b>	<b>4,483,021</b>	<b>436,520</b>	<b>379,552</b>	<b>703,297</b>	<b>393,655</b>	<b>498,708</b>	<b>843,279</b>	<b>437,954</b>	<b>423,647</b>	<b>215,081</b>	<b>151,328</b>
Public	4.3	190,790	15,942	12,185	59,128	14,847	19,001	38,208	13,161	8,247	4,915	5,156
Private formal	5.8	260,317	21,180	18,291	89,692	14,831	21,665	54,005	16,278	13,289	6,557	4,529
Private informal	85.1	3,816,635	381,953	325,276	519,735	356,238	438,013	695,687	387,241	382,715	193,306	136,471
Semi-public or parastatal	2.0	91,195	7,047	15,325	12,522	3,155	10,865	20,270	11,919	6,200	2,636	1,256
NGOs or International Orgs.	0.7	29,780	2,367	2,093	5,311	1,223	1,523	12,001	1,901	2,224	638	499
Other	2.1	94,304	8,031	6,382	16,909	3,361	7,641	23,108	7,454	10,972	7,029	3,417

Source: Population and Housing Census of Ghana, 2000

**Table A6.7: Industry of Employed Population (15 years and over), 1984 and 2000**

Type of Industry	2000		1984		per cent Change 1984/2000
	Per cent	N	Per cent	N	
All Industry	<b>100.0</b>	<b>8,292,114</b>	<b>100.0</b>	<b>5,422,480</b>	<b>52.9</b>
Agriculture, Hunting, Forestry	47.7	3,951,758	59.2	3,210,227	23.1
Fishing	3.0	247,427	1.9	100,740	145.6
Mining and Quarrying	1.9	159,310	0.5	26,826	493.9
Manufacturing	11.5	952,607	10.9	588,418	61.9
Electricity, Gas and Water	0.4	35,200	0.3	15,437	128.0
Construction	2.5	206,501	1.2	64,686	219.2
Wholesale and Retail Trade	15.3	1,267,149	14.3	774,157	63.7
Hotels and Restaurants	3.0	251,203	0.3	17,990	1,296.3
Transport, Storage and Comm.	3.6	297,036	2.3	122,806	141.9
Financial Intermediation	0.6	46,687	0.4	21,915	113.0
Real Estate and Business Activity	1.1	91,803	0.1	5,560	1,551.1
Public Administration	1.4	116,418	1.8	97,548	19.3
Education	2.9	238,164	0.2	13,240	1,698.8
Health and Social Work	0.9	71,539	0.2	8,759	716.7
Other Community Service	3.4	283,987	4.4	235,946	20.4
Private Households	0.8	65,980	2.1	116,396	-43.3

Extra-Territorial Organization 0.1 9,305 0.0 1,829 408.7

Source: Population Census of Ghana, 1984 and 2000.

**Table A6.8: Exchange Rates, 1991-2001**

Year	Cedis per Currency													
	U.S. Dollar	Canadian Dollar	Pound Sterling	French Franc	Swiss Franc	Deutsche Mark	Norwegian Kroner	Swedish Kroner	Danish Kroner	Netherlands Guilder	Belgium Franc	Italian Lire	Japanese Yen	South African Rand
1991	367.78	321.01	649.53	65.38	257.31	223.26	56.87	60.95	57.66	197.33	10.80	0.2959	2.74	-
1992	437.09	361.06	768.55	82.93	312.62	281.18	70.54	75.37	72.76	249.71	13.66	0.3521	3.48	-
1993	648.98	500.59	968.69	112.70	427.01	390.75	91.32	83.30	99.79	349.40	18.75	0.4183	5.88	-
1994	956.71	696.92	1,453.69	170.05	673.37	584.76	136.05	124.33	151.07	527.82	28.75	0.5948	9.39	272.93
1995	1,200.39	875.90	1,883.65	240.48	976.23	828.26	189.80	169.17	214.76	749.34	40.80	0.7385	12.83	331.32
1996	1,637.24	1,201.17	2,559.23	320.16	1,321.29	1,087.90	253.88	244.53	282.17	980.93	52.87	1.0627	15.05	382.63
1997	2,050.28	1,480.54	3,359.07	350.98	1,413.03	1,178.72	289.78	268.52	310.12	1,049.71	57.27	1.2029	16.96	444.58
1998	2,314.17	1,562.13	3,834.28	393.01	1,596.72	1,317.56	310.12	290.11	348.53	1,168.87	63.89	1.3339	17.73	419.88
1999	2,647.28	1,785.69	4,278.33	429.46	1,759.40	1,442.97	339.28	320.32	378.88	1,278.22	69.84	1.4555	23.52	432.73
2000	5,321.70	3,569.31	7,980.50	742.01	3,130.15	2,492.38	600.45	575.95	652.92	2,210.27	120.28	2.1538	49.33	758.43
2001	7,103.98	4,584.31	10,194.89	9,692.51	4,204.68	3,259.99	790.11	688.20	853.19	2,884.27	158.20	3.2873	58.37	834.39

Source: Ghana Statistical Service, Quarterly Digest of Statistics

**Table A6.9: Interest Rates (percentages)**

End of Period	Bank of Ghana				Commercial Banks' Deposit Rates						Other Deposits	
	Government Stocks	Treasury Bills	Other Loans	Re-Discount Rates	Fixed Deposits 3 Months	6 Months	12 Months	24 Months	36 Months		Certificates of Deposits	Savings Deposits
1991	5 - 16.50	20.00	20.00	20.00	13.80-24.60	14.30-24.60	16.00-24.60	16.50-25.20		-	10.83-30.40	10.60-19.50
1992	5 - 16.50	25.41	30.00	30.00	14.00-24.00	15.00-23.50	15.50-22.50	14.00-22.50		-	13.00-22.15	11.00-16.00
1993	5 - 16.50	32.00	35.00	35.00	17.50-32.00	18.00-32.00	17.00-32.00	22.00-32.00		-	16.50-28.50	15.00-22.50
1994	5 - 16.50	29.50	33.00	33.00	14.50-31.00	14.75-31.00	14.00-31.00	22.00-29.25	26.50-29.00	13.75-24.50	13.75-22.50	
1995	5 - 16.50	40.50	45.00	45.00	25.00-36.00	22.75-37.00	23.50-36.00	24.00-35.00		35.00	23.50-37.00	21.50-31.00
1996	5 - 16.50	42.76	45.00	45.00	25.00-40.50	32.00-39.25	27.75-39.50	27.50-35.00		35.00	25.00-37.00	22.00-31.50
1997	5 - 16.50	42.48	45.00	45.00	25.00-39.00	32.00-39.50	27.75-39.75	24.00-35.00	30.00-38.00	25.00-37.00	22.50-32.00	
1998	-	26.75	37.00	37.00	20.00-39.00	16.75-36.50	16.00-36.00	23.75-26.00		-	22.50-28.00	8.00-25.00
1999	-	31.49	27.00	27.00	17.50-26.00	14.50-27.00	16.00-25.00	25.00		-	14.00-23.50	11.00-25.00
2000	-	38.00	27.00	27.00	27.00-40.00	16.50-39.50	12.50-40.00	15.00-18.00		-	15.00-40.50	1.00-35.00

**Table A6.10: Interest Rates (cont'd)**

End of Period	Commercial Banks Lending rates (Minimum and Maximum)						First Ghana Building Society	
	Loans and overdrafts							
	Secured by							
	Agricultural sector	Export sector	Manufacturing sector	Gov't Securities	Stock in trade	Immovable property	Mortgage (lending rates)	
1991	19.50-31.50	22.50-31.50	18.25-31.50	23.00-31.50	23.00-31.50	23.00-31.50	13.00-20.00	28.00
1992	19.75-26.50	19.75-26.50	21.50-26.50	24.00-29.00	24.00-29.00	24.00-29.00	13.00-20.00	28.00
1993	24.00-39.00	23.00-39.00	26.00-39.00	26.00-39.00	26.00-39.00	26.00-39.00	12.00-20.00	28.00
1994	22.00-35.50	20.38-35.50	26.00-35.50	29.00-37.50	29.00-37.50	29.00-37.50	12.00-20.00	28.00
1995	28.00-47.00	34.25-47.00	33.00-47.00	39.00-47.50	39.00-47.50	39.00-47.50	12.00-22.00	28.00
1996	30.00-47.00	30.00-47.00	39.00-47.00	41.50-48.00	41.50-48.00	41.50-48.00	12.00-22.00	28.00
1997	35.00-49.00	35.00-49.00	39.00-49.00	41.50-51.00	41.50-51.00	41.50-51.00	12.00-22.00	28.00
1998	30.00-42.00	31.00-45.00	32.00-45.00	33.00-48.00	33.00-48.00	33.00-48.00	12.00-27.00	38.00
1999	30.00-39.75	31.00-39.75	32.50-40.00	32.50-43.00	32.50-43.00	32.50-43.00	12.00-27.00	38.00
2000	39.00-55.00	39.00-55.00	39.00-55.00	39.00-56.00	39.00-56.00	39.00-56.00	12.00-27.00	38.00

Source: Ghana Statistical Service, Quarterly Digest of Statistics.

**Table A6.11: Money Supply, M2+ (Billion Cedis)**

Type of Supply	2000				2001			
	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
Currency outside banks	1,525.4	1,676.3	1,850.6	2,635.5	2,371.6	2,310.1	2,368.6	3,089.9
Demand Deposit	1,164.6	1,119.9	1,082.0	881.0	1,146.3	1,069.2	1,548.7	2,031.9
Savings and Time Deposits	1,368.5	1,486.4	1,548.4	1,788.4	2,057.9	2,327.1	2,593.4	2,752.3
Foreign Currency Deposits	1,088.2	1,364.7	1,789.2	1,943.2	1,986.5	2,004.9	1,974.6	2,373.9
Total	5,146.7	5,647.3	6,270.1	7,248.1	7,562.3	7,711.3	8,485.3	10,248.0

Source: Bank of Ghana, Statistical Bulletin.

**Table A6.12: Money Supply, M2+ (Billion Cedis), 2002**

Type of Supply	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Currency outside banks	2,879.1	2,736.5	2,753.6	2,758.6	2,715.2	2,795.0	2,900.8	2,937.9	2,955.3	3,434.2	4,025.8	4,671.6
Demand Deposit	2,091.9	2,122.5	2,140.3	2,278.3	2,412.3	2,344.1	2,440.3	2,474.5	2,628.0	2,770.0	3,246.6	3,546.4
Savings and Time Deposits	2,972.4	3,019.4	3,044.7	2,958.1	2,959.3	3,183.6	3,244.0	3,305.0	3,360.2	3,498.7	3,618.5	3,596.7
Foreign Currency Deposits	2,493.2	2,699.7	2,806.6	2,796.6	2,942.1	2,937.1	3,064.7	3,097.7	3,192.1	3,327.7	3,435.5	3,553.3
Total	10,436.6	10,578.2	10,745.2	10,791.7	11,028.9	11,259.8	11,649.9	11,815.1	12,135.7	13,030.6	14,326.5	15,368.1

Source: Bank of Ghana, Statistical Bulletin.

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## CHAPTER SEVEN

### SPATIAL DISTRIBUTION AND DEVELOPMENT<sup>7</sup>

#### **Executive Summary**

Spatial population distribution has not been even in Ghana. There are pockets of high concentration as well as vast lands, which are sparsely populated. The relationship between spatial population distribution and development is quite complex in that while development could result in increased population concentration, high population concentrations could equally attract some developments. There are obviously relevant implications of the kind of spatial population distribution that has taken place in Ghana for urban as well as rural development in the country.

#### **Population Distribution**

The regional population distribution shows that Greater Accra and Northern recorded consistent increases in their share of the total population, while Ashanti had the largest share of the total population during the period 1960-2000. Western, (103.4) Ashanti (101.3) and Brong-Ahafo (100.8) had more males than females in 2000. In terms of population density, marked differences are observed for both the administrative regions and for districts within the respective regions.

#### **Urbanization in Ghana**

Ghana experienced rapid and consistent urbanization during the period 1960-2000, with the percentage of the population living in urban areas rising from 23 per cent through 32 per cent in 1984 to 44 per cent in 2000. The urbanization process has been characterized by the faster growth in the size of the larger settlements than the smaller towns and the resultant concentration of the population in relatively fewer large localities. Both natural increases and influx of population from rural and other smaller settlements into the larger towns/cities have contributed to the process.

#### **Determinants of Population Distribution and Urbanization**

Relevant factors that have affected spatial population distribution and urbanization in Ghana include natural population increase, internal and external migration, natural resource distribution and utilization and national development policies that have been pursued in the past.

#### **Migration and Natural Increase**

Migration's contribution to urbanization in Ghana during the period 1960-1970 was 54.5 per cent but declined to 25 per cent in 1970-1984, with Western and Central experiencing the largest declines. During 1984-2000, migration's contribution to the urbanization process increased slightly to 37.4 per cent.

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<sup>7</sup> This chapter is contributed by Mr. S.O. Kwankye and Mr. Baah Wadieh

The proportion of non-migrant population in each region in 2000 increased while intra-regional migration declined. Inter-regional migration was also not too different between 1984 and 2000. Overall, Greater Accra consistently received the highest inter-regional in-migrants during the period 1960-2000.

In the area of international migration, the 2000 Census records 0.9 per cent of Ghana's population to be international immigrants. At the regional level, Ashanti has the highest proportion of non-Ghanaian population of 1.6 per cent.

### **Natural Resource Distribution and Utilisation**

The pattern of spatial development in Ghana has largely been influenced by the uneven distribution of natural resources which, in turn, has contributed immensely to the pattern of population distribution. In this respect, regions that have natural resources and thereby offering economic opportunities for economic development have attracted more migrant population.

### **National Development Policies and Implementation**

National development policies and implementation have also contributed to the pattern of population distribution and spatial development in Ghana. Although post-colonial governments have made some efforts to move spatial development away from the "golden triangle" created by the colonial regime, success has been minimal and hence there is a north-south dichotomy in spatial development in Ghana.

The decentralisation policy and the creation of new districts have also altered the pattern of spatial population distribution to some extent. An examination of selected "newly created" district capital towns showed relatively higher population increases after their creation but in others not much change has occurred.

### **Education**

On education, the analysis shows that the situation is poorer in rural than in urban areas in all regions. For example, while the never attended school population (6 years and older) in Ghana is 26.7 per cent in the urban areas, it is 48.9 per cent in the rural areas. The regional variation also shows Northern (72.3 per cent), Upper East (69.4 per cent) and Upper West (69.8 per cent) as recording the highest proportion of population never attended school in both rural and urban areas, while Greater Accra (20.7 per cent) has the lowest proportion of the never attended.

### **Housing**

The analysis on housing focuses on the type of dwelling, material used for the outer wall, roof and floor of dwelling. The results indicate that higher proportion of households reside in separate houses in rural areas (33.2 per cent) as against the urban (16.0 per cent). The majority of households in both urban and rural areas however live in compound houses, percentages being higher in the urban than in rural areas in all regions in Ghana.

It is also observed that more mud/mud brick/earth is used in the construction of the outer wall of dwelling in rural areas, the highest proportions (90 per cent or more) occurring in the three northern regions. In contrast, more cement blocks are used in urban areas, the least proportions again found in the three northern regions. In all regions, however, majority of household dwellings are roofed with corrugated metal.

### **Health and Sanitation**

The analysis on health and sanitation looks at solid and liquid waste disposal as well as toilet facility used by households. The results indicate that more than 50 per cent of urban households use public dump to dispose of their solid waste in all regions except Upper East and Upper West. In rural areas, less than 50 per cent of households use public dump except Central, Ashanti and Brong Ahafo. Moreover, 60 per cent or higher of rural households in the three northern regions dump their solid waste “elsewhere”, that is, they had no designated areas for disposing of solid waste. With respect to liquid waste, relatively higher proportions of households dispose of liquid waste on either a street outside or in the compound.

The use of toilet facility shows that 16.2 per cent of urban households use the water closet (WC) toilet facility compared to 1.6 per cent in rural areas. More than 80 per cent of rural households in the three northern regions, have no toilet facility.

### **Fuel for Lighting and Cooking**

Over 70 per cent of urban households use electricity compared to less than 20 per cent throughout Ghana. On the other hand, about a quarter of urban households use kerosene lamp as against 83 per cent in rural areas. The use of electricity among rural households in the three northern regions is 5 per cent or less.

Majority of urban households in Ghana, except Eastern, Brong Ahafo and Northern use charcoal, while in the rural areas majority of households use wood. Apart from Greater Accra, where more than 20 per cent of urban households use liquified petroleum gas (LPG), less than 10 per cent of households use LPG as cooking fuel.

### **Posts and Telecommunication**

With respect to access to post office, the results show that about 83 per cent of the 20 largest localities in each district in Ghana have a post office facility. On the other hand, only 16.4 per cent of these localities that are rural (out of the 20 largest localities in each district) have a post office facility. Seventeen per cent of the urban localities with no post office facility are about an average of 17 kilometres to the nearest post office facility.

On access to telephone facility, 81 per cent of the urban localities out of the 20 largest localities in each district in Ghana have a telephone facility. On the other hand, only 13 per cent of the rural localities have a telephone facility. The 19 per cent of the urban localities with no telephone facility are about an average of 16 kilometres to the nearest post office facility. On the other hand, the 83.6 per cent of the rural settlements with no post office facility are about an average of 22 kilometres to the nearest post office facility.

### **Water Supply**

It is observed that 67 per cent of urban households in Ghana have pipe borne water facility whether inside or outside the house, compared to 15 per cent in the rural areas. A comparison of the regions shows that Greater Accra is the most advantaged, with respect to access to pipe borne water supply, while the three northern regions are the most deprived.

### **Challenges of Spatial Distribution for Development**

Uneven spatial development, increasing urbanization and urban primacy, spatial inequality in development and issues about resource allocation for development are identified as the major challenges that need to be overcome in order to achieve balanced spatial development in the country.

### **Recommendations**

More practical ways should be evolved to incorporate population factors into development planning at all levels, especially at the district level. This means monitoring the dynamics of the population as the basis for making development planning decisions.

There should be a policy to deliberately focus on rural areas for targeted development investment. This has the advantage of bridging the spatial development gap between the rural and urban areas in Ghana. Furthermore, policies should be evolved to aggressively target the three northern regions for massive development investments to overcome the north-south spatial development dichotomy.

Finally, the practice whereby development resource allocation is based principally on a district's population size should be reviewed to incorporate factors such as the spatial pattern of population distribution, the land size, level of spatial development and the district capacity in internal resource generation and mobilization.

## **7.1 Introduction**

The population of every country is its first and most important resource for development. This is because the identification and exploitation of any natural resource are dependent on the capability of the human population in terms of the technological know-how and skills that are available to them. Like natural resources, however, population is not evenly distributed spatially anywhere. While there are pockets of heavy concentrations, there are equally vast lands which are sparsely populated or largely uninhabited. A number of factors account for this. These include climatic, vegetational cover and topographical factors which primarily determine the availability of habitable land, water and fertile soils.

These above-mentioned factors are affected by human decisions and actions which sometimes apportion land for different uses, such as natural reserves, industrial use, parks and gardens, clearly then, while the natural environment presents challenges and opportunities for human habitation, it is the human population that ultimately determines which place they would finally settle, based on their level of technology and the decisions they make.

In Ghana, the natural environment has, to an appreciable extent, affected the spatial location of people. For example, the Akwapim and Kwahu topographical landscape has posed challenges and physical barriers to the creation of settlements. Road network to settlements on the Akwapim and Kwahu ridges tends to prohibit frequent migration of people to these ridges for permanent habitation. Similarly, natural disasters affect the pattern of population distribution. The construction of the Akosombo dam and the subsequent creation of the Volta Lake, for example, displaced and relocated a sizeable population that originally was living along the Volta River. At the same time, the outbreak of diseases could affect population distribution, as in the case of the onchocerciasis zone in the middle belt along the Black Volta basin and the prevalence of river blindness, sleeping sickness brought about by the black fly. Although these environmentally related diseases have been overcome in recent times, the areas hitherto noted for onchocerciasis have not attracted large populations to take advantage of the vast lands for agricultural activities.

Historically, population distribution has followed the spatial pattern of ethnic groupings which dates back to the period before colonisation, especially during the slave trade era, when the location of particular ethnic groups, to some extent, determined their source of protection. Following colonisation and subsequent development of the coastal ports and harbours as well as the forest belt, the northern territories, now made up of Northern, Upper East and Upper West, became a major source of labour for the forest agricultural belt and key mining centres down south. The pattern of north-south labour movements in Ghana therefore dates back to pre-colonial and colonial periods of developments.

The relationship between spatial population distribution and development is complex, in that while development could result in increased population concentration, at the same time, heavy population concentrations could attract some development. Clearly then, the spatial population distribution has over the years had relevant implications for spatial development and vice-versa.

The definition of an urban and rural area in Ghana has been on the basis of size of the population of localities/settlements. In this respect, all settlements with 5,000 or more persons are considered urban, while the residual (with less than 5,000 persons) are regarded as rural. With this definition come implications of spatial distribution for urban and rural development.

The classification of settlements into rural and urban based on population size alone is simple and easy to determine. The classification, however, is limited to the extent of its exclusion of basic development indicators including health, education, housing and other infrastructural facilities. The definition does not also take into account the economic base of the settlement, that is, whether it is largely primary or secondary economic activity that dominates. The definition, based strictly on population size, creates situations where a settlement with modern infrastructure, including health and educational institutions as well as telecommunication facilities but with population less than 5000 is classified as rural while another settlement without all these facilities but has population of 5,000 or more is classified as urban.

In spite of these limitations, the current definition as used in Ghana is easily operational in that it avoids the complication of determining what measure of infrastructure development in addition to what threshold population size should qualify a settlement as an urban area. The analysis in this report therefore uses the population-based definition of an urban area (5,000 or more) currently in operation.

Over the years, rapid urbanisation has been experienced in Ghana, characterised by urban primacy where there are a few very large towns with several settlements with very small population sizes. For example, evidence from the 1960, 1970, 1984 and 2000 Censuses indicates that more than 95 per cent of all the settlements in the country have less than 1,000 inhabitants. Such a situation presents relevant challenges for urban vis-à-vis rural development in the country.

Two active processes have largely contributed to population distribution and redistribution in Ghana as elsewhere in the world. These are natural population increase and internal/international migration. Fundamental in these two processes is the reality of limited natural resource availability and inequitable distribution across the country. These constitute the strong basis for population distribution and redistribution, which also affect the development of urban communities. In this report, however, the effect of international migration on population distribution and urban development has been limited to immigration only, since the 2000 Census is a de facto count and does not specifically cover Ghanaian emigrants. Nonetheless, a sizeable proportion of the Ghanaian population, particularly the professional health personnel (doctors and nurses) are resident outside Ghana notably in North America and Europe.

Urbanisation may be desirable, but it is important that the pattern of distribution is matched by resources to address issues pertaining to urban development. At the same time, increases in population concentrations should be balanced spatially in order that spatial development could equally be fairly distributed. This is however difficult to achieve, because factors that influence urbanisation defy any logic of fairness. Urbanisation has both positive and negative implications for development.

The main variables of spatial population that have been analysed in this report are differences between fertility and mortality (natural increase) and population movements (migration). The analysis is also at the level of the administrative regions in Ghana. These artificially created regions in several areas cut across ethnic groups which hitherto were considered as one socio-cultural entity. A number of such ethnic entities are therefore in each of the 10 regions in the country. These ethnic groupings have influenced the spatial pattern of population distribution in Ghana. For example, while some ethnic groups are known to be migratory in character, others are not. The examination of spatial population distribution in Ghana takes cognisance of the historical, cultural, ecological and modern patterns of spatial developments resulting from policies of government for the enhancement of quality of life for the population.

Against the foregoing background, this report examines the trends in population distribution and urbanisation during 1960-2000 and the factors that have affected population distribution and urbanisation in Ghana. Factors including natural population increase, internal and external migration, natural resource distribution and utilisation as well as national development policies and implementation are discussed. Variation in urban development is also analysed with respect to education, housing, health and sanitation, posts and telecommunication, electricity and water supply in addition to road network. On the basis of these analyses, the challenges of spatial population distribution for urban and rural development are underlined and recommendations made.

## 7.2 Trends in Population Distribution: 1960-2000

### Introduction

The pattern of population distribution in Ghana has been influenced by historical, cultural, political and natural factors as well as present day developments such as prevailing economic activities, infrastructural development and availability of social amenities. This section discusses the nature and extent of spatial distribution of the population of Ghana from 1960 to 2000, using information from the four post-independence censuses.

### Population Distribution by Region

The spatial distribution of Ghana's population shows that within the administrative units, whether as region or district, there has not been uniformity, a reflection of changes that have occurred over time as a result of the interplay of the politico-social and economic factors discussed earlier.

Table 7.1 presents the population as enumerated in the 10 administrative regions of Ghana in the post-independence censuses. It is observed that Greater Accra and Northern have consistently recorded increases in their share of the population over the period. In contrast, Central, Volta, Eastern, Upper East and Upper West have experienced continuous decline in their share of the country's population during the same period. The relative shares of Western, Ashanti and Brong Ahafo generally increased over the period but with fluctuations.

**Table 7.1: Relative Share of Population and Intercensal Growth Rates by Region, 1960-2000**

Region	Relative Share of Population				Annual Growth rates ( per cent)		
	1960	1970	1984	2000	1960-1970	1970-1984	1984-2000
All Regions	100.0	100.0	100.0	100.0	2.4	2.6	2.7
Western	9.3	9.0	9.4	10.2	2.1	3.0	3.2
Central	11.2	10.4	9.3	8.4	1.7	1.8	2.1
Greater Accra	8.1	10.6	11.6	15.4	5.2	3.3	4.4
Volta	11.6	11.1	9.8	8.6	2.0	1.8	1.9
Eastern	15.5	14.1	13.7	11.1	1.5	2.4	1.4
Ashanti	16.4	17.3	17.0	19.1	2.9	2.5	3.4
Brong Ahafo	8.7	9.0	9.8	9.6	2.7	3.3	2.5
Northern	7.9	8.5	9.5	9.6	3.2	3.4	2.5
Upper East	7.0	6.3	6.3	4.9	1.5	2.6	1.1
Upper West	4.3	3.7	3.6	3.0	1.0	2.3	1.7
N	6,726,815	8,559,313	12,296,018	18,912,079			

Source: 1960, 1970, 1984 & 2000 Population Censuses of Ghana

Ashanti has consistently been the most populous region, rising to about a fifth (19.1 per cent) in 2000. Greater Accra, which since 1970, follows after Eastern as the third most populous, assumed the position of second most populous region, with 15.4 per cent in 2000, nearly doubling its relative share of 8.1 per cent in 1960. The regions with increased relative shares in the country's total population could be attracting migrants as a result of increased economic opportunities in contrast to the regions with declining per centage shares during the period.

The intercensal growth rates have not been uniform across regions. For each region also, the rate has varied from one census to another. Overall, however, Greater Accra has had the highest growth rate during the period 1960-2000, except in 1970-1984 when Northern recorded the highest population growth rate. It is also significant to note that Eastern, Upper East and Upper West had dramatic reduction of their population growth rates from 1970-1984 to 1984-2000, an indication that these regions were the least migrant-attracting regions by 2000.

### **Population Distribution by Sex**

The sex ratio (number of males to 100 females) for the country declined from 102.2 in 1960, to 97.3 in 1984 and then rose slightly to 97.9 in 2000 (Table 7.2). Except in 1960, therefore, women have constituted a higher proportion of Ghana's population. The reduction in the sex ratio, particularly between 1960 and 1970, could be the result of the Aliens Compliance Order, which led to the repatriation of illegal immigrants, majority of whom were male farm hands. During the period 1970-1984, the country suffered from out-migration of Ghanaian nationals, the majority of whom were males, to neighbouring countries, especially Nigeria in search of employment opportunities. This exodus of Ghanaians might have reduced the sex ratio further during the period. The apparent rise in sex ratio in 2000 could be attributable partly to the return of Ghanaian migrants from their sojourn abroad after the country's return to democratic constitutional rule in 1992 and an improvement in the economic situation.

**Table 7.2. Sex Ratios by Region in Ghana, 1960-2000**

Region	1960	1970	1984	2000
Western	110.2	104.7	102.6	103.4
Central	95.0	93.8	95.9	91.2
Greater Accra	112.0	104.9	96.0	97.7
Volta	95.2	92.5	93.9	93.6
Eastern	102.2	98.3	98.7	96.8
Ashanti	104.9	99.1	97.0	101.3
Brong Ahafo	111.2	104.5	103.5	100.8
Northern	104.0	102.1	98.1	99.3
Upper East	93.2	90.8	91.0	92.6
Upper West	92.0	89.2	90.2	92.1
All Regions	102.2	98.5	97.3	97.9

Source: 1960, 1970, 1984 & 2000 Population Censuses of Ghana

The regional sex ratios show that whereas six regions in 1960 had a predominance of males, it is so only in Western (103.4), Ashanti (101.3) and Brong Ahafo (100.8) in 2000. Indeed, only Western and Brong Ahafo have remained male dominated throughout the period and this may be due to the farming and mining activities in these regions which are typically male dominated. In the other regions where females were predominant in 2000, three (Central, Volta and Eastern) recorded declines in the 1984 sex ratios, while four (Greater Accra, Northern, Upper East and Upper West) recorded a rise in the 1984 ratios. It is worth noting that Central, Volta and Eastern also experienced a decline in their relative share of the total population over the period, suggesting the possibility of increased out-migration of more males than females from these regions.

### **Urban and Rural Share of Population**

The regional share of the country's population in terms of urban and rural localities of residence is presented in Table 7.3. It is noted that the relative share of the urban population in Ghana has steadily risen from 23.1 per cent in 1960 through 32.0 per cent in 1984 to 43.8 per cent in 2000.

As in previous censuses, majority of the population (56.2 per cent) continued to live in rural settlements in 2000; some variations were however observed at the regional level. The regional urban-rural populations show that majority of inhabitants in Greater Accra (87.7 per cent) and Ashanti (51.3 per cent) in 2000 live in urban areas. The populations resident in urban settlements in the other regions constitute less than 40 per cent, with the share of rural populations ranging from 62.5 per cent in Central to 84.3 per cent in Upper East.

It is worth noting, though, that the share of the rural population in each region declined between 1984 and 2000, suggesting that urbanization is increasing with time in all the regions but with varied intensity. During the period also, the urban population increased by more than five-fold (from 1.55 million to 8.27 million), compared with about two-fold increase in the rural population (from 5.18 million to 10.64 million). This shows that urbanization has continued to be rapid in Ghana, resulting from the upgrading of former rural localities into urban status and the growth in most of the existing urban localities through natural increase

**Table 7.3: Distribution of Population by Region and Urban/Rural Place of Residence**

Region	Population n			Relative Share	
	Total	Urban	Rural	Urban	Rural
<b>1960</b>					
Western	626,155	154,612	471,543	24.7	75.3
Central	751,392	210,411	540,981	28.0	72.0
Greater Accra	541,933	393,387	148,550	72.6	27.4
Volta	77,285	102,101	675,184	13.1	89.9
Eastern	1,044,080	220,765	823,315	21.1	78.9
Ashanti	1,109,133	276,772	832,361	24.9	75.1
Brong Ahafo	587,920	91,491	496,429	15.6	84.4
Northern	531,573	69,063	462,510	13.0	87.0
Upper East	468,638	18,234	450,404	3.9	96.1
Upper West	288,706	14,342	274,342	5.0	95.0
All Regions	6,726,815	1,551,174	5,175,641	23.1	76.9

<b>1970</b>					
Western	770,087	207,343	562,744	26.9	73.1
Central	890,135	258,636	631,499	29.1	70.9
Greater Accra	851,614	726,553	125,061	85.3	14.7
Volta	947,268	151,096	796,172	16.0	84.0
Eastern	1,261,661	310,073	951,588	24.6	75.4
Ashanti	1,481,698	440,526	1,041,172	29.7	70.3
Brong Ahafo	766,509	169,072	597,437	22.1	77.9
Northern	727,618	148,320	579,298	20.4	79.6
Upper East	542,858	39,463	503,395	7.3	92.7
Upper West	319,865	21,374	298,491	6.7	93.3
All Regions	8,559,313	2,472,456	6,086,857	28.9	71.1
<b>1984</b>					
Western	1,157,807	261,766	896,041	22.6	77.4
Central	1,142,335	329,196	813,139	28.8	71.2
Greater Accra	1,431,100	1,188,279	242,821	83.0	17.0
Volta	1,211,907	247,906	944,001	20.5	79.5
Eastern	1,680,890	466,276	1,214,614	27.7	72.3
Ashanti	2,090,100	679,750	1,410,350	32.5	67.5
Brong Ahafo	1,206,608	321,106	885,502	26.6	73.4
Northern	1,164,583	293,462	871,121	25.2	74.8
Upper East	772,743	99,506	673,237	12.9	87.1
Upper West	483,008	47,549	390,459	10.9	89.1
All Regions	12,296,081	3,934,796	8,361,285	32.0	68.0
<b>2000</b>					
Western	1,924,577	698,418	1,226,159	36.3	63.7
Central	1,593,823	598,405	995,418	37.5	62.5
Greater Accra	2,905,726	2,547,684	358,042	87.7	12.3
Volta	1,635,421	441,084	1,194,337	27.0	73.0
Eastern	2,106,696	727,914	1,378,782	34.6	65.4
Ashanti	3,612,950	1,853,065	1,759,885	51.3	48.7
Brong Ahafo	1,815,408	678,780	1,136,628	37.4	62.6
Northern	1,820,806	483,790	1,337,016	26.6	73.4
Upper East	920,086	144,282	775,807	15.7	84.3
Upper West	576,583	100,848	475,735	17.5	82.5
All Regions	18,912,079	8,274,270	10,637,809	43.8	56.2

Source: 1960, 1970, 1984 & 2000 Population Censuses of Ghana

The changes in urban and rural populations are reflected in the higher rate of increase of the urban population as against the rural population (Table 7.4). It is also worth noting that apart from the 1960-1970 period when it recorded negative increase, Greater Accra has recorded very high rates of rural population increases. Equally important are the higher rate of urban population increases for the three northern regions. For 1960-1970 and 1984-2000 intercensal periods, the rate of increase is higher for urban population than rural and this is true for all regions. For the 1970-1984 period, however, the reverse is true for only Western, Central and Greater Accra.

**Table 7.4 Rates of Increase by Region**

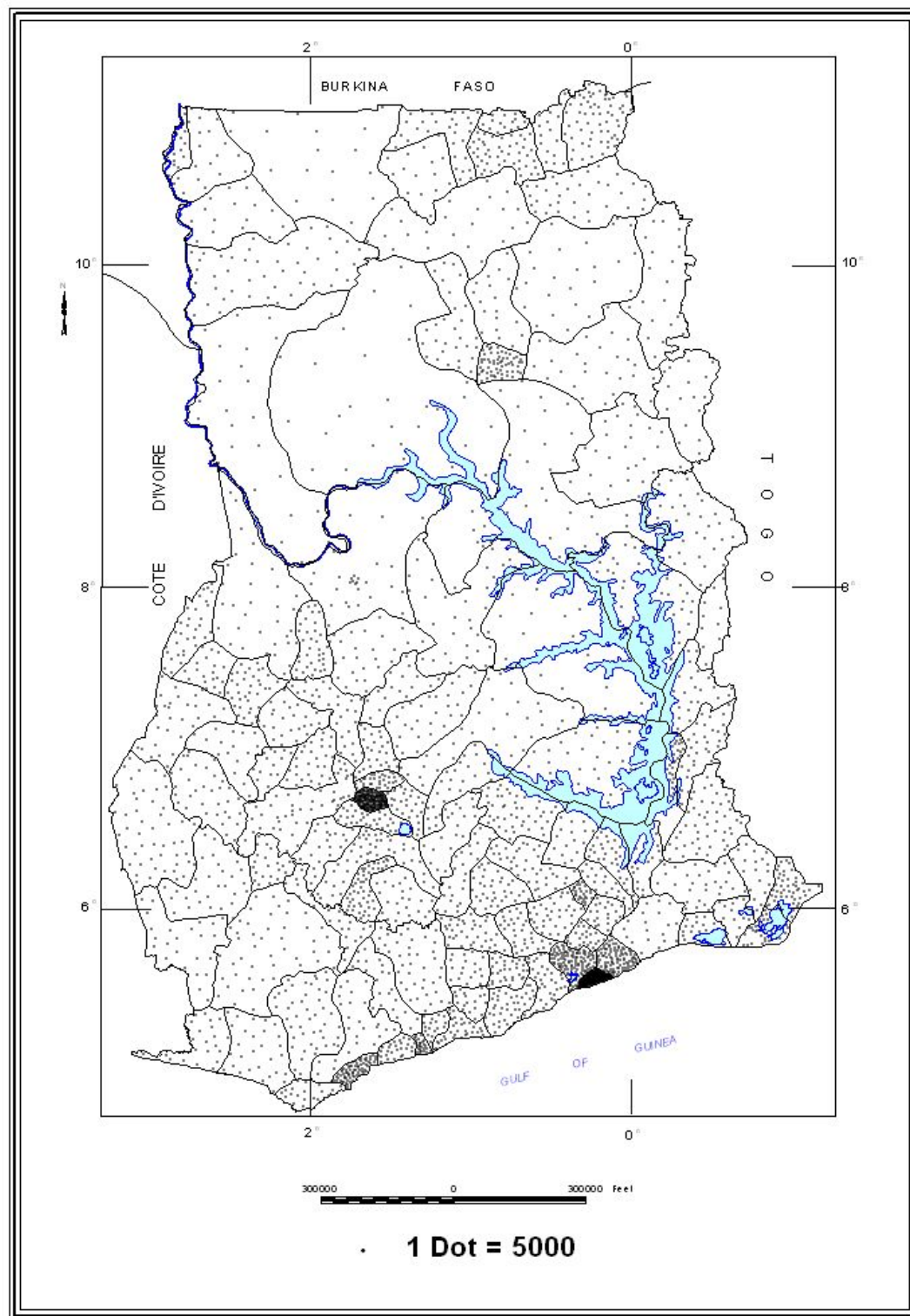
Region	Total Population			Urban Population			Rural Population		
	1960- 1970	1970- 1984	1984- 2000	1960- 1970	1970- 1984	1984- 2000	1960- 1970	1970- 1984	1984- 2000
Western	23.0	50.3	66.2	34.1	26.2	166.8	19.3	55.2	36.8
Central	18.5	28.3	39.5	22.9	27.3	81.8	16.7	28.8	22.4
Greater Accra	57.1	68.0	103.0	84.7	63.6	114.4	-15.8	94.2	47.5
Northern	22.6	27.5	34.9	48.0	64.1	77.9	17.9	18.6	26.5
Eastern	20.8	33.2	25.3	40.5	50.4	56.1	15.6	27.6	13.5
Ashanti	33.6	41.1	72.9	59.2	54.3	172.6	25.1	35.5	24.8
Brong Ahafo	30.4	57.4	50.5	84.8	89.9	111.3	20.3	48.2	28.4
Northern	36.9	60.1	56.3	114.8	97.9	64.9	25.3	50.4	53.5
Upper East	15.8	42.3	19.1	116.4	152.2	45.0	11.8	33.7	15.2
Upper West	10.8	51.0	19.4	49.0	122.5	112.1	8.8	30.8	21.8
All Regions	27.2	43.7	53.8	59.4	59.1	110.3	17.6	37.4	27.2

Source: 1960, 1970, 1984 & 2000 Population Censuses of Ghana

The population distribution of Ghana is presented more pictorially in Map 7.1. From the Map, it is quite clear that generally the highest population concentrations are found in the southern half of the country particularly along the coast and the middle forest. Pockets of concentration can also be identified in the northeastern corner and around Tamale.

MAP 7.1

**POPULATION DISTRIBUTION OF GHANA (2000)**



### **Population Density**

Population density may be used to describe the degree of spatial concentration of the population. The benefit of this indicator is that it identifies densely settled areas that may require much more planning of public services and more attention to long term environmental issues. It therefore facilitates effective formulation and implementation of population redistribution policies. The national density of population for 2000 was recorded as 79 persons per square kilometre, having risen from 28 persons per square kilometre in 1960 through 36 in 1970 and 52 in 1984.

Marked differences in population density have been observed for the administrative regions. Greater Accra has continued to be the most densely settled region, recording a density of 896 persons per square kilometre in 2000, having increased from 278 in 1970 to 441 in 1984. Central and Ashanti recorded the next highest population densities of 162 and 148 persons per square kilometre in 2000. In contrast, Northern (26) and Upper West (31) recorded the lowest densities in 2000 (as was in 1984) and thus constitute the most sparsely populated regions in Ghana (Table 7.5).

**Table 7.5: Population Density of Ghana (1960-2000)**

Region	Area (Sq. Km)	1960		1970		1984		2000	
		Population	Density	Population	Density	Population	Density	Population	Density
Western	23,921	626,155	26	770,087	32	1,157,807	48	1,924,577	81
Central	9,826	751,392	76	890,135	91	1,142,335	116	1,593,823	162
Greater Accra	3,245	541,933	167	903,447	278	1,431,099	441	2,905,726	896
Volta	20,570	777,285	38	947,268	46	1,211,907	59	1,635,421	80
Eastern	19,323	1,044,080	54	1,209,828	63	1,680,890	87	2,106,696	109
Ashanti	24,389	1,109,133	45	1,481,698	61	2,090,100	86	3,612,950	148
Brong Ahafo	39,557	587,920	15	766,509	19	1,206,608	31	1,815,408	50
Northern	70,384	531,573	8	727,618	10	1,164,583	17	1,820,806	26
Upper East	8,842	468,638	53	542,858	61	772,744	87	920,086	104
Upper West	18,476	288,706	16	319,865	17	438,008	24	576,583	31
All Regions	238,533	6,726,815	28	8,559,313	36	12,296,081	52	18,912,079	79

Source: 1960, 1970, 1984 & 2000 Population Censuses of Ghana

It is noted that within each region, there are district variations in population density. For example, within Greater Accra, very high densities are recorded in 2000 for the Accra Metropolitan Area (5,530) and Tema Municipality (1,151), while relatively low population densities are recorded for Dangme West (58) and Dangme East (145). Similarly, although Northern is the most sparsely settled region, the Tamale Municipality recorded a high density of 408 persons per square kilometre in 2000. The Kumasi Metropolitan Area also recorded a density of 5,319 persons per square kilometer as against the regional figure of 148. On the other hand, very low densities are recorded for West Gonja (8), East Gonja (13) and Bole (13) in Northern, Sissala (12) in Upper West and Sene (10) in Brong Ahafo. Appendix A7.1 presents information on population densities of districts by region to illustrate the variations that exist within the regions. Map 7.2 also provides a pictorial presentation of population concentration by districts, clearly indicating that Central, Greater Accra, Eastern, Ashanti and Upper East have relatively higher concentration of population than others.

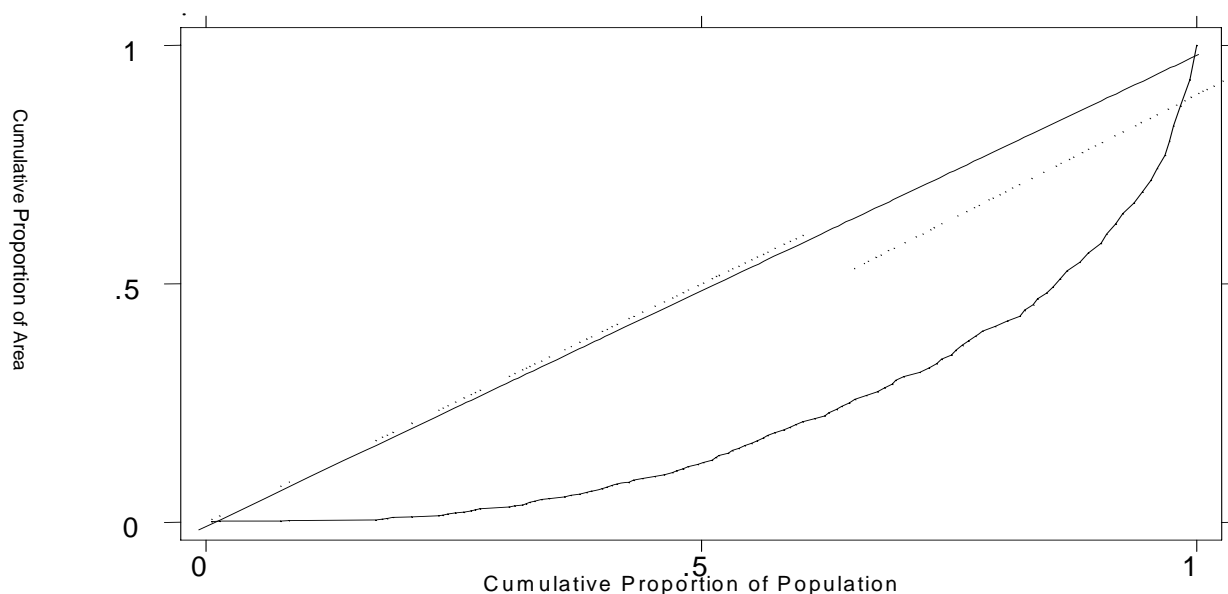
### GHANA POPULATION DENSITY BY DISTRICT (2000)



### **The Gini Concentration Ratio**

An attempt has been made to examine the degree of evenness in the spatial distribution of Ghana's population. Information on the population densities has been used to compute a summary measure of how unevenly Ghana's population is distributed spatially, by employing the Gini concentration ratio and its associated Lorenz curve. The Gini ratio is useful in analysing the historical concentration of the total population and/or within administrative regions. The value of the ratio ranges from zero (indicating a perfectly even distribution) to one (denoting absolute unevenness of a distribution). The higher the value of the index, therefore, the higher the concentration of the population within specific areas of the country and the more uneven the distribution. If the population were perfectly evenly distributed in a country, a given proportion of the country's territory would have the same proportion of its population. The Lorenz curve depicts graphically, the level of unevenness of the distribution (Fig 7.1).

**Figure 7.1: Lorenz Curve for Measuring Population Concentration, 2000**



The Gini concentration ratio computed for the country as a whole in 2000 is 0.44; which is higher than the 1984 index of 0.34 (Table 7.6). The concentration of the population in the administrative regions of Ghana is therefore relatively more uneven in 2000 than in 1984. There is relatively higher concentration of the population in pockets of areas in Greater Accra and Ashanti than others. The Duncan index presented in Table 7.6, also shows that there is a trend towards higher population concentration between 1970 and 2000.

**Table 7.6: Gini Concentration Ratio and Duncan Index of Concentration**

Duncan Index

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Year	Gini Ratio	( per cent)
1970	0.43	33.7
1984	0.34	31.6
2000	0.44	24.7

Source: Computed from the 1970, 1984 & 2000 Population Censuses of Ghana

Analysis of the concentration of the population within the respective regions in 2000, using the district densities and the population to compute gini ratios confirms the observation of marked variations in population concentration within the respective regions. The distribution is more uneven in Greater Accra which recorded a ratio of 0.72 (Table 7.7), a situation attributable to the fact that the majority of the population of the region (57 per cent) live in the Accra Metropolitan Assembly (AMA) which accounts for only 8 per cent of the total land area of the region. In contrast, the concentration is much more even in Upper East, which recorded a ratio of 0.24, with 83 per cent of the inhabitants occupying about 66 per cent of the total land area of the region. Three other regions, Brong Ahafo (0.43), Ashanti (0.55) and Northern (0.44), recorded gini ratios around 0.40-0.50, while all other regions recorded indices of concentration that were much lower than the national index of 0.44 in 2000, an indication of relatively less uneven concentration of the population in those regions. Most regions recorded lower indices of concentration in 2000 than the previous census years, except for Ashanti, Brong Ahafo and to some extent, Northern and Central.

**Table 7.7: Gini Concentration Ratio by Region, Ghana**

Region	1970	1984	2000
All Regions	0.4312	0.3443	0.4347
Greater Accra	0.7537	0.7592	0.7156
Ashanti	0.5194	0.3607	0.5460
Northern	0.4510	0.4409	0.4426
Brong Ahafo	0.4229	0.3757	0.4270
Central	0.4185	0.3639	0.3834
Eastern	0.4353	0.4083	0.3616
Volta	0.4360	0.4000	0.3413
Upper West	0.4142	0.4109	0.3371
Western	0.5103	0.3872	0.3253
Upper East	0.2856	0.2916	0.2413

Source: Extracted from Appendix II & Analysis of Demographic Data (Vol.2), Detailed Analysis Report, (Ghana Statistical Service, 1995).

### **Population of Principal Cities and Other Large Towns**

Cities and large towns play key roles in the distribution of the country's population. This is because with their large population, the cities and large towns assume economic and administrative importance in the country and, consequently, they tend to attract new settlers/migrants. Information on the large localities, therefore, is crucial in formulating policies on population distribution in the country.

Settlements with a population of 20,000 or more in the 2000 Census have been classified as the major towns in Ghana and these are used in the following analysis of the distribution of large towns presented in Table 7.8. The primacy index is premised on the assumption that if cities follow the size-rank rule (with an exponent equal to 1), then the ratio of the largest city to the next three largest cities/towns should be close to 1. Thus, the index shows the primacy of the population of the largest city in relation to that of the next three largest cities/towns.

**Table 7.8: Summary Indices of Population of Large Towns (20,000 or more), 2000**

Index	Value		
	1970	1984	2000
Total Population	8,559,313	12,296,081	18,912,079
Urban Population	2,472,456	3,934,796	8,274,270
Rural Population	6,086,857	8,361,285	10,637,809
Urban Share	28.89	32.00	43.75
Urban/Rural Ratio	0.41	0.47	0.78
Large Town's Population (20,000 or more)	1,670,899	2,744,848	5,568,901
Population of Other Localities	6,888,414	9,551,233	13,343,178
Number of Large Towns	20	34	59
Primacy Indices:			
First 4 large towns	1.223	1.291	1.072
First 11 large towns	1.495	1.639	1.433
Large Town Concentration Ratio	0.593	0.625	0.650

Source: Computed from the 1970, 1984 & 2000 Population Censuses of Ghana

The primacy index for the first 4 largest cities/towns in 2000 was computed as 1.072, indicating fairly low primacy of the capital city (Accra Metropolitan Area) over the next three most populous settlements (Kumasi Metropolitan Area, Tamale Municipality and the Takoradi sub-metro - Shama-Ahanta East Metropolitan Area). Primacy indices for 1970 (1.223) and 1984 (1.291) presented in Table 7.8 were higher than that for 2000. The lowering of the primacy index in 2000 is attributable mainly to the faster expansion in the population of the Kumasi Metropolitan Area (KMA- the second largest city) during the period 1984-2000. KMA recorded a growth rate of 5.6 per cent compared to 3.4 per cent for the Accra Metropolitan Area (the largest city) in 1984-2000. The re-demarcation of the Accra Metropolitan Area (AMA), which resulted in the allocation of some fast growing outlying communities and suburbs to the Ga District during the period, also contributed to lowering the primacy index in 2000.

The primacy index is higher when computed for the first 11 cities/towns, thus giving an impression that there are relatively fewer large settlements compared to the largest city (AMA) and that most settlements that are ranked after the first four are much smaller in size.

The city/large town concentration ratio also gives an indication of how evenly or unevenly the population is distributed among the major settlements with a population of 20,000 or more. The higher the ratio, the higher the concentration of the population in fewer settlements and the distribution is seen as uneven. The ratio was computed as 0.59 in 1970, 0.63 in 1984 and 0.65 in 2000 (Table 7.8), indicating a trend towards increasing concentration of the population in relatively fewer large towns. It also suggests that the larger towns are increasingly attracting population from the relatively smaller settlements in the country, a situation that further increases the level of unevenness of spatial population distribution in Ghana.

### **7.3 Urbanization in Ghana**

#### **Introduction**

Urbanization is the concentration of population in urban localities. The tendency for people to change residence from rural to urban areas (or from other smaller urban areas with an

increasing proportion of them settling in large towns) raises issues about urbanization and these need to be analyzed critically for the formulation of effective spatial development policies.

### **Trend of Urbanization**

The proportion of the total population living in urban localities in Ghana rose from 23 per cent in 1960 through 29 per cent in 1970 and 32 per cent in 1984 to 44 per cent in 2000. This indicates that the population of Ghana is steadily becoming urbanized, possibly through the drift of the rural population into urban areas. There is also the factor of natural population increase as a key contributing factor to urbanization; with time, semi-urban settlements (2000-4999) increase their population through natural increase to attain the 5,000 inhabitants threshold and hence become urban, with or without the effect of migration.

In 2000, the urban/rural ratio of the population (number of urban dwellers to those living in rural areas) was 0.78. Corresponding ratios for the previous censuses were 0.30, in 1960, 0.41 in 1970 and 0.47 in 1984. This trend again tends to support the earlier observation that the country is increasingly becoming urbanized. Likewise, both the ratio and index of large town concentration increased consistently during the period 1970-2000.

In terms of the proportion of urban localities to the total number of localities in Ghana, the results were 0.32 per cent in 1960, 0.28 per cent in 1970, 0.36 per cent in 1984 and 0.41 per cent in 2000. This trend indicates a high concentration of the urban population in relatively fewer localities (less than one per cent). The corresponding share of localities with less than 100 persons however, continued to be high (rising from 71 per cent in 1984 to 80 per cent in 2000).

Another dimension of the process of urbanization is the size of large towns in the country. This is worth examining because urban problems are related to the size of urban localities. This may be examined by computing the index of mean large town population size, which represents the size of the large town (with population 20,000 or more) in which the average person lives. In 2000 the mean large town population size was estimated as 229,627, compared to estimates of 63,579 for 1970 and 102,774 for 1984 (Table 7.9). The higher estimate of the mean large town population size in 2000 implies that on average, the large towns were growing in size, with increasingly more population residing in them. This situation calls for increased allocation of resources to these centres and enhanced urban planning and management in order to avert occurrence of problems associated with urban decay, such as overcrowding, deterioration of infrastructure and social amenities as well as the development of urban slums.

**Table 7.9: Indices of Large Town Population and Concentration**

Indicator	1970	1984	2000
Index of Large Town Distribution	1.228	1.203	1.147
Large Town Concentration Ratio	0.593	0.625	0.650
Index of Mean Large Town Population Size	63,579	102,774	229,627
Index of Large Town Concentration	0.007	0.008	0.012

Source: Computed from the 1970, 1984 & 2000 Population Censuses of Ghana

### **Tempo of Urbanization**

The tempo of urbanization reflects the pace of urbanization of a specific area. It is the measurement of how rapidly urbanization takes place. Indices such as the difference between the annual population growth rates of urban and rural areas may be employed to measure the tempo of urbanization in Ghana during the period 1960-2000 (Table 7.10). The pace of urbanization was 3.2 during the 1960-1970 inter-censal period, then declined to 1.1 during the 1970-1984 period and rose to 3.1 in 1984-2000. Thus, the country experienced very rapid urbanization during the period 1960-1970, which followed soon after the country gained independence in 1957 from colonial rule. The period was also characterized by economic boom, rapid industrialization and infrastructural development, including construction of ports and model townships. On the other hand, the country experienced an economic downturn during the period 1970-1984, with dwindling opportunities for livelihood, which culminated in the mass exodus of Ghanaians to other countries in search of better livelihood; while 1984-2000 coincided with the period of economic recovery for the country.

**Table 7.10: Tempo of Urbanization, 1960-2000**

Inter-censal Period	Annual Growth Rates		Tempo of Urbanization
	Urban	Rural	
1960-1970	4.7	1.6	3.2
1970-1984	3.3	2.3	1.1
1984-2000	4.6	1.5	3.1

Source: Computed from the 1960, 1970, 1984 & 2000 Population Censuses of Ghana

### **Urban/City Population Growth**

Another aspect of the urbanization process worth studying is the urban population growth by size of locality. Such an analysis could comprise individual localities/cities or localities of similar size. Table 7.11 shows the inter-censal population growth rates recorded for selected urban localities in the country during the 1960-2000 period. From the Table, the inter-censal population growth rate for urban localities was 4.7 per cent in 1960-1970, 3.3 per cent in 1970-1984 and 4.6 per cent in 1984-2000. These growth rates were higher than the average national growth rates of the total population, which has so far ranged between 2.4 per cent and 2.7 per cent during the same period. The urban growth rates of 4.7 per cent and 4.6 per cent for 1960-1970 and 1984-2000 indicate a rapidly urbanization process in the country. The growth of the 20 largest localities in the period 1984-2000 shows that the growth rates of the two largest localities, Accra (3.4 per cent) and Kumasi (5.6 per cent), which had populations of over one million each, were higher than the national average of 2.7 per cent.

Other large settlements which recorded very high growth rates during 1984-2000 were Ashaiman (6.8 per cent), Madina (6.2 per cent), Tema Newtown (3.9 per cent) in Greater Accra, Techiman (5.0 per cent) in Brong Ahafo, Obuasi (4.0 per cent) in Ashanti and Wa (3.8 per cent) in Upper West. It may seem that the change in the tempo of urbanization during the period (a higher pace in 1984-2000 than 1970-1984) could be attributable more to the faster growth in the size of the largest localities than smaller towns and, to some extent, the upgrading of localities from rural to urban since the number of urban localities increased in 2000. The faster growth of the 20 largest settlements in the country gives an indication of high migration from smaller towns and rural areas to the larger settlements.



**Table 7.11: Annual Population Growth Rates of Selected Urban Localities (1960-2000)**

Urban Locality	Growth rates ( per cent)		
	1960-1970	1970-1984	1984-2000
All urban	4.7	3.3	4.6
Accra Metropolitan Area	5.0	3.1	3.4
Kumasi Metropolitan Area	4.4	3.2	5.6
Tamale	7.3	3.4	2.5
Takoradi Sub-metro	*	2.7	2.8
Sekondi Sub-metro	*	0.7	3.0
Ashaiman	21.5	5.8	6.8
Tema	14.0	3.6	2.2
Obuasi	3.1	4.7	4.0
Koforidua	2.8	1.7	2.5
Cape Coast	2.3	1.1	1.4
Madina	**	9.5	6.2
Wa	4.0	3.7	3.8
Sunyani	6.7	3.5	2.9
Ho	5.1	3.2	3.1
Tema-Newtown	5.4	6.2	3.9
Techiman	3.2	5.3	5.0
Bawku	4.8	3.6	2.6
Bolgatanga	12.3	3.9	2.6
Agona Swedru	1.6	2.7	2.4
Nkawkaw	4.0	2.2	2.0

Source: Computed from the 1960, 1970, 1984 & 2000 Population Censuses of Ghana

\* 1960 data not available

\*\* Non-existent in 1960

The explanation of possible migration from smaller towns and rural settlements to larger settlements is further supported by the value of the Gini coefficient or index of concentration, which summarizes the distribution of the population by size of localities (Table 7.12). A higher index of 0.87 was recorded in 2000 compared to relatively lower indices in the previous censuses (0.77 per cent in 1960, 0.80 in 1970, 0.81 in 1984). Thus, the population of Ghana is increasingly being concentrated in relatively fewer localities resulting in the faster growth of such localities.

**Table 7.12: Computation of Gini Concentration Ratio of Persons Living in Localities in Ghana**

Size of locality	Frequency	Population	Proportion		Cumulative proportion			
			Locality	Population	Locality (Y <sub>i</sub> )	Population (X <sub>i</sub> )	X <sub>i</sub> (Y <sub>i+1</sub> )	(X <sub>i+1</sub> )Y <sub>i</sub>
All localities	88,656	18,912,079	1.0000	1.0000				
100,000 and more	8	3,728,472	0.0001	0.1971	0.0001	0.1971	0.0000	0.0000
50,000-99,999	9	602,949	0.0001	0.0319	0.0002	0.2290	0.0001	0.0001
20,000-49,999	41	1,207,150	0.0005	0.0638	0.0007	0.2929	0.0005	0.0002
10,000-19,999	90	1,229,378	0.0010	0.0650	0.0017	0.3579	0.0015	0.0007
5,000-9,999	218	1,518,702	0.0025	0.0803	0.0041	0.4382	0.0135	0.0028
1,000-4,999	2,363	4,608,881	0.0267	0.2437	0.0308	0.6819	0.0445	0.0244
500-999	3,062	2,120,310	0.0345	0.1121	0.0653	0.7940	0.1060	0.0586
200-499	6,047	1,944,138	0.0682	0.1028	0.1335	0.8968	0.1733	0.1251
100-199	5,291	755,573	0.0597	0.0400	0.1932	0.9367	0.9367	0.1932
Less than 100	71,527	1,196,526	0.8068	0.0633	1.0000	1.0000		
<i>Sum</i>							1.2762	0.4052
<i>Gini Ratio (difference of sums)</i>							0.8710	

Source: Computed from the Ghana 2000 Population and Housing Census

Analysis of disaggregated data on the index of concentration using the population and localities at the regional level (Table 7.13) indicates that in 2000, the highest regional index of 0.96 was recorded in Greater Accra, followed by Ashanti (0.90) and Central (0.86). Concentration of the regional population in relatively fewer localities was therefore most pronounced in Greater Accra in 2000, with about 77 per cent of the population (who dwell in localities of 20,000 or more inhabitants) occupying less than one per cent of the total number of localities in the region. During the same period, Ashanti had 78 per cent of its population dwelling in nearly 3 per cent of the region's localities, while in Central, 80 per cent of the population lived in 7 per cent of the region's localities.

**Table 7.13: Summary Gini Concentration Ratio by Region (1970, 1984 and 2000)**

Region	Gini Ratio		
	1970	1984	2000
All Regions	0.7994	0.8064	0.8710
Western	0.8118	0.7995	0.8361
Central	0.8135	0.8160	0.8606
Greater Accra	0.9334	0.9439	0.9611
Volta	0.7232	0.7373	0.7777
Eastern	0.7548	0.7467	0.8446
Ashanti	0.8348	0.8539	0.9031
Brong Ahafo	0.7818	0.7964	0.8469
Northern	0.6386	0.6478	0.6574
Upper East	0.4808	0.4806	0.5013
Upper West	0.4984	0.5526	0.5863

Source: Extracted from Appendix III

Table 7.14 further shows the per centage distribution of the regional population and the corresponding number of localities during the period 1970-2000. Ashanti had the largest share of both the country's population and number of localities, while Upper West had the least during the period. The localities and population interface indicates that in 2000, the population dwelling in localities with 20,000 or more inhabitants in Ashanti accounted for about 39 per cent of the region's total population and less than 1 per cent (0.03 per cent) of the localities in the region. Corresponding figures in 1984 were 23 per cent as the share of the region's population and 0.03 per cent as the share of the number of localities in the region, and in 1970 22 per cent of the population lived in 0.03 per cent of the total number of localities in the region. A similar pattern is observed in all the other regions, with the population of the large towns living in relatively fewer localities.

The number of localities in the country increased by 86 per cent during the period 1970-2000 (from 47,769 to 88,656); with localities in the category of 100,000 or more inhabitants recording the highest increase of 300 per cent, having increased from 2 localities in 1970 to 8 in year 2000. In terms of number of localities, small localities with less than 100 persons dominate the settlement landscape of the country, accounting for 75 per cent of all localities in 1970 and 80 per cent in 2000. During the period (1970-2000), small localities almost doubled in number. The contribution of small localities to the country's population has however been minimal, declining from about 9 per cent in 1970 to 6 per cent in 2000. All categories of localities recorded consistent increases in their numbers during the period, except for localities with size 100-999 inhabitants, which declined by nearly 12 per cent between 1984 and 2000.

**Table 7.14: Proportion of Persons Living in Localities by Size and Region**

	Western		Central		Greater Accra		Volta		Eastern		Ashanti		Brong Ahafo		Northern		Upper East		Upper West	
Size of locality	Locality	Population	Locality	Population	Locality	Population	Locality	Population	Locality	Population	Locality	Population	Locality	Population	Locality	Population	Locality	Population	Locality	Population
<b>1970</b>																				
All localities	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
100,000 and more	0.00	0.00	0.00	0.00	0.10	62.45	0.00	0.00	0.00	0.00	0.01	17.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20,000-99,999	0.06	14.55	0.07	11.68	0.30	13.58	0.02	2.55	0.08	9.58	0.02	4.36	0.01	3.10	0.06	14.53	0.07	3.79	0.10	6.68
5,000-19,999	0.21	12.37	0.42	17.38	0.40	4.39	0.25	13.40	0.50	16.05	0.12	7.80	0.19	18.96	0.19	5.85	0.07	3.48	0.00	0.00
1,000-4,999	2.17	27.60	3.35	29.62	3.11	7.41	2.48	28.12	3.53	27.64	1.98	27.86	1.22	28.89	2.38	18.24	5.89	20.90	3.63	18.73
100-999	16.56	35.16	19.02	32.74	30.09	9.60	25.39	42.59	31.85	38.31	12.53	32.16	8.61	32.21	46.38	50.48	74.64	69.13	70.83	70.08
Less than 100	81.00	10.31	77.16	8.58	66.00	2.57	71.87	13.34	64.04	8.42	85.34	10.25	89.96	16.84	50.98	10.90	19.32	2.70	25.44	4.51
<b>Total</b>	<b>5,157</b>	<b>770,087</b>	<b>4,570</b>	<b>890,135</b>	<b>997</b>	<b>903,447</b>	<b>5,655</b>	<b>947,268</b>	<b>4,986</b>	<b>1,209,828</b>	<b>11,451</b>	<b>1,481,698</b>	<b>9,393</b>	<b>766,509</b>	<b>3,150</b>	<b>727,618</b>	<b>1,392</b>	<b>542,858</b>	<b>1,018</b>	<b>319,865</b>
<b>1984</b>																				
All localities	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
100,000 and more	0.00	0.00	0.00	0.00	0.17	67.61	0.00	0.00	0.00	0.00	0.01	18.00	0.00	0.00	0.03	11.67	0.00	0.00	0.00	0.00
20,000-99,999	0.04	12.03	0.05	10.12	0.43	13.94	0.05	6.57	0.09	9.44	0.02	5.10	0.03	7.16	0.03	2.72	0.09	8.61	0.08	8.23
5,000-19,999	0.16	10.61	0.38	18.48	0.34	1.83	0.34	13.90	0.68	18.66	0.19	9.42	0.29	19.40	0.39	10.40	0.14	4.26	0.17	2.62
1,000-4,999	1.89	29.48	3.26	31.74	4.01	6.83	2.87	27.72	4.09	27.14	3.00	32.14	2.00	29.59	3.59	19.62	2.64	10.20	5.54	25.58
100-999	14.82	35.61	17.41	30.49	34.07	8.17	28.57	40.68	39.08	38.17	14.03	27.61	13.53	30.65	58.36	49.64	78.36	73.90	69.55	60.09
Less than 100	83.09	12.26	78.90	9.18	60.97	1.62	68.17	11.13	56.06	6.59	82.75	7.73	84.14	13.20	37.61	5.95	18.77	3.02	24.66	3.48
<b>Total</b>	<b>8,933</b>	<b>1,157,807</b>	<b>6,020</b>	<b>1,142,335</b>	<b>1,171</b>	<b>1,431,099</b>	<b>6,142</b>	<b>1,211,907</b>	<b>5,596</b>	<b>1,680,890</b>	<b>12,053</b>	<b>2,090,100</b>	<b>9,334</b>	<b>1,206,608</b>	<b>3,566</b>	<b>1,164,583</b>	<b>2,163</b>	<b>772,744</b>	<b>1,192</b>	<b>438,008</b>
<b>2000</b>																				
All localities	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
100,000 and more	0.01	15.05	0.00	0.00	0.17	67.13	0.00	0.00	0.00	0.00	0.01	35.59	0.00	0.00	0.02	11.11	0.00	0.00	0.00	0.00
20,000-99,999	0.03	5.00	0.10	18.71	0.45	10.38	0.06	9.58	0.05	13.59	0.02	3.22	0.05	16.59	0.07	4.74	0.14	10.93	0.08	11.56
5,000-19,999	0.21	13.46	0.37	18.74	1.98	10.95	0.47	17.39	0.37	21.25	0.27	13.18	0.26	20.81	0.57	11.43	0.36	4.75	0.42	5.93
1,000-4,999	1.88	28.21	3.02	30.23	4.41	5.85	3.84	28.94	2.12	28.04	2.41	26.44	1.42	28.65	5.76	23.05	11.86	30.96	8.57	29.51
100-999	10.64	27.13	13.33	24.90	23.87	4.59	29.46	36.46	15.48	28.59	7.92	15.03	7.45	22.27	63.27	46.47	78.79	52.53	68.28	50.72
Less than 100	87.23	11.15	83.18	7.41	69.12	1.10	66.16	7.63	81.98	8.53	89.38	6.54	90.82	11.68	30.29	3.20	8.84	0.83	22.65	2.28
<b>Total</b>	<b>15,176</b>	<b>1,924,577</b>	<b>8,336</b>	<b>1,593,823</b>	<b>1,768</b>	<b>2,905,726</b>	<b>6,540</b>	<b>1,635,421</b>	<b>13,129</b>	<b>2,106,696</b>	<b>19,582</b>	<b>3,612,950</b>	<b>17,547</b>	<b>1,815,408</b>	<b>4,008</b>	<b>1,820,806</b>	<b>1,391</b>	<b>920,089</b>	<b>1,179</b>	<b>576,583</b>

The distribution of localities within the respective regions in 2000 by size classification (Table 7.14) reveals that small localities with less than 100 inhabitants are predominant in majority of the regions, with Brong Ahafo recording the highest share (91 per cent). The exceptions are the three northern regions where localities of size 100-999 inhabitants are most common (63-79 per cent) and contribute the largest share of the respective regions' populations (ranging from 46 to 53 per cent). In Volta (36 per cent) and Eastern (29 per cent), inhabitants of localities in this category (100-999 persons) constitute the largest share of the regions populations even though the number of small localities (less than 100 persons) are predominant. It may be noted that in each region, the corresponding share of population of the small localities (less than 100 persons) was less than 12 per cent in 2000.

#### **7.4 Determinants of Population Distribution and Urbanization**

Urbanisation is the process of rural settlements growing to become urban or urban localities increasing in size; it is a function of two major processes: natural population increase and net-migration. Having attained urban status, urban localities continue to increase or decrease in population, depending on the strength of the processes at play. Other factors including the distribution and utilisation of natural resources, have also contributed to altering the pattern of population distribution and concentrations in the country.

##### **Migration and Natural Increase**

An examination of census figures suggests that in the period before 1960, the growth of urban population was due largely to migration as against natural increase. That was the initial stages of nationhood building and development, and the few urban settlements attracted development projects which, in turn, spurred waves of in-migration. The period after 1960, however, has shown a trend towards a higher contribution by natural increase in comparison with migration.

Table 7.15 shows the relative contribution of migration and natural increase to regional urban population growth during the various intercensal periods since 1960, using the United Nations' decomposition formulae. The application of this method confines the analysis to specific regions and therefore it is not possible to examine the extent to which inter-regional migration contributes to the evaluation of the relative contributions of natural increase and internal migration to urban population growth. In other words, the extent to which rural-rural migration within each region for example has affected urban population growth cannot be analysed using the United Nations decomposition formulae. This limitation is however overcome by using data on region of birth and enumeration to examine the trend of intra- and inter-regional migration during the period 1960-2000.

**Table 7.15: Contribution of Migration and Rate of Increase to Urban Population Growth by Region**

Region	Growth due to Migration			Growth due to Natural Increase		
	1960-1970	1970-1984	1984-2000	1960-1970	1970-1984	1984-2000
All Regions	54.5	25.0	37.4	45.5	75.0	62.6
Western	27.1	-124.6	59.2	72.9	224.6	40.8
Central	-32.5	-126.3	51.1	132.5	226.3	48.9
Greater Accra	60.1	17.4	4.1	39.9	82.6	95.9
Volta	33.3	12.2	54.8	66.7	87.8	45.2
Eastern	44.0	30.5	54.6	56.0	69.5	45.4
Ashanti	54.2	15.1	56.3	45.8	84.9	43.7
Brong Ahafo	67.8	47.8	53.9	31.8	52.2	46.1
Northern	77.9	48.4	11.3	22.1	51.6	88.7
Upper East	43.7	63.3	57.5	56.3	36.7	42.5
Upper West	62.3	58.9	71.6	37.7	41.1	28.4

Source: Computed from the 1960, 1970, 1984 and 2000 Population Censuses of Ghana.

From Table 7.15, it is observed that for the entire country, the contribution of migration to urbanisation during the period 1960-1970 was 54.5 per cent with 45.5 per cent attributable to natural population increase, that is differences between births and deaths. This is understandable since at that time, relatively few settlements were considered as urban and hence migration from smaller settlements to the few urban settlements and other relatively large settlements was quite high. This is more likely to be the case for Greater Accra and Ashanti, but the situation in Brong Ahafo, Northern and Upper West could be interpreted in terms of transfer of public officers to take over the running of the regional administration and other establishments. Because the urban base is low in these regions, these additions become significant.

Declines in importance with respect to migration as a factor of urbanisation occurred in all regions in the 1970-1984 period, particularly for Western and Central, which actually recorded net out-migration from urban areas. Records from the 2000 Census, however, indicate that during the 1984-2000 period, the contribution of migration picked up from 25 per cent in 1970-1984 to 37.4 per cent in 1984-2000 for the entire country. This shows that the importance of natural increase as a factor of urbanisation in Ghana declined from 75 per cent in 1970-1984 to 62.6 per cent in 1984-2000.

Compared to the other regions, the role of migration vis-à-vis natural increase as a determinant of urban population growth was quite negligible in Greater Accra (4.1 per cent) and Northern (11.3 per cent). This means that in the two regions, natural increase was the dominant factor underlining urban population increase. On the other hand, in Upper West, migration contributed to 71.6 per cent of urban population growth during the 1984-2000 period.

In Greater Accra, close to 90 per cent of the population, according to the 2000 Census, is resident in an urban area and, consequently, migration from rural areas within the region to the urban areas would not be very important as a factor for urban population growth within the region. It becomes quite obvious therefore that natural increase would be the main determining factor explaining the size of the urban population although fertility has been lowest for the region. In the case of Northern, which has one of the lowest rates of urbanisation in Ghana (the region had 27 per cent of its total population resident in urban areas in 2000), the large contribution of natural increase to

urbanisation in 1984-2000 may be an indication of low volume of migration from the rural to the few urban areas within the region. Whatever the situation is in each region, the interplay of natural increase and migration has relevant implications for urban population growth and development for each of the regions.

The migrant population has also been examined in terms of the status of population as non-migrant, intra- or inter-regional migrant at the time of the census, based on their places of enumeration and reported places/regions of birth. Table 7.16 shows that overall, the majority of the population, since 1960, have been enumerated at their place of birth. What is not clear is the proportion who have never migrated, since it is common knowledge that many migrants prefer to return to their birthplace during censuses to be enumerated there. The increase in the non-migrant population over the years is a reflection of natural increase.

During the 1960-1984 period, intra-regional migration constituted an important component of population concentration in all regions except Greater Accra; the proportion of intra-regional migrants declined quite sharply in all regions between 1984 and 2000, suggesting a development towards inter-regional movement in the country or a greater volume of return migrants for census enumeration purposes, knowing that population size has, since 1988, been a major factor in the allocation of national resources. It is also an indication of the strong attachment people have to their place of origin.

**Table 7.16: Ghanaians (by Birth) by Region of Enumeration, and Region of Birth, 1960-2000**

Region	Non-Migrants				Intra-regional Migrants				Inter-regional Migrants			
	1960	1970	1984	2000	1960	1970	1984	2000	1960	1970	1984	2000
Western	64.3*	49.9	54.3	64.4	26.3*	21.3	17.0	9.3	9.4*	28.8	28.7	26.3
Central	-	66.5	69.0	74.6	-	20.7	19.2	13.5	-	12.8	11.8	11.9
Greater Accra	57.2	48.2	55.7	56.6	7.0	5.2	8.0	6.1	35.8	46.6	36.4	37.3
Volta	72.1	66.7	66.5	79.1	21.9	25.4	24.4	14.1	6.0	7.9	9.1	6.8
Eastern	54.4	52.5	57.6	69.8	29.8	30.4	25.4	15.2	15.8	17.1	17.1	14.9
Ashanti	58.3	56.8	63.8	72.5	21.4	23.0	19.7	11.5	20.3	20.2	16.4	16.0
Brong. Ahafo	65.4	55.7	57.7	72.8	14.0	18.9	17.6	7.1	20.6	25.4	20.1	23.3
Northern	72.7+	65.6	67.6	85.6	24.6+	24.9	23.8	8.3	2.7+	9.5	8.6	6.0
Upper East	-	72.4**	69.7	92.1	-	23.1**	24.0	2.4	-	4.5**	6.3	5.5
Upper West	-	-	74.8	84.1	-	-	19.6	10.1	-	-	5.6	5.8

Source: Ghana's Population Census Reports, 1960, 1970, 1984 and 2000

Notes: \* Includes Central

+Include Upper East and Upper West

\*\* Includes Upper West

The proportion of the population that is reported as inter-regional migrants has been highest in Greater Accra, Western, Brong Ahafo and Ashanti. For a large number of the regions, the proportion of inter-regional migrants was highest in 1970 and declined thereafter. This suggests that when the economy of Ghana began experiencing economic recession in the 1970s, no one region provided an attraction for migrants; instead, migration was across the borders into other countries.

The volume of net-migration in Ghana during 1960-2000 as presented in Table 7.17 shows that while some regions are areas of net in-migration, others are regions of net out-migration. For example, while Greater Accra, Ashanti and Brong Ahafo have mostly been net in-migration regions, Central, Eastern and the three northern regions have largely been areas of net out-migration. Quite clearly, net-migration tends to be negative in the face of perceived declining

socio-economic opportunities at any area. For example, Ashanti in the 1960s was an important cocoa growing area and, hence, net-migration to the region was positive; after 1970 when the region's importance in cocoa production declined, net-migration to the region was negative.

**Table 7.17: Volume of Net-Migration by Region, 1960-2000**

Region	Net-Migration			
	1960	1970	1984	2000
Western	-1,566*	+123,916	+46,687	+350,792
Central	-	-131,286	-77,874	-274,579
Greater Accra	+90,109	+272,809	+153,154	+901,780
Volta	-94,422	-169,089	+97,192	-403,404
Eastern	-18519	-99,645	-78,136	-224,386
Ashanti	+90,821	+72,402	-28,327	+197,059
Brong Ahafo	+84,919	+117,291	+52,192	+163,749
Northern	-157,055**	-33,719	+10,716	-139,216
Upper East	-	-148,707***	-20,762	-201,532
Upper West	-	-	-3,083	-191,653

Source: Extracted from Ghana's Census Reports, 1960, 1970, 1984 and 2000

Notes: \* Includes Central

\*\* Includes Upper East and Upper West

\*\*\*Includes Upper West

In recent times, migration as a major contributory factor to regional population distribution in Ghana has shifted towards the cities and major towns of Accra, Tema, Kumasi, Sekondi-Takoradi, and Tamale as the centres of attraction. The trend and pattern of spatial population redistribution in Ghana suggest therefore that migration depends on socio-economic opportunities available in each region, in response to the natural desire for an opportunity for enhancement of standard of living.

Table 7.18 examines migration patterns across the regions as reported in the 2000 Census. It is noted that the highest proportion of inter-regional migrants is reported in Greater Accra (36.9 per cent), followed by Western (26.1 per cent), Brong Ahafo (20.0 per cent) and Ashanti (15.7 per cent). Volta (6.7 per cent), Upper East (5.4 per cent), Upper West (5.8 per cent) and Northern (6.0 per cent) have the least proportions of inter-regional migrants in 2000. International migrants are not an important component of the population of any region.

With the new trend of migrants being attracted to the cities and large towns, it is possible that regions receiving more inter-regional migrants could experience relatively higher rates of urban population growth compared to their counterparts with smaller volumes of cross-regional migration.

**Table 7.18: Population by Migration Status, 2000**

Region	Per centage			
	Non-migrants	Intra-regional migrants	Inter-regional migrants	Inter-national migrants
All Regions	71.6	9.9	17.5	0.9
Western	63.8	9.2	26.1	0.9
Central	73.9	13.4	11.8	0.9
Greater Accra	56.0	6.0	36.9	1.1
Volta	78.1	13.9	6.7	1.2
Eastern	69.5	15.1	14.9	0.5
Ashanti	71.3	11.3	15.7	1.6
Brong Ahafo	72.4	7.1	20.0	0.5
Northern	85.3	8.3	6.0	0.4
Upper East	91.7	2.4	5.4	0.5

Upper West	83.7	10.0	5.8	0.5
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Source: Computed from 2000 Population and Housing Census,

### **Natural Resources Distribution and Utilisation**

Natural resources, by accident of geography are never evenly distributed spatially. The presence or availability of natural resources in an area provides the opportunity for exploitation for socio-economic development and prime ingredients for attracting population movements. The actual utilisation of the natural resources, however, depends on the identification and development of appropriate technologies for the exploitation of the existing natural resources.

Cocoa and other cash crop producing areas as well as mineral endowed regions have had large population concentrations over the years in Ghana. These are considered to be areas that provide some economic opportunities for living and hence have attracted large population concentrations as against others with no such resources for exploitation. In Ghana, five main patterns of population concentration based on the distribution of natural resources have been identified in the past:

- concentration in the north-eastern and north-western corners
- sparsely populated northern belt covering larger areas of the Northern and parts of Brong Ahafo and Upper West
- densely populated forest zone
- moderate to densely populated coastal region and
- densely populated urban centres scattered all over the country

To a large extent, this pattern of population concentration has persisted in spite of changes in development and movements over the years. It has to be noted that within areas identified as being largely densely populated, there are still sections that are sparsely populated and vice versa. From the general pattern of population distribution in the country, it is observable that the forest belt and the urban coastal centres providing opportunities for commercial activities have been high population concentration areas while the northern savannah belt has largely been a sparsely populated region. This explains why regions of the forest belt (Brong Ahafo, Western and Ashanti) have generally experienced net in-migration over the years while regions in the northern savanna belt have been areas of net out-migration.

### **National Development Policies and Implementation**

Policies and plans primarily aimed at socio-economic development in Ghana have also had the unintended consequence of indirectly affecting distribution of the population. One of the development policies that influenced spatial population distribution in Ghana was the colonial government's spatial development policy of creation and development of ports and harbours, good road network and infrastructure facilities in the mineral-rich areas and forest belts to facilitate a process of making Ghana a raw material producing country for industries in the United Kingdom. The triangular network of railroad linking Kumasi to Accra-Tema and to Sekondi-Takoradi was also to fulfil this agenda. The unintended consequence of such a policy was that the southern half of Ghana, principally around Accra-Tema, Kumasi and Sekondi-Takoradi, became more developed and, hence, attracted high population concentrations relative to the northern section of the country.

After independence, governments attempted to extend the spatial development of the country outside the “golden triangle” through the creation of regions and regional capitals, with some infusion of infrastructure. On account of the existence of an economy of scale and the fact that the “golden triangle” also constituted the belt with the bulk of the nation’s natural resources, it remained the centre of attraction for migrants which, in turn, continued to demand relatively larger investments and greater spatial development. The colonial government’s spatial development policy, to a large extent, appears to have been perpetuated by post-colonial governments, leading to continued high population concentrations along the coast and the forest and mineral exploiting areas of the country.

Policies and programmes, such as the development of economic growth centres, rural development programmes and decentralisation, have also influenced population distribution in Ghana. One of these national development policies is the on-going decentralisation programme which begun in 1988, following the creation of 45 more districts in addition to the then 65 existing districts. This meant that a minimum level of infrastructural development needed to be present in newly created districts, especially at the district capital. While the creation of new districts and the elevation of some settlements to district capitals have led to sudden population increases in some settlements, in others, the change in status does not appear to have had any impact on the population (Table 7.19).

For many of the settlements which became district capitals following the creation of new districts in 1988, population growth after their elevation into district capitals has been quite high. Notable examples include Agona Nkwanta and Juabeso in Western; Twifo Praso in Central; Nkwanta in Volta; Mamponteng, Effiduase and Mankranso in Ashanti; Bechem and Kintampo in Brong Ahafo; and Saboba and Bimbilla in Northern. In other settlements, notably Ajumako in Central; Donkokrom in Eastern; Kwame Danso in Brong Ahafo; Zabzugu in Northern and Bongo in Upper East, there was no significant impact of their district capital status on their population growth afterwards.

**Table 7.19: Population of Selected Newly Created District Capitals, 1970, 1984 and 2000**

Region	District	District Capital	Population of District Capital			Rate of Population Growth	
			1970	1984	2000	1970-1984	1984-2000
Western	Ahanta West	Agona Nkwanta	2,130	3,979	10,031	4.5	5.8
“	Mpohor Wassa East	Mpohor	2,807	4,810	9,301	3.8	4.1
“	Aowin Suaman	Enchi	4,382	6,010	9,270	2.3	2.7
“	Juabeso-Bia	Juabeso	1,132	1,199	3,639	0.4	6.9
Central	Abura-Asebu-Kwamankese	Abura Dunkwa	4,025	5,267	8,439	1.9	2.9
“	Ajumako-Enyan-Essiam	Ajumako	2,492	2,798	3,235	1.9	2.9
“	Twifo-Heman	Twifo Praso	2,303	3,613	9,011	3.2	5.7
“	Lower Denkyira						
Volta	Nkwanta	Nkwanta	1,645	4,334	11,367	6.9	6.0
Eastern	Kwaebibirim	Kade	6,627	10,196	18,545	3.1	3.7
“	Afram Plains	Donkokrom	1,314	2,826	6,938	5.5	5.6
Ashanti	Amansie West	Manso Nkwanta	1,226	1,508	2,591	1.5	3.4
“	Kwabre	Mamponteng	3,213	4,098	9,121	1.7	5.0
“	Sekyer East	Effiduase	6,967	8,887	18,700	1.7	4.6
“	Ahafo Ano South	Mankranso	1,482	1,676	5,044	0.9	6.9
Brong Ahafo	Asunafo	Goaso	5,001	6,870	13,371	2.3	4.2
“	Tano	Bechem	6,432	6,159	12,591	-0.3	4.5
“	Kintampo	Kintampo	7,149	13,943	28,276	4.2	4.4
“	Sene	Kwame Danso	4,079	5,846	7,059	2.6	1.2
Northern	Nanumba	Bimbilla	8,068	10,775	21,016	2.1	4.2
“	Zabzugu-Tatale	Zabzugu	2,967	6,846	11,269	6.0	3.1

“	Saboba-Chereponi	Saboba	1,329	1,563	3,687	1.2	5.4
Upper East	Bongo	Bongo	1,114	3,171	4,787	7.5	2.6

Source: Ghana's Census, 1970, 1984 and 2000

The conclusion is that although the creation of more districts would result in changes in population distribution, other factors including the socio-economic opportunities for improved standard of living are needed for sustained population redistribution. The implication is that national development policies and programmes, if they are to influence population redistribution, should explicitly articulate the population factor and any implications for effective integration and implementation.

## 7.5 Urban Development

The analysis of population distribution as it pertains to urban development focuses on provision and access with respect to education, housing, health, posts and telecommunications, electricity, water supply and road network. In the discussion, differentials between the urban and rural areas in each region with respect to each of the aforementioned development phenomena are examined. The purpose is to compare the level of development in the urban as against the rural areas in each region while at the same time, examining the regional variations.

### Education

Natural resources, by definition, are nature-given but their ultimate availability, access and utilization depend on the human population's capability to identify them as resources and exploit them for use. In this sense, education holds the key to human capital development and capacity building for the identification, development or utilisation of natural resources for the enhancement of living standards of the population. The level of education of the population therefore becomes a good measure of the potential for development, in as much as it helps not only to identify and develop natural resources, but also to understand issues pertaining to societal development and to contribute to its attainment.

The 2000 Census collected information on the level of education of the school-going population of 6 years and older; this information is presented in Table 7.20. This is to examine the possible impact of the people's level of education on urban vis-à-vis rural development. It is premised on the consideration that regions or areas with high levels of education also constitute areas of relatively higher level of development. Level of education is therefore used as a measure of the level of development of an area in the analysis.

At the national level, Table 7.20 shows that level of education is higher in urban areas relative to rural areas. While 51.1 per cent of persons resident in rural areas have received some education, in the urban areas, 73.3 per cent have some level of education. The proportion having post-primary school education in rural areas in Ghana is about a quarter (28.0 per cent), compared to half of the population in urban areas (51.1 per cent) with post-primary school education. In terms of the human resource development, therefore, the urban areas are more endowed than the rural areas; the levels are however unacceptable and should be a matter of concern to planners and parents alike.

**Table 7.20: Level of Education by Region and Locality of Residence in 2000.**

Region	Locality	Level of Education							Tertiary
		Never	Pre School	Primary	Middle/ JSS	Sec/ SSS	Voc./ Tech./ Comm.	Post-Sec.	
All Regions	Urban	26.7	1.1	21.1	29.5	10.4	4.7	3.0	3.5
	Rural	48.9	1.1	22.1	19.9	3.8	1.5	1.5	1.4
Western	Urban	27.1	1.4	22.6	30.1	8.8	4.4	2.6	3.1
	Rural	41.4	1.4	25.1	23.7	4.1	1.6	1.4	1.3
Central	Urban	29.3	1.3	23.5	28.4	7.8	3.5	3.0	3.3
	Rural	36.7	1.5	27.2	26.1	3.7	1.5	1.6	1.7
Greater Accra	Urban	18.8	1.0	19.2	31.9	14.1	7.2	3.1	4.8
	Rural	35.3	1.1	23.6	24.3	7.9	3.7	2.1	2.5
Volta	Urban	29.0	1.1	23.4	26.8	9.1	3.8	3.7	3.0
	Rural	40.3	1.0	24.0	23.5	5.0	2.0	2.2	1.6
Eastern	Urban	21.7	1.3	23.9	34.1	8.8	3.8	3.5	2.9
	Rural	35.7	1.1	26.4	27.0	4.1	1.6	1.8	1.5
Ashanti	Urban	27.5	1.2	21.1	31.9	9.1	3.7	2.7	2.9
	Rural	39.5	1.2	25.3	25.7	3.8	1.4	1.6	1.4
Brong Ahafo	Urban	31.3	1.3	22.5	28.1	8.2	2.8	3.3	2.4
	Rural	48.7	1.2	22.1	20.3	3.7	1.1	1.6	1.4
Northern	Urban	52.2	1.0	18.8	11.7	8.0	2.6	3.1	2.6
	Rural	80.0	0.4	11.0	3.9	2.0	0.8	0.8	1.1
Upper East	Urban	48.2	0.7	19.1	14.7	8.4	3.2	3.3	2.5
	Rural	73.6	0.5	15.4	5.2	2.6	0.9	1.0	0.8
Upper West	Urban	43.7	1.0	18.4	15.2	9.6	4.1	4.3	3.7
	Rural	75.6	0.5	12.6	5.4	2.6	1.2	1.1	1.1

Source: Computed from the 2000 Population and Housing Census.

Similar results can be observed at the regional level, where in every region the proportion with no education is higher in the rural areas than in the urban. The situation is better in Greater Accra for both urban and rural areas compared to the other regions, while the three northern regions of the Northern, Upper East and Upper West are the worst off. This is an indication of high illiteracy rates in rural areas and the three northern regions.

The relatively higher level of education in the urban areas could be due to the selectivity of the more educated persons by migration into the urban areas in search of white-collar jobs. At the same time, the urban areas have relatively better educational institutions compared to the rural areas. The motivation to send one's children to school as well as pursue higher education compared to the rural areas where it is not uncommon to find children assisting their parents on the farms and or raising livestock instead of going to school helps to achieve a higher literacy and educational level in urban areas. This in turn puts pressure on the planner to provide more facilities to the neglect of rural areas.

More efforts should be made to ensure that a higher proportion of the population not only have access to formal education but proceed to have post-primary education; more focus should be on the three northern regions and on rural areas.

### **Housing**

One basic necessity of life for the human population is shelter. The type and quality of housing facility a household uses constitute a basis for assessing the standard of living of the household. The 2000 Census collected information on the type of dwelling of the household, the type of material used for constructing its outer wall, roof and floor. The report looks at these variables to assess the level of development between rural and urban areas.

The variation of the population with respect to the type of dwelling is presented in Table 7.21. The type of dwelling per se does not indicate the quality of the housing structure. Besides, environmental conditions may dictate the prevalence of one dwelling type against another. In general, rooms in a compound house constitute the predominant dwelling type in both urban and rural areas. The prevalence of compound houses with rooms for households is however more pronounced in urban areas (51.6 per cent) than in rural communities (38.4 per cent). On the other hand, a relatively higher proportion of households in rural areas (33.2 per cent) than urban areas (16 per cent) live in their own separate houses. The proportion of households living in semi-detached houses does not show much variation between rural and urban areas in the regions.

One striking observation, however, is that a higher proportion of households in Greater Accra (4.1 per cent) live in kiosks or containers as against 2.4 per cent for urban areas in general. It is clear that population growth plays a role in Greater Accra, especially in Accra Metropolitan Area, Tema and Ashaiman. Due to high population growth, housing expansion is unable to match housing demand. The recent phenomenon of “land guards” for the protection of plots of land for housing illustrates the extent to which the demand for housing in the cities and large towns has outstripped the supply.

The use of kiosks or containers for housing is perhaps in response to the growing population pressure and the problems surrounding land acquisition in the cities and large towns in the country. The situation in Greater Accra seems to be aggravated by the large stream of migrants from all other regions in the country. This has resulted in a serious gap between demand and supply of affordable and decent housing units for a sizeable number of households, a situation that has made the use of containers as dwelling units a common phenomenon in the region.

**Table 7.21: Type of Dwelling by Region and Place of Residence**

Region	Locality	Type of Dwelling									
		Separate House	Semi-detached	Flat/ Apartment	Rooms (Compound)	Several Huts/ Building	Hotel/ Hostel	Tents	Kiosk/ Container	Attached to Shop	Other
All Regions	Urban	16.0	14.9	7.2	51.6	2.5	0.5	0.1	2.4	0.6	4.2
	Rural	33.2	15.7	2.0	38.4	5.9	0.3	1.0	0.5	0.2	3.3
Western	Urban	16.0	16.8	8.2	49.2	2.8	0.5	0.1	1.5	0.6	4.3
	Rural	31.4	15.5	2.6	37.3	5.6	0.6	0.3	0.6	0.4	5.7
Central	Urban	15.8	15.5	4.7	56.7	2.2	0.3	0.1	2.1	0.5	2.1
	Rural	32.4	18.7	1.7	39.8	4.3	0.3	0.0	0.7	0.2	1.9
Greater Accra	Urban	15.6	16.3	8.7	44.5	2.3	0.1	0.1	4.1	0.8	7.0
	Rural	39.3	15.6	3.7	25.6	5.3	0.3	0.2	1.9	0.7	7.4
Volta	Urban	30.2	15.8	2.6	42.6	2.3	0.2	0.0	0.8	0.6	4.9
	Rural	52.5	16.6	0.8	19.9	4.0	0.2	0.1	0.4	0.2	5.3
Eastern	Urban	15.5	15.8	4.5	55.8	2.5	0.4	0.1	1.4	0.5	3.5
	Rural	36.0	17.4	1.7	35.7	5.4	0.3	0.1	0.5	0.2	2.7
Ashanti	Urban	14.2	11.3	11.4	54.5	2.5	0.8	0.2	2.0	0.6	2.5
	Rural	30.1	10.7	4.3	46.0	5.6	0.6	0.1	0.6	0.3	1.7
Brong Ahafo	Urban	15.9	15.4	3.4	58.9	2.3	0.4	0.1	1.5	0.4	1.7
	Rural	32.4	19.4	0.8	38.5	5.9	0.3	0.1	0.4	0.2	2.0
Northern	Urban	11.5	12.4	1.9	67.3	4.0	0.3	0.1	0.4	0.3	1.8
	Rural	19.4	16.7	0.8	48.2	11.4	0.3	0.1	0.2	0.1	2.8
Upper East	Urban	12.5	15.0	1.9	62.1	4.2	0.6	0.1	0.3	0.4	2.9
	Rural	20.0	11.8	0.7	54.6	9.7	0.4	0.0	0.2	0.2	2.4
Upper West	Urban	14.5	10.3	3.4	62.7	2.2	0.3	0.1	0.5	0.4	5.6
	Rural	26.0	12.6	2.5	47.1	5.9	0.3	0.1	0.4	0.2	4.9

.Source: Computed from the 2000 Population and Housing Census.

With reference to the type of material used for constructing the outer wall of household dwelling, Table 7.22 shows that two types of material stand out, cement blocks/concrete and mud/mud brick/earth. While most household dwellings in urban areas (65 per cent) are built with cement blocks/concrete, in the rural areas, a large proportion (almost 75 per cent) of household dwellings are constructed with mud/mud bricks/earth; this observation runs through all regions. One important observation however is that in Northern, Upper East and Upper West, the majority of household dwellings, even in urban areas, have mud/mud brick or earth used in constructing the outer walls, such that the proportion of urban dwellings in these regions constructed of cement and concrete is even lower than the proportion of rural dwellings in Greater Accra built of the same materials.

**Table 7.22: Construction Material for Outer Wall by Region and Locality of Residence**

Region	Locality	Type of Material									
		Mud/ Mud Brick/ Earth	Wood	Metal Sheet/ Slate	Stone	Burnt Bricks	Cement Blocks/ Concrete	Sandcrete/ Landcrete	Packing Cases/ Bamboo	Palm Leaf/ Thatch	Other
All Regions	Urban	21.5	5.4	0.9	0.3	2.1	65.3	2.9	0.2	0.4	1.0
	Rural	74.5	2.7	0.3	0.2	1.1	16.6	2.6	0.2	1.1	0.7
Western	Urban	31.4	4.0	0.4	0.2	1.9	56.4	2.8	0.3	1.5	1.1
	Rural	72.5	5.3	0.3	0.2	1.4	13.0	1.8	0.3	2.5	2.8
Central	Urban	30.6	4.2	0.5	0.2	1.2	59.2	3.7	0.1	0.2	0.1
	Rural	71.2	2.3	0.2	0.1	0.8	21.2	3.3	0.2	0.4	0.3
Greater Accra	Urban	4.2	10.5	1.7	0.4	2.0	78.1	0.9	0.3	0.2	1.7
	Rural	44.0	4.7	0.6	0.3	1.3	46.5	0.6	0.4	1.1	0.5
Volta	Urban	32.5	1.7	0.7	0.1	1.4	59.4	1.2	0.2	2.6	0.2
	Rural	70.6	1.2	0.3	0.2	1.1	23.0	1.5	0.2	1.7	0.2
Eastern	Urban	26.6	3.1	0.5	0.4	1.7	61.8	5.3	0.1	0.1	0.4
	Rural	73.6	2.7	0.3	0.1	1.1	16.9	4.4	0.2	0.5	0.2
Ashanti	Urban	15.2	3.5	0.6	0.3	3.3	72.5	2.7	0.2	0.1	1.3
	Rural	65.7	3.3	0.3	0.3	1.9	22.6	4.2	0.2	0.5	1.0
Brong Ahafo	Urban	37.5	2.9	0.3	0.2	1.8	49.6	7.3	0.1	0.1	0.2
	Rural	81.2	3.2	0.2	0.1	0.8	9.5	3.8	0.2	0.8	0.2
Northern	Urban	62.4	1.0	0.3	0.5	0.7	27.8	7.0	0.1	0.1	0.1
	Rural	90.9	1.1	0.2	0.1	0.3	3.8	1.1	0.1	2.2	0.2
Upper East	Urban	60.3	1.2	0.2	0.2	1.4	35.2	1.1	0.1	0.1	0.2
	Rural	93.4	1.2	0.2	0.1	0.9	3.3	0.2	0.1	0.4	0.2
Upper West	Urban	50.1	0.6	0.1	0.3	3.0	44.6	0.9	0.1	0.1	0.2
	Rural	92.7	0.8	0.2	0.2	0.7	4.1	0.4	0.1	0.6	0.2

Source: Computed from the 2000 Population and Housing Census.

Table 7.23 shows that close to two in three household dwellings in urban areas are roofed with corrugated metal, while in the rural areas, it is a little over half of the dwellings that have corrugated metal roofing. It is also noted that about a third of the household dwellings in the rural areas have thatch or palm leaf roofing as against 3.8 per cent of urban household dwellings.

The fact that metropolitan and municipal areas have building codes for different residential areas means that developers do not have the total freedom to put up any type of dwelling anywhere. There is also a greater demonstration effect and healthy competition in real estate development. On the other hand, rural areas are not zoned and there are no special building codes and therefore households use any materials that they can afford and which can be obtained easily.

**Table 7.23: Construction Material for Roof by Region and Locality of Residence**

Region	Locality	Type of Roofing Material								
		Thatch/ Palm Leaf	Bamboo	Mud/ Mud Bricks	Wood	Corrugat ed Metal	Slate/ Asbestos	Cement/ Concrete	Roofing Tiles	Other
All Regions	Urban	3.8	0.6	0.4	0.8	65.2	23.4	4.6	0.7	0.5
	Rural	31.3	3.4	3.2	0.9	56.0	3.9	0.5	0.3	0.5
Western	Urban	5.4	3.3	0.2	0.6	53.2	23.7	12.9	0.3	0.4
	Rural	32.9	11.1	0.2	0.9	49.1	4.1	0.7	0.2	0.8
Central	Urban	2.4	0.5	0.3	0.4	54.9	34.6	5.2	0.3	1.4
	Rural	15.7	5.2	0.2	0.2	64.6	13.1	0.7	0.2	0.1
Greater Accra	Urban	0.6	0.2	0.3	0.7	39.6	52.0	4.7	1.5	0.4
	Rural	25.6	0.2	0.1	0.4	47.5	22.3	1.9	1.8	0.2
Volta	Urban	9.9	0.1	0.2	0.2	73.1	14.5	1.4	0.3	0.3
	Rural	39.0	0.5	0.2	0.2	54.9	4.5	0.4	0.1	0.2
Eastern	Urban	2.0	0.4	0.1	0.3	91.9	3.4	1.5	0.2	0.2
	Rural	18.8	2.0	0.3	0.4	76.4	1.3	0.4	0.2	0.2
Ashanti	Urban	1.2	0.5	0.3	1.6	87.1	3.0	5.5	0.5	0.3
	Rural	15.3	4.4	0.4	1.3	77.2	0.6	0.6	0.2	0.2
Brong Ahafo	Urban	7.2	0.5	0.2	0.6	89.0	0.9	1.1	1.0	0.4
	Rural	37.5	2.5	0.4	1.1	57.4	0.5	0.3	0.0	0.3
Northern	Urban	26.4	0.5	1.4	0.5	67.5	1.9	0.7	0.6	0.5
	Rural	74.4	0.4	5.9	0.8	16.9	0.4	0.1	0.4	0.7
Upper East	Urban	8.7	0.6	4.3	0.7	79.8	2.6	1.1	0.3	1.9
	Rural	50.2	0.5	20.8	3.1	21.5	0.4	0.2	0.3	3.0
Upper West	Urban	3.7	0.3	4.6	0.9	86.6	1.4	1.2	0.3	1.0
	Rural	19.5	0.4	38.3	4.3	35.8	0.2	0.2	0.3	1.0

Source: Computed from the 2000 Population and Housing Census.

Table 7.24 presents data on the construction material used for the floor of household dwellings. It is observed that the predominant material used for constructing the floor of household dwellings is cement or concrete, in both urban areas (86 per cent) and rural communities (60 per cent). Similar observations are made with respect to the regions, except the three northern regions where in the rural areas less than a third of household dwellings have cement or concrete floors and over half of the rural dwellings have earth or mud brick floors.

**Table 7.24: Construction Material for Floor by Region and Locality of Residence**

Region	Locality	Type of Floor Material								
		Earth/ Mud Brick	Cement/ Concrete	Stone	Burnt Bricks	Wood	Vinyl Tiles	Ceramic Tiles	Terrazo	Other
All Regions	Urban	7.7	85.6	0.7	0.1	1.6	0.8	0.5	2.7	0.3
	Rural	38.2	59.8	0.5	0.1	0.4	0.1	0.1	0.2	1.6
Western	Urban	5.1	90.1	0.5	0.2	1.2	0.6	0.2	1.4	0.7
	Rural	33.0	63.2	0.4	0.1	0.5	0.1	0.1	0.1	2.5
Central	Urban	5.7	90.4	0.4	0.1	1.4	0.6	0.2	1.0	0.2
	Rural	1.8	77.2	0.3	0.1	0.3	0.1	0.0	0.1	0.1
Greater Accra	Urban	3.2	85.6	0.7	0.1	2.9	1.4	0.9	4.9	0.3
	Rural	16.2	78.2	0.3	0.1	1.9	0.8	0.8	2.6	0.1
Volta	Urban	9.3	88.7	0.4	0.1	0.4	0.3	0.1	0.5	0.2
	Rural	34.9	64.2	0.3	0.0	0.2	0.1	0.1	0.1	0.1
Eastern	Urban	8.1	88.2	0.9	0.1	1.1	0.4	0.1	0.9	0.2
	Rural	33.4	65.0	0.4	0.1	0.4	0.2	0.1	0.2	0.5
Ashanti	Urban	9.4	83.4	1.0	0.3	1.2	0.5	0.4	3.6	0.2
	Rural	33.1	64.8	0.8	0.1	0.6	0.1	0.1	0.3	0.1
Brong Ahafo	Urban	13.6	83.8	0.5	0.1	1.0	0.2	0.1	0.5	0.2
	Rural	48.4	50.4	0.5	0.1	0.3	0.1	0.0	0.1	0.1
Northern	Urban	24.2	73.8	0.6	0.1	0.2	0.3	0.2	0.3	0.3
	Rural	55.7	42.8	0.5	0.1	0.1	0.1	0.1	0.1	0.5
Upper East	Urban	17.8	78.4	0.5	0.3	0.1	0.4	0.6	1.2	0.7
	Rural	64.8	30.8	1.2	0.2	0.1	0.2	0.1	0.1	2.5
Upper West	Urban	13.5	84.3	0.4	0.1	0.1	0.2	0.2	1.0	0.2
	Rural	69.9	28.3	0.7	0.2	0.2	0.0	0.1	0.0	0.6

Source: Computed from the 2000 Population and Housing Census.

The household situation in Ghana shows that comparatively, urban areas in all regions have relatively better household dwellings than rural areas. This is perhaps the result of the poverty situation which is higher in rural areas than urban areas in Ghana. It is observed also that the three northern regions are worse off relative to the other regions as far as housing conditions are concerned. Housing conditions in Greater Accra are relatively better than in other regions. The comparatively high proportion of households in Greater Accra living in kiosks suggests that there are pockets of households that cannot afford decent or more permanent accommodation. This may be due to the high rate of over-crowding in Greater Accra as the region with the highest population density in Ghana.

Population appears to have little direct role to play with respect to the quality of the household dwellings in rural areas. The situation appears to be mainly determined by affordability or the poverty situation. It could also be due to implementation of building regulations, which in the urban areas may not permit the use of any material for constructing dwelling units. This is in contrast with the rural areas where such building rules are rarely enforced. On the other hand, the role of population could be seen in the context of its effects on poverty as a result of the large household sizes, which negatively affect the income levels of the household to afford good quality material for their dwelling units.

It is also noted that the three cities and some large towns have expanded to encompass hitherto rural settlements close to the cities and large towns. Pockets of areas in the cities and large towns that have poor housing structures may largely include the rural settlements which have been over-run by the city or town expansion on account of rapid population growth in these towns and cities.

### **Local Facilities**

The level of development of an area is also determined by certain public facilities to which the population has access. The section here looks at local facilities that are available to the population in rural and urban areas with respect to health and sanitation, electricity and fuel use, water supply as well as posts and telecommunication. These are considered to be basic requirements for the enhancement of the standard of living of the population.

### **Health and Sanitation**

Access to good health and improved sanitation enhances standard of living. Some of the indicators are the methods available for the disposal of solid and liquid waste as well as available toilet facility, both of which have a bearing on health and environmental sanitation. This is important considering that in Ghana, malaria and environmentally borne diseases are a major cause of death among the population.

Table 7.25 presents information on the method of solid waste disposal by region and place of residence. It is observed that a large proportion of households in Ghana dispose of solid waste at a public dump (67 per cent in urban areas and 49 per cent in rural areas). A sizeable proportion of households in rural areas (36.6 per cent) dispose of solid waste “elsewhere”, the proportions being highest in Northern, Upper East and Upper West. This suggests that a reasonable proportion of rural households have no specific places for disposing of solid waste, a situation which could be a recipe for deteriorating environment. Households whose solid waste is collected by an agency

constitute 8 per cent of urban and about 2 per cent of rural households. It is quite obvious that waste management is not able to keep pace with the increasing population concentrations in urban areas with their attendant high waste production.

The foregoing observation shows the inadequacy of programmes to address waste collection and disposal in the face of rapid population growth in the cities and towns. Although human indisciplinary behaviour cannot escape blame for the sanitation problems that have engulfed the cities and large towns, rapid population growth has played a key role in frustrating efforts at addressing waste management in most of urban Ghana. In situations where solid waste is successfully collected, dumping sites have become problematic as residents outside the central business districts of cities and towns are increasingly seeing the location of dumping sites close to their communities as repugnant and resisting such. This has often led to tussles between them and the authorities in charge of refuse collection and disposal.

**Table 7.25: Solid Waste Disposal by Region and Locality of Residence**

Region	Locality	Method of Solid Waste Disposal					
		Collected	Burned by Household	Public Dump	Dumped Elsewhere	Buried by Household	Other
All Regions	Urban	8.3	8.3	67.0	12.0	3.7	0.7
	Rural	1.5	7.5	49.2	36.6	4.1	1.1
Western	Urban	3.2	5.1	73.6	13.0	3.2	1.9
	Rural	1.5	4.2	50.5	38.6	4.5	0.7
Central	Urban	1.3	9.3	73.4	12.3	2.6	1.1
	Rural	0.5	4.7	66.7	24.7	2.6	0.8
Greater Accra	Urban	21.2	10.6	54.6	8.5	4.3	0.8
	Rural	6.5	24.0	27.7	34.6	6.7	0.5
Volta	Urban	2.8	14.1	53.7	21.6	7.1	0.7
	Rural	2.2	11.2	44.5	35.6	5.7	0.8
Eastern	Urban	3.5	9.4	71.5	10.1	4.9	0.4
	Rural	1.4	10.5	47.3	34.3	5.3	1.2
Ashanti	Urban	2.1	3.8	81.2	10.0	2.4	0.5
	Rural	0.4	2.7	76.3	17.4	2.8	0.4
Brong Ahafo	Urban	1.0	3.8	82.1	10.5	2.3	0.3
	Rural	0.9	3.2	62.1	31.0	2.4	0.4
Northern	Urban	2.5	11.3	55.5	27.9	2.6	0.2
	Rural	1.9	8.7	19.8	66.8	2.4	0.4
Upper East	Urban	3.7	19.6	36.5	34.1	5.8	0.3
	Rural	3.2	15.7	8.3	59.6	5.7	7.5
Upper West	Urban	3.4	9.4	47.9	33.7	5.4	0.2
	Rural	2.0	3.3	13.8	74.5	6.1	0.3

Source: Computed from the 2000 Population and Housing Census.

A possible solution out of this unhealthy situation is for the District Assemblies to enact bye-laws making it mandatory for all communities to create appropriate refuse dumping sites to be fumigated or the waste regularly burnt at the sites. The bye-laws should also make it prohibitive for anyone to dump solid waste any where apart from the designated sites, a contravention of which should attract sanctions to be determined by the District Assemblies. The implementation of these bye-laws would be more effective if they are backed by public education to be led by the Assembly members and Unit Committee members who live in the community.

Table 7.26 also shows that about a third of urban households in Ghana dispose of their liquid waste either on the street, outside the house or in a gutter. On the other hand, close to half of the rural households use the street/outside or the compound as the area for disposing of liquid waste. The regions do not vary much from the national picture. The proportion of the households using the sewerage system for their liquid waste disposal is highest in Greater Accra (15.3 per cent urban and 7.9 per cent rural). For the rest of the regions, less than 10 per cent of households use the sewerage system.

Rapid population growth and urban poverty have combined to negatively affect the provision of sewerage facilities for the disposal of urban liquid waste. In some instances, houses are hurriedly constructed for the primary purpose of providing shelter without any plans for modern sewerage facilities. This is particularly the situation when households are forced to quit rented premises at short notices, resulting in movement to semi-completed housing structures, most of which have poor or no sewerage systems for the disposal of household liquid waste.

**Table 7.26: Liquid Waste Disposal by Region and Locality of Residence**

Region	Locality	Process of Liquid Waste Disposal				
		Sewerage System	Street/Outside	Gutter	Compound	Other
All Regions	Urban	8.1	30.0	37.0	24.2	0.7
	Rural	1.3	47.0	6.9	43.9	0.9
Western	Urban	6.7	23.9	46.2	21.1	2.1
	Rural	0.9	41.4	9.2	46.6	1.9
Central	Urban	3.8	33.7	35.8	25.5	1.2
	Rural	0.9	45.6	10.6	41.8	1.1
Greater Accra	Urban	15.3	18.1	43.5	22.5	0.6
	Rural	7.9	28.6	3.8	58.4	1.3
Volta	Urban	3.1	40.4	14.6	41.2	0.7
	Rural	0.5	41.8	7.6	49.0	1.1
Eastern	Urban	3.7	30.9	33.9	31.1	0.4
	Rural	0.9	32.1	7.9	58.6	0.5
Ashanti	Urban	6.5	26.0	47.1	20.1	0.3
	Rural	0.7	54.8	7.1	37.0	0.4
Brong Ahafo	Urban	1.9	56.6	12.3	29.0	0.2
	Rural	0.9	53.3	3.8	41.7	0.3
Northern	Urban	3.6	59.5	19.9	16.7	0.3
	Rural	1.3	64.0	3.8	30.4	0.5
Upper East	Urban	3.8	59.3	15.2	17.3	0.4
	Rural	3.3	51.1	4.2	39.5	1.9
Upper West	Urban	5.6	65.0	12.1	17.0	0.3
	Rural	1.4	68.2	2.7	27.2	0.5

Source: Computed from the 2000 Population and Housing Census.

The situation with liquid waste disposal suggests that increased effort is required to intensify public education on the right ways to dispose of household liquid waste as a way of making the environment sanitised for improved health for the population. In addition to public education, there is the need to improve the public as well as the household sewerage system. Private and public estate developers should be involved in finding a lasting solution to the problem.

The 2000 Census also collected data on the type of toilet facility used by households in the country. Table 7.27 shows that only one out of six households use the most improved toilet facility, the water closet (16.2 per cent in urban areas and 1.6 per cent in rural areas). A little over a third (37.2 per cent) of urban households and a quarter (26.3 per cent) of rural households use a

public toilet. What should be a matter of grave concern is the fact that one in ten households in urban areas and over a quarter of rural household have no toilet facility.

The situation within the regions points to a small proportion of households that use water closet toilet facilities. Apart from Greater Accra, Ashanti and Western where the proportion of urban households using water closet toilet facilities exceeds 15 per cent, in the other regions, 10 per cent or less of households use the water closet toilet facility; the situation is even less satisfactory in Northern, Brong Ahafo and Volta. It is also observed that in the three northern regions, 80 per cent or higher of rural households and 30 per cent or higher of urban households have no toilet facility, a situation likely to have serious health and environmental consequences.

**Table 7.27: Toilet Facility by Region and Locality of Residence**

Region	Locality	Type of Toilet Facility							
		Water Closet	Pit Latrine	KVIP	Bucket/Pan	Facility in Another Household	Public Toilet (WC/Pit)	No Facility	Other
All Regions	Urban	16.2	12.1	9.6	6.9	7.1	37.2	10.7	0.2
	Rural	1.6	30.9	4.5	1.5	6.7	26.3	28.3	0.2
Western	Urban	15.3	11.8	6.5	4.1	6.7	43.8	11.6	0.2
	Rural	2.1	42.2	5.2	1.8	8.0	28.1	12.3	0.3
Central	Urban	10.2	13.8	8.3	6.3	4.3	39.2	17.8	0.1
	Rural	1.5	32.3	6.1	0.6	4.4	36.7	18.2	0.2
Greater Accra	Urban	23.7	9.5	10.8	9.8	9.1	28.9	7.9	0.3
	Rural	9.8	24.3	4.4	3.1	6.2	12.5	39.3	0.4
Volta	Urban	6.8	13.6	8.9	8.2	9.9	28.8	23.6	0.2
	Rural	0.8	34.6	4.9	3.5	11.6	19.2	25.2	0.2
Eastern	Urban	8.6	19.1	9.5	10.9	10.2	38.9	2.6	0.2
	Rural	1.2	48.8	5.5	2.2	10.9	24.3	7.0	0.1
Ashanti	Urban	20.6	12.6	10.1	4.4	5.7	42.5	3.9	0.2
	Rural	1.3	29.4	5.0	0.9	5.3	50.7	7.3	0.1
Brong Ahafo	Urban	6.2	17.8	11.7	1.7	3.0	50.3	9.2	0.1
	Rural	0.8	41.4	5.0	0.5	1.8	32.3	18.1	0.1
Northern	Urban	5.0	1.8	5.4	4.9	1.6	41.4	39.8	0.1
	Rural	1.4	2.0	1.0	0.3	0.8	3.2	91.1	0.2
Upper East	Urban	8.8	3.1	4.4	3.3	8.3	28.3	43.2	0.6
	Rural	1.2	1.2	1.0	0.9	8.3	1.7	85.3	0.4
Upper West	Urban	7.8	4.2	8.7	3.2	10.1	36.4	29.3	0.3
	Rural	1.1	2.0	3.1	1.5	8.8	2.9	80.1	0.5

Source: Computed from the 2000 Population and Housing Census.

The provision of modern toilet facilities in urban areas has suffered due to high population growth and the high demand for housing. Against this background, it is not uncommon for some land owners to convert hitherto toilet facilities within houses into rooms to be rented out to hard-pressed prospective tenants. Unless bye-laws on provision of toilets in houses are rigidly enforced, particularly in the urban areas, the situation could get out of hand, a situation which could further aggravate the environmental health situation in the cities and towns.

### **Electricity and Fuel Use**

Energy is a basic requirement for both domestic and industrial activities. Two main kinds of information on energy use collected in the 2000 Census are the type of lighting facility available to the household and the source of fuel used for domestic purposes. Table 7.28 presents information on type of lighting facility used. While electricity is available to the majority of urban households, the use of kerosene lamps is prevalent in rural areas.

Not all urban areas in the country are provided with electricity. At the same time, not all households in the urban areas with electricity have electric power connected for their domestic use. This situation is a result of the urban sprawl that has overtaken hitherto rural settlements without electricity supply. Besides, rapid population growth, culminating in urban sprawl in the cities and large towns, has outrun city planning with respect to the provision of some basic facilities such as electricity and water supply. Thus, newly built up areas in urban settlements often stay for long periods before they are connected to the electricity network for their household use.

**Table 7.28: Lighting Facility by Region and Locality of Residence**

Region	Locality	Type of Lighting Facility					
		Electricity	Kerosene Lamp	Gas Lamp	Solar Energy	No Light	Other
All Regions	Urban	74.6	24.0	0.2	0.1	0.8	0.3
	Rural	16.1	82.6	0.4	0.1	0.5	0.3
Western	Urban	78.1	20.7	0.1	0.1	0.7	0.3
	Rural	20.7	78.2	0.3	0.2	0.3	0.3
Central	Urban	66.6	32.3	0.1	0.0	0.7	0.3
	Rural	23.4	75.8	0.3	0.0	0.4	0.1
Greater Accra	Urban	82.9	15.2	0.2	0.1	1.2	0.4
	Rural	26.4	72.1	0.4	0.1	0.6	0.4
Volta	Urban	47.6	51.3	0.2	0.3	0.4	0.2
	Rural	18.0	81.0	0.4	0.2	0.2	0.2
Eastern	Urban	66.1	33.1	0.1	0.0	0.5	0.2
	Rural	15.8	83.3	0.3	0.2	0.3	0.1
Ashanti	Urban	81.7	16.7	0.1	0.2	0.9	0.4
	Rural	19.2	79.6	0.5	0.1	0.4	0.2
Brong Ahafo	Urban	68.0	31.2	0.2	0.0	0.4	0.2
	Rural	13.0	86.0	0.4	0.0	0.4	0.2
Northern	Urban	61.6	37.2	0.2	0.1	0.5	0.4
	Rural	5.4	92.9	0.5	0.1	0.7	0.4
Upper East	Urban	56.6	41.2	0.2	0.1	1.6	0.3
	Rural	3.2	93.7	0.5	0.1	2.1	0.4
Upper West	Urban	60.2	37.9	0.3	0.1	0.8	0.7
	Rural	2.9	92.2	0.8	0.2	1.5	2.4

Source: Computed from the 2000 Population and Housing Census.

The situation in the rural areas with respect to electricity for lighting homes is not reflected in efforts, over the years, of government policy regarding rural electrification. Many rural communities are connected to the national grid for electricity supply, but many households are unable to access it. Poverty in the rural areas, therefore, is a major contributory factor to the very low access of rural households to electricity as a source of lighting in Ghana.

One area, which presents a more developmental challenge to Ghana, is the source of cooking fuel used by households in the country, because of the impact on the environment. Information presented in Table 7.29 suggests that over three quarters of households, urban or rural, depend largely on the natural environment (wood and charcoal) for their domestic fuel requirements. While majority of rural households in all the regions depend on wood, majority of urban households in 7 regions use charcoal. The implication of this development on deforestation and general environmental deterioration cannot be ruled out, particularly when the culture of tree planting is not yet fully appreciated by the general Ghanaian population.

The fact that the more improved and environmentally friendly sources of fuel (electricity, liquefied petroleum gas and kerosene) are used by a small proportion of households nationally may be due to poverty levels which make these improved energy sources inaccessible financially, more so when the wood is virtually free. It is therefore quite contradictory to note that although it has long been a government policy to encourage the population to use LPG as domestic energy source, the cost of the LPG and the cylinders has continued to increase over and above the incomes of most households. A more pragmatic approach to the implementation of government policy on improved energy use in the country has to be adopted in order to save the environment from further deterioration and destruction. This is more important when considered against the backdrop of increasing population particularly in the urban areas.

**Table7.29: Cooking Fuel by Region and Locality of Residence**

Region	Locality	Type of Fuel							None (No Cooking)
		Char coal	Wood	Coconut Husk	Gas	Electricity	Kerosene	Other	
All	Urban	54.3	22.9	0.3	11.8	2.0	2.6	0.7	5.4
Regions	Rural	8.2	85.2	0.4	1.1	0.4	1.4	1.5	1.8
Western	Urban	52.2	28.5	0.8	8.0	2.5	2.0	0.8	5.2
	Rural	7.6	85.1	1.2	1.6	0.5	1.2	0.7	2.1
Central	Urban	53.8	31.2	0.3	6.2	1.2	1.9	0.3	5.1
	Rural	13.8	79.8	0.5	1.1	0.4	1.5	0.1	2.8
Greater Accra	Urban	60.8	2.8	0.2	23.5	2.4	4.4	0.8	5.1
	Rural	30.3	53.7	0.3	9.1	1.1	2.7	0.5	2.3
Volta	Urban	52.6	36.4	0.5	5.2	0.7	2.1	0.3	2.2
	Rural	9.1	86.6	1.0	0.6	0.2	1.2	0.2	1.1
Eastern	Urban	43.7	39.9	0.1	7.1	1.5	2.1	0.3	5.3
	Rural	8.8	86.5	0.1	0.9	0.3	1.3	0.1	2.0
Ashanti	Urban	60.9	17.9	0.2	8.2	2.6	1.9	0.8	7.5
	Rural	8.1	86.4	0.2	0.9	0.3	1.4	0.4	2.3
Brong Ahafo	Urban	37.2	51.0	0.2	3.2	1.1	1.0	0.6	5.7
	Rural	3.6	92.6	0.1	0.2	0.3	1.2	0.1	1.9
Northern	Urban	34.6	56.3	0.3	2.8	1.2	1.1	0.3	3.4
	Rural	2.0	95.2	0.1	0.2	0.5	1.4	0.1	0.5
Upper East	Urban	55.1	31.8	0.2	3.4	1.3	2.4	3.8	2.4
	Rural	2.6	73.8	0.1	0.3	0.1	1.8	21.0	0.3
Upper West	Urban	65.5	26.1	0.1	2.3	1.4	1.2	0.8	2.6
	Rural	3.1	94.6	0.1	0.2	0.1	1.4	0.1	0.4

Source: Computed from the 2000 Population and Housing Census.

### **Posts and Telecommunication**

Information collected in the 2000 Census on the availability of post office and telephone facilities pertaining to 20 largest localities in each of the 110 districts in Ghana has already been published. Further analysis is, however, presented here to help understand the extent to which urban localities vary from rural settlements in terms of access to these community facilities. The availability of telephone facilities in particular is considered very important for development, considering the current national policy in the area of ICT and internet connectivity for easy and faster transmission of information.

A total of 2,200 localities (20 from each district) are analysed in this section. Of this number, 415 (18.9 per cent) are urban localities, an indication that even among the 20 largest localities in each district, a large proportion of them are rural in size. It is also observed that of the 2,200 localities 637 (29.0 per cent) had a post office facility. For those localities which did not have a post office facility, there is an average distance of 15.8 kilometres to the nearest post office facility. Against

this general background, Table 7.30 shows that 82.9 per cent of urban localities have a post office facility, while only 16.4 per cent of rural localities have the facility. A significant majority of urban localities in all regions have a post office, while the overwhelming majority of rural localities do not have.

**Table 7.30: Access of 20 Largest Localities in Districts to Post Office Facility by Region and Locality of Residence**

Region	Urban					Rural				
	Post Office in Town		No Post Office in Town			Post Office in Town		No Post Office in Town		
	No.	Per cent	No.	Per cent	Average Distance (km) to Facility	No.	Per cent	No.	Per cent	Average Distance (km) to Facility
Western	39	79.6	10	20.4	10.4	14	8.2	157	91.8	16.0
Central	33	80.5	8	19.5	4.0	51	25.6	148	74.4	8.1
Greater Accra	49	77.8	14	22.2	2.7	6	16.2	31	83.8	8.9
Volta	27	77.1	8	22.9	30.1	41	20.0	164	80.0	15.8
Eastern	54	96.4	2	3.6	1.0	83	34.0	161	66.0	12.0
Ashanti	70	90.9	7	9.1	10.0	48	17.0	235	83.0	12.7
Brong Ahafo	46	85.2	8	14.8	12.0	35	17.0	171	83.0	15.7
Northern	16	59.3	11	40.7	23.7	8	3.4	225	96.6	25.6
Upper East	4	57.1	3	42.9	12.7	3	2.7	110	97.3	15.1
Upper West	6	100.0	0	0.0	0.0	4	4.3	90	95.7	25.5
All Regions	344	82.9	71	17.1	12.5	293	16.4	1,492	83.6	16.0

Source: Extracted from Ghana Statistical Service, 2000 Population and Housing Census of Ghana: Special Report on 20 Largest Localities.

The average distance to the nearest locality with a post office (for those without the facility) suggests also that rural areas are more deprived, compared to the urban. Although with increasing population growth in the urban areas, it will be difficult to make post office facilities accessible to all urban dwellers, with the current wave of internet facilities in many towns and cities in Ghana, post offices may not be very indispensable at all times.

Table 7.31 presents the availability of telephone facility among the 20 largest localities in each of the 110 districts, aggregated and compared by region and between the urban and rural localities. For all 2,200 localities, one in four had a telephone facility. This indicates that a larger proportion of localities have access to post office than the telephone facilities, a situation which may hamper communication between localities. It also implies that there are post offices that either do not have telephones or if they do, they are not available to the general public.

**Table 7.31: Access of 20 Largest Localities in Districts to Telephone Facility by Region and Locality**

Region	Urban					Rural				
	Telephone in Town		No Telephone in Town			Telephone in Town		No Telephone in Town		
	No.	Per cent	No.	Per cent	Average Distance (km) to Facility	No.	Per cent	No.	Per cent	Average Distance (km) to Facility
Western	42	85.7	7	14.3	10.6	17	9.9	154	90.1	15.4
Central	22	53.7	19	46.3	8.7	25	12.6	174	87.4	11.2
Greater Accra	62	98.4	1	1.6	5.0	11	29.7	26	70.3	5.4
Volta	23	65.7	12	34.3	18.1	16	7.8	189	92.2	47.3
Eastern	54	96.4	2	3.6	8.5	57	23.4	187	76.6	13.0
Ashanti	71	92.2	6	7.8	10.7	61	21.6	222	78.4	14.8
Brong Ahafo	40	74.1	14	25.9	11.4	9	4.4	197	95.6	16.5
Northern	15	55.6	12	44.4	41.9	13	5.6	220	94.4	35.1
Upper East	3	42.9	4	57.1	17.0	4	3.5	109	96.5	22.6
Upper West	5	83.3	1	16.7	2.0	12	12.8	82	87.2	20.0

All Regions	337	81.2	78	18.8	16.4	225	12.6	1,560	87.4	21.9
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Source: Extracted from Ghana Statistical Service, 2000 Population and Housing Census of Ghana: Special Report on 20 Largest Localities,

Similar to the situation with post office facilities, 81.2 per cent of urban localities have telephone facilities as against 12.6 per cent of rural localities. At the regional level, the majority of urban localities in all regions, except Upper East, have telephone facilities, while the overwhelming majority of rural localities in all regions do not have the facility. In terms of average distance to the nearest telephone facility for localities without telephone facilities, it is 16.4 kilometres for urban and 21.9 kilometres for rural localities.

Unlike the post office which is entirely a public facility, the telephone facility can be accessed privately. The level of access to telephone facilities at the locality level may therefore underestimate access at the household level. It is apparent, though, that whether it is access to post office or telephone facilities, urban areas are better served compared to rural localities.

In urban areas, demand for land lines of telephone facilities is not matched by supply due to unanticipated population concentration, such that many households in the urban communities are unable to be supplied with facilities because original supply points on erected poles are often fully subscribed. It is no wonder that in recent times the subscription for mobile or cell phone has become very popular and fashionable in spite of the high cost of service.

In view of the poor access of rural areas to postal and telephone facilities, it would be helpful if policy could tilt the balance of telecommunication development towards the rural areas, while still serving the urban areas that are still without access to these facilities. At the same time, households could be encouraged to own telephone facilities through, for example, reduction in the cost of initial connection of the facility to the household. It would also be in the nation's development interest if Government were to consider supporting a programme that seeks to extend telephone facilities to second and tertiary institutions in the country, irrespective of location, in order to facilitate the process of providing internet facilities to such schools as part of the information technology learning process.

### **Water Supply**

Water is an indispensable commodity in life and its availability and source are important considerations for assessing the standard of living. The 2000 Census collected information on the source of water supply of households which is presented in Table 7.32.

From Table 7.32, it is observed that at the national level, three in every four (71.3 per cent) households in urban areas have access to pipe-borne water, while in the rural areas, it is one in six (16.0 per cent). If, however, the borehole is accepted as a source of potable or good and healthy drinking water, then 43.3 per cent of rural households would be said to have access to potable water supply (pipe borne and bore hole), as compared with 75.7 per cent of urban households. This emphasizes the importance of the construction of boreholes as a means of improving the source of drinking water for rural areas.

**Table 7.32: Water Supply by Region and Locality of Residence**

Region	Locality	Source of Water Supply								
		Pipe-borne Inside	Pipe-borne Outside	Tanker Supply	Well	Bore-hole	Spring/ Rain Water	River/ Stream	Dugout	Other
All Regions	Urban	27.8	40.1	3.4	16.1	4.4	2.1	4.6	1.2	0.3
	Rural	2.2	12.6	1.2	16.9	27.3	6.4	26.6	6.6	0.2
Western	Urban	18.1	46.9	0.8	24.6	3.0	2.0	3.7	0.6	0.3
	Rural	2.3	8.0	0.7	22.3	21.3	5.9	37.2	2.1	0.2
Central	Urban	19.9	50.3	8.8	12.1	4.3	1.3	2.2	0.8	0.3
	Rural	2.8	34.4	2.5	11.1	25.5	3.6	16.6	3.4	0.1
Greater Accra	Urban	39.1	47.5	6.3	4.3	0.3	1.2	0.4	0.4	0.5
	Rural	11.6	25.8	14.9	13.6	6.6	3.5	10.7	12.7	0.6
Volta	Urban	12.4	29.5	1.0	31.7	4.7	5.5	11.8	2.9	0.5
	Rural	1.5	16.6	0.6	19.5	11.1	5.9	31.3	13.0	0.5
Eastern	Urban	19.0	35.4	0.9	29.9	2.9	2.3	8.9	0.6	0.1
	Rural	2.6	9.7	0.4	18.7	24.6	6.9	32.6	4.3	0.2
Ashanti	Urban	34.9	31.0	0.8	18.9	6.0	1.8	5.6	0.7	0.3
	Rural	1.6	9.0	0.5	15.9	41.4	5.8	23.8	1.9	0.1
Brong Ahafo	Urban	11.1	34.4	1.3	21.4	13.8	3.7	13.0	1.2	0.1
	Rural	1.0	7.3	0.2	11.6	33.2	6.8	35.4	4.4	0.1
Northern	Urban	21.7	35.7	2.7	14.0	8.0	1.8	4.1	11.4	0.6
	Rural	1.7	6.1	0.2	12.0	20.7	5.4	30.7	23.0	0.2
Upper East	Urban	21.0	27.6	1.1	27.6	14.9	5.6	0.7	0.6	0.9
	Rural	1.6	4.2	0.4	32.4	41.2	11.7	5.2	3.1	0.2
Upper West	Urban	16.5	35.2	1.7	17.5	21.1	5.2	1.5	1.1	0.2
	Rural	1.1	4.4	0.4	8.7	55.2	15.3	9.3	5.4	0.2

Source: Computed from the 2000 Population and Housing Census.

In the urban areas, pipe borne water supply to households has been outrun by urban sprawl where newly developed areas usually stay without potable water supply for very long periods. Already, many newly settled suburbs in the cities are going through long periods of water shortages even when they are connected to piped water supply facilities. Clearly, the extension of pipe borne water to households in urban areas cannot match population growth and spatial population distribution in the urban settlements in the country. It also shows that hitherto rural settlements close to urban areas have been swallowed up by rapid urban expansion. The result is that the provision of potable water to these hitherto rural settlements, which have been engulfed by rapid urban expansion in the cities and large towns, has lagged behind the rate of growth and spatial distribution of the urban population.

### **Road Network**

The road network situation in any area provides some indication of the level of development of the area. This is because it allows the free flow of information, goods and services. In Ghana, the perennial food shortages could partly be traced to problems of poor distribution resulting from inadequate or poor road infrastructure between food producing areas and market centres.

The analysis uses data on feeder roads in the country, it is not possible to make a strictly urban and rural comparison since the roads cut across rural and urban boundaries. Table 7.33 presents information on feeder roads by region, in terms of road density per 1,000 square kilometres of land as well as the road length per 1,000 population for year 2000. The road density for the whole country is about 192 km per 1,000 square kilometres of land with an average road length of 2.4 km per 1,000 population.

**Table 7.33: Coverage of Feeder Roads by Region, 2002**

Region	Area (Sq. km) (1)	Road Length (km) (2)	Population (2000) (3)	Density per 1,000 sq. km (2) ÷ (1)	Road Length per 1,000 Persons (2) ÷ (3)
All Regions	238,537	45,776	18,912,079	191.9	2.4
Western	23,921	6,577	1,924,577	274.9	3.4
Central	9,826	3,891	1,593,822	396.0	2.4
Greater Accra	3,245	1,364	2,905,726	420.3	0.5
Volta	20,572	4,960	1,635,421	241.1	3.0
Eastern	19,324	5,362	2,106,696	277.5	2.5
Ashanti	24,390	7,302	3,612,950	299.4	2.0
Brong Ahafo	39,557	5,891	1,815,408	148.9	3.0
Northern	70,383	5,984	1,820,806	85.0	3.3
Upper East	8,842	1,558	920,089	176.2	1.7
Upper West	18,477	2,887	576,583	156.2	5.0

Source: Extracted from the 2002 Road Inventory of Ghana, Ministry of Roads and Highways.

A comparison of the regions shows that Greater Accra has the largest road density per square kilometre, more than twice the national average. Central follows with a density of 396 km per 1,000 square kilometre of land. In contrast, Northern has the lowest road density of 85 km per 1,000 square kilometre of land, which is less than half the national average.

On the other hand, the average road length per 1,000 population presents a seemingly contradictory picture to the road density. For example, although in terms of road density, Greater Accra is the most advantaged, the same region has the shortest road length per 1,000 population (0.5), while Upper West has the longest road length per 1,000 population (5.0), although it is among the most disadvantaged in terms of road density per 1,000 square kilometre of land. It is also noted that in terms of road density per 1,000 square kilometres, Greater Accra and Ashanti, the two most urbanised regions in Ghana, have high road densities, suggesting that road density may be higher with increasing population density. Development with respect to road network appears to be higher in the urban areas than in the rural areas as was found in the case of the other development indicators that have earlier been analysed. It is possible that rapid population concentrations in the urban areas have largely influenced the provision of road infrastructure, such that the more urbanised and developed regions, on the average, are more advantaged in respect of road network provision in the country.

## 7.6 Policy Implications of Spatial Distribution and Recommendation

### Introduction

The analysis so far has underscored a number of development related challenges facing the country, and which have policy implications for urban and rural development in the country. These include uneven spatial distribution; increasing rate of urbanisation and urban primacy; spatial inequality in development in the country; and low use of improved and more environmentally friendly energy sources in the face of increasing deforestation as population growth increases.

### Uneven Spatial Distribution

The discussion has indicated that since 1960, the population of Ghana has not been evenly distributed spatially. There are clear areas of concentration and others of sparse population distribution. The observation is that infrastructure facilities usually get developed in areas of high population concentrations on account of the pressures these high population concentrations make

on resources. The challenge is how to ensure that development programmes, activities and facilities are not concentrated in the heavily populated areas to the disadvantage of the less populated areas. Until conscious efforts are made to facilitate a deliberate policy in favour of rural areas which have several settlements with small population sizes scattered over large expanse of land, they will continue to be disadvantaged in terms of development.

Furthermore, there is the challenge of how to ensure that internal migration is redirected from the already population-choked areas to sparsely populated but potentially economically viable areas to ensure improved living arrangements for the population. Incidentally, the rural areas which have some economic potential in terms of their natural resources are the very areas which are not attracting internal migrants to develop the available resources. The challenge is to commit resources to provide needed development facilities and programmes in hitherto deprived areas to attract more population especially from the highly densely populated areas in the country.

### **Increasing Rate of Urbanisation and Urban Primacy**

Urbanisation has been quite rapid in the country, yet it has not been spatially uniform across the regions. Greater Accra and Ashanti have experienced the most rapid urbanisation, and these incidentally contain the two major cities of Accra and Kumasi. Clearly, the pattern of urbanisation is one of urban primacy, where a few cities and towns have rapidly grown in size relative to other urban settlements. There have thus been problems of congestion, sanitation and waste disposal, perennial flooding as a result of the mushrooming of unauthorised structures, soaring crime wave, deteriorating urban environment due to exhaust fumes of dilapidated vehicles, and so on.

Apart from these problems which pose much challenge to urban development, there is the current wave of urban-ward migration of female adolescents most of whom have no employable skills. Many of these young migrants end up as head porters particularly in Accra and Kumasi and who, on account of their vulnerability, are exposed to diverse reproductive health risks and problems.

The challenge therefore is that while the problems in the few cities cannot escape attention and need to be addressed, they should not encumber resources meant for the development of the numerous small settlements where many of the problems of the cities may not be visible. The population of Ghana continues to be largely rural by residence and attention should therefore not be focused too much on the few primate cities and towns to the disadvantage of the numerous small settlements.

Another critical challenge should be to develop satellite towns, strategically chosen, to divert the attention of large volume of migrants hitherto bound for destination at the existing primate cities into these satellite towns to ease the population pressure on the environment of the primate cities and towns.

### **Spatial Inequality in Development**

Two scenarios of inequality in distributive development have been illustrated in the report: the development dichotomy between the urban and rural areas and that between the northern and southern portions of the country. It has been shown that with respect to all infrastructural facilities, the rural areas in the country are disadvantaged relative to the urban areas. Nothing appears to have

changed the spatial development pattern the country inherited at the time of independence, such that the southern half of the country continues to be relatively more developed, while the northern half continues to lag behind. Clearly, this is not healthy and poses a threat to the social cohesion of the nation.

The challenge is how to ensure that there is some equity in distributive development between urban and rural areas and between the north and the south. The challenge lies in the willingness for the nation to sacrifice the cost effectiveness of development projects in already development-advantaged areas for less endowed regions in order to achieve social benefits without any profit motivation. This obviously could be done at a cost, which may not necessarily bring any immediate economic returns, but could go a long way in ensuring social cohesion which is a critical ingredient for sound economic development and total nation building. This implies that the nation has to overcome the challenge of bridging the development gap between the urban and rural areas as well as between the northern and southern divide within the scarce resources that the nation currently has at her disposal.

### **Population and Development Resource Allocation**

The current policy on resource allocation, especially with regard to the disbursement of the District Assembly Common Fund, is done in accordance with the district's population size. By this, districts with large population are allocated more resources and vice versa. While this is an attempt to ensure some equality in the sharing of national development resources, it creates a disincentive to population programmes that are aimed at reducing fertility. This is because the thinking in districts with smaller population sizes is that further reduction in fertility would mean further reduction in population that would invariably result in reduction in their share of development resources. Their response to fertility reduction programmes could therefore be negative and could undermine the sustainability of modest gains so far attained in fertility decline in Ghana since the late 1980s.

The continuous application of resource allocation in accordance with a district's population size also implies that districts and regions with relatively high spatial development would continue to attract more migrant population resulting in the allocation of more resources to cater for the increasing population. Such a situation would continue to increase the spatial development gap that exists between areas of high population concentrations and others of sparse population.

The challenge is to devise a system that unties the allocation of resources to population size of districts, without undermining the concept of equity in national resources disbursements, so as to achieve a relatively more balanced spatial development.

### **Deforestation and Energy Use**

The analysis has shown that with increasing population and urbanization, there should have been a conscious attempt to ensure that a large proportion of at least the urban population would depend on the more improved energy sources, particularly LPG for their domestic use. Ironically however, more than 80 per cent of urban households are still using woodfuel and charcoal as domestic energy sources. The obvious implication is deforestation, which has become widespread in Ghana due principally to rapid population growth, frequent bush fires, poor afforestation programmes and

over-dependence on wood fuel for household cooking purposes. Over the years, pronouncements have been made by governments to ensure more use for LPG but there is little demonstrable effort to show the commitment of policy makers towards achieving this laudable objective. This is against the fact that no specific policies have been put in place to make LPG affordable to a large proportion of the population, not only in urban areas but also in rural areas where poverty is more widespread relative to urban centres.

### **Conclusion**

Population distribution has not been even since the time of independence. There has also been rapid but non-uniform urbanisation in the country resulting in variations in spatial developments especially between the urban and rural areas, the latter being disadvantaged in the provision of infrastructure facilities. The northern half is equally disadvantaged in development relative to the southern half. The main determining factors are rapid population growth and distribution across the country, especially between rural and urban areas. The solution to this development imbalance lies in the recognition of it as a problem and evolving programmes to address it. Yet, until conscious efforts are made in directly incorporating population factors including spatial population distribution in the country's development planning processes, rapid urbanisation and urban primacy, spatial dichotomy in development and deforestation will persist in the country, a situation which will frustrate the country's development programme.

### **Recommendations**

It is recommended that conscious efforts should be made to practically factor population variables in the development planning of the nation. This calls for planning officers with requisite training in development planning and demography. A system should be developed in such a way that all district planning officers have the right training in both development planning and basic demography before they are employed, while those already employed are offered the opportunity to sharpen their demographic and development planning skills to facilitate the practical incorporation of population factors in the development planning process at the district level.

In order to bridge the development gap between the urban and rural areas there should be a deliberate policy or programme to focus attention on the very deprived rural areas for massive infrastructural development that will facilitate economic development. Perhaps, a rural development policy should be evolved enjoining District Assemblies to select strategically located satellite communities for massive development investment at any point in time as a way of tilting the development balance in favour of the rural areas.

In view of the very low level of socio-economic development in the three northern regions, leading to continued out-migration, there should be an aggressive programme targeting them for public investments to improve standards of living among the population in the three regions.

Government should, as matter of urgency, revise the policy regarding LPG in order to make it more affordable to the population such that the over-dependence on woodfuel and charcoal would be reduced to save the environment from further deforestation. Specifically, the price of LPG should be reviewed downwards in addition to making it strictly for domestic use. There is the need

for Parliament to make a law prohibiting vehicles from using LPG as fuel, while prohibiting the importation of vehicles that use LPG in place of petrol or diesel.

Finally, discussions and consultations should be initiated in Parliament towards a possible altering of the formula for the allocation of resources, particularly the District Assembly Common Fund, which currently is largely in accordance with district population size. It is recommended that the formula should be reviewed to include factors such as the size of the land area, the level of spatial development, the pattern of spatial distribution of the population, the district's capacity to generate resources in addition to the population size. The formula should be considered in such a way that districts with small but highly dispersed population over a larger land area where spatial development is low, should be given additional resources beyond what they would normally qualify for on the basis of their population size.

## Appendices

### Appendix A 7.I: District Population Densities

Region	Area (sq km.)	Population	Density
<b>Western</b>	<b>23,921</b>	<b>1,924,577</b>	<b>80</b>
1. Jomoro	1,344	111,348	83
2. Nzema	2,194	142,871	65
3. Ahanta	591	95,140	161
4. Shama	385	369,166	959
5. Mpohor-Wassa East	1,880	122,595	65
6. Wassa-West	2,610	232,699	89
7. Wassa Amenfi	4,747	234,384	49
8. Aowin – Suaman	3,095	119,133	38
9. Juabeso-Bia	4,496	245,035	55
10. Sefwi Wiawso	1,900	148,950	78
11. Bibiani - Anhwiaso-Bekwai	850	103,256	121
<b>Central</b>	<b>9,826</b>	<b>1,593,823</b>	<b>162</b>
12. Komenda-Edina-Eguafo Abirem (KEEA)	380	112,437	296
13. Cape Coast	122	118,106	968
14. Abura-Asebu-Kwamankese	380	90,093	237
15. Mfantseman	510	152,855	300
16. Gomoa	850	194,792	229
17. Awutu-Efutu-Senya	780	169,972	218
18. Agona	540	158,955	294
19. Asikuma-Odoben-Brakwa	850	89,395	105
20. Ajumako-Enyan-Esiam	480	91,965	192
21. Assin	2,300	196,457	85
22. Twifo-Heman-Lower Denkyira	1,370	110,352	81
23. Upper Denkyira	2,386	108,444	45
<b>Greater Accra</b>			
24. Accra Metropolitan Area	300	1,658,937	5530
25. Ga	600	550,468	917
26. Tema	440	506,400	1151
27. Dangme West	1,680	96,809	58
28. Dangme East	640	93,112	145
<b>Volta</b>			
29. South Tongu	640	64,811	101
30. Keta	800	133,661	167
31. Ketu	900	237,261	264
32. Akatsi	820	93,477	114
33. North Tongu	1,460	130,388	89
34. Ho	2,660	235,331	88
35. Kpandu	1,110	112,961	102
36. Hohoe	1,140	153,047	134
37. Jasikan	1,390	111,285	80
38. Kadjebi	1,170	51,998	44
39. Nkwanta	5,480	151,276	28
40. Krachi	2,860	159,925	56

**Eastern**

41. Birim North	1,250	123,462	99
42. Birim South	1,090	179,349	165
43. West Akim	700	154,161	220
44. Kwaebibirem	1,210	179,209	148
45. Suhum-Krabo-Coallar	940	166,472	177
46. East Akim	1,510	190,347	126
47. Fanteakwa	1,150	86,154	75
48. New Juaben	200	136,768	684
49. Akwapim South	360	116,344	323
50. Akwapim North	610	104,753	172
51. Yilo Krobo	580	86,043	148
52. Manya-Krobo	950	154,301	162
53. Asuogyaman	640	75,920	119
54. Afram Plains	5,260	135,928	26
55. Kwahu South	1,860	217,485	117

**Ashanti**

56. Atwima	2,460	237,610	97
57. Amansie West	1,280	108,726	85
58. Amansie East	1,870	225,309	120
59. Adansi West	950	238,440	251
60. Adansi East	1,020	129,308	127
61. Ashanti –Akim South	1,080	96,868	90
62. Ashanti - Akim North	1,260	126,477	100
63. Ejisu-Juaben	650	124,176	191
64. Bosomtwi-Atwima-Kwanwoma	620	146,028	236
65. Kumasi Metropolitan Area	220	1,170,270	5319
66. Kwabre	250	164,668	659
67. Afigya Sekyere	780	119,093	153
68. Sekyere East	4,510	157,396	35
69. Sekyere West	2,390	143,206	60
70. Ejura Sekyedumase	1,350	81,115	60
71. Offinso	1,350	138,676	103
72. Ahafo-Ano South	570	133,632	234
73. Ahafo- Ano North	1,220	71,952	59

**Brong-Ahafo**

74. Asunafo	2,120	174,026	82
75. Asutifi	1,550	84,485	55
76. Tano	1,220	123,404	101
77. Sunyani	1,360	179,165	132
78. Dormaa	2,050	150,299	73
79. Jaman	1,600	148,327	93
80. Berekum	920	93,235	101
81. Wenchi	5,000	166,641	33
82. Techiman	950	174,600	184
83. Nkoranza	2,340	128,960	55
84. Kintampo	6,540	146,770	22
85. Atebubu	5,990	163,330	27
86. Sene	7,900	82,166	10

**Northern**

87. Bole	10,110	127,147	13
88. West Gonja	17,440	139,329	8
89. East Gonja	12,955	174,500	13
90. Nanumba	3,900	144,278	37
91. Zabzugu-Tatali	2,310	79,201	34
92. Saboba-Chereponi	2,810	93,847	33
93. East Dagomba (Yendi)	4,140	130,504	32
94. Gushiegu – Karaga	6,000	125,430	21
95. Savelugu – Nanton	2,200	89,968	41
96. West Dagomba (Tamale)	720	293,881	408
97. Tolon-Kumbungu	2,410	132,833	55
98. West Mamprusi	4,810	115,025	24
99. East Mamprusi	3,060	174,863	57

**Upper East**

100. Builsa	1,960	75,375	38
101. Kassena-Nankana	1,700	149,491	88
102. Bongo	480	77,885	162
103. Bolgatanga	1,460	228,815	157
104. Bawku West	979	80,606	82
105. Bawku East	2,097	307,917	147

**Upper West**

106. Wa	5,460	224,066	41
107. Nadowli	2,920	82,716	28
108. Sissala	7,130	85,442	12
109. Jirapa-Lamussie	1,810	96,834	53
110. Lawra	900	87,525	97

Table A 7.2 : Computation of Gini Concentration Ratio by District Arranged by Population and Density:  
Administrative Regions of Ghana (2000)

Region	Population	Area (Sq km.)	Density	Pop- prop	Area-prop	Cumulative Proportion		Xi-Yi	x=(Xi+1)Yi	y=(Yi+1)Xi	Gini Ratio
						Pop (Xi)	Area (Yi)				
<b>All Regions</b>	<b>18,912,079</b>	<b>238,533</b>	<b>79</b>								
<b>Western</b>	<b>1924577</b>	<b>24,092</b>	<b>80</b>	1.0000	1.0000				2.6387	2.9640	0.3253
Aowin – Suaman	119,133	3,095	38	0.0619	0.1285	1.0000	1.0000	-	0.8715	0.9381	
Wassa Amenfi	234,384	4,747	49	0.1218	0.1970	0.9381	0.8715	0.0666	0.6327	0.7114	
Juabeso-Bia	245,035	4,496	55	0.1273	0.1866	0.8163	0.6745	0.1418	0.3983	0.4647	
Nzema	142,871	2,194	65	0.0742	0.0911	0.6890	0.4879	0.2011	0.2734	0.2999	
Mpohor-Wassa East	122,595	1,880	65	0.0637	0.0780	0.6148	0.3968	0.2179	0.1960	0.2187	
Sefwi Wiawso	148,950	1,900	78	0.0774	0.0789	0.5511	0.3188	0.2323	0.1322	0.1510	
Jomoro	111,348	1,344	83	0.0579	0.0558	0.4737	0.2399	0.2338	0.0872	0.0998	
Wassa-West	232,699	2,610	89	0.1209	0.1083	0.4158	0.1841	0.2317	0.0315	0.0543	
Bibiani – Anhwiaso-Bekwai	103,256	850	121	0.0537	0.0353	0.2949	0.0758	0.2191	0.0119	0.0183	
Ahanta	95,140	591	161	0.0494	0.0245	0.2413	0.0405	0.2007	0.0039	0.0078	
Shama	369,166	385	959	0.1918	0.0160	0.1918	0.0160	0.1758	-	-	
Ahata East Metrop.											
<b>Central</b>	<b>1,593,823</b>	<b>10,948</b>	<b>146</b>	1.0000	1.0000				2.6292	3.0126	0.3834
Upper Denkyira	108,444	2,386	45	0.0680	0.2179	1.0000	1.0000	-	0.7821	0.9320	
Twifo-Heman-Lower Denkyira	110,352	1,370	81	0.0692	0.1251	0.9320	0.7821	0.1499	0.6122	0.6747	
Assin	196,457	2,300	85	0.1233	0.2101	0.8627	0.6569	0.2058	0.3855	0.4858	
Asikuma-Odoben-Brakwa	89,395	850	105	0.0561	0.0776	0.7395	0.4468	0.2926	0.2730	0.3054	
Ajumako-Enyan-Esiam	91,965	480	192	0.0577	0.0438	0.6834	0.3692	0.3142	0.2223	0.2310	
Awutu-Efutu-Senya	169,972	780	218	0.1066	0.0712	0.6257	0.3254	0.3003	0.1590	0.1689	
Gomoa	194,792	850	229	0.1222	0.0776	0.5190	0.2541	0.2649	0.0916	0.1008	
Abura-Asebu-Kwamankese	90,093	380	237	0.0565	0.0347	0.3968	0.1765	0.2203	0.0563	0.0601	
Agona	158,955	540	294	0.0997	0.0493	0.3403	0.1418	0.1985	0.0315	0.0341	
Komenda-Edina-Eguafo Abirem (KEEA)	112,437	380	296	0.0705	0.0347	0.2406	0.0924	0.1481	0.0139	0.0157	
Mfantseman	152,855	510	300	0.0959	0.0466	0.1700	0.0577	0.1123	0.0019	0.0043	
Cape Coast	118,106	122	968	0.0741	0.0111	0.0741	0.0111	0.0630			
<b>Greater Accra</b>	<b>2,905,726</b>	<b>3,660</b>	<b>896</b>	1.0000	1.0000				1.1450	1.8606	0.7156
Dangme West	96,809	1,680	58	0.0333	0.4590	1.0000	1.0000	-	0.5410	0.9667	
Dangme East	93,112	640	145	0.0320	0.1749	0.9667	0.5410	0.4257	0.3539	0.5056	
Ga	550,468	600	917	0.1894	0.1639	0.9346	0.3661	0.5685	0.1890	0.2728	
Tema	506,400	440	1,151	0.1743	0.1202	0.7452	0.2022	0.5430	0.0611	0.1154	
Accra Metro. Area	1,658,937	300	5,530	0.5709	0.0820	0.5709	0.0820	0.4890	-	-	

Appendix II (continued)

	Population	Area (Sq km.)	Density	Pop- prop	Area- prop.	Cumulative Proportion		Xi-Yi	x=(Xi+1)Yi	y=(Yi+1)Xi	Gini Ratio
						Pop (Xi)	Area (Yi)				
<b>Volta</b>	1,635,421	20,430	80	1.0000	1.0000				2.8461	3.1874	0.3413
Nkwanta	151,276	5,480	28	0.0925	0.2682	1.0000	1.0000		0.7318	0.9075	
Kadjebi	51,998	1,170	44	0.0318	0.0573	0.9075	0.7318	0.1757	0.6121	0.6408	
Krachi	159,925	2,860	56	0.0978	0.1400	0.8757	0.6745	0.2012	0.4681	0.5247	
Jasikan	111,285	1,390	80	0.0680	0.0680	0.7779	0.5345	0.2434	0.3629	0.3794	
Ho	235,331	2,660	88	0.1439	0.1302	0.7099	0.4665	0.2434	0.2387	0.2640	
North Tongu	130,388	1,460	89	0.0797	0.0715	0.5660	0.3363	0.2297	0.1499	0.1635	
South Tongu	64,811	640	101	0.0396	0.0313	0.4862	0.2648	0.2214	0.1135	0.1183	
Kpandu	112,961	1,110	102	0.0691	0.0543	0.4466	0.2335	0.2131	0.0800	0.0881	
Akatsi	93,477	820	114	0.0572	0.0401	0.3775	0.1791	0.1984	0.0525	0.0574	
Hohoe	153,047	1,140	134	0.0936	0.0558	0.3204	0.1390	0.1814	0.0267	0.0315	
Keta	133,661	800	167	0.0817	0.0392	0.2268	0.0832	0.1436	0.0100	0.0121	
Ketu	237,261	900	264	0.1451	0.0441	0.1451	0.0441	0.1010			
<b>Eastern</b>	2,106,696	18,310	115	1.0000	1.0000				3.3686	3.7302	0.3616
Afram Plains	135,928	5,260	26	0.0645	0.2873	1.0000	1.0000		0.7127	0.9355	
Fanteakwa	86,154	1,150	75	0.0409	0.0628	0.9355	0.7127	0.2228	0.6080	0.6376	
Birim North	123,462	1,250	99	0.0586	0.0683	0.8946	0.6499	0.2447	0.5203	0.5433	
Kwahu South	217,485	1,860	117	0.1032	0.1016	0.8360	0.5816	0.2543	0.4013	0.4262	
Asuogyaman	75,920	640	119	0.0360	0.0350	0.7327	0.4801	0.2527	0.3262	0.3345	
East Akim	190,347	1,510	126	0.0904	0.0825	0.6967	0.4451	0.2516	0.2527	0.2699	
Kwaebibirem	179,209	1,210	148	0.0851	0.0661	0.6064	0.3626	0.2437	0.1798	0.1890	
Yilo Krobo	86,043	580	148	0.0408	0.0317	0.5213	0.2966	0.2247	0.1381	0.1425	
Manya-Krobo	154,301	950	162	0.0732	0.0519	0.4804	0.2649	0.2156	0.1023	0.1079	
Birim South	179,349	1,090	165	0.0851	0.0595	0.4072	0.2130	0.1942	0.0625	0.0686	
Akwapim North	104,753	610	172	0.0497	0.0333	0.3221	0.1535	0.1686	0.0387	0.0418	
Suhum-Krabo-Coallar	166,472	940	177	0.0790	0.0513	0.2723	0.1202	0.1522	0.0187	0.0232	
West Akim	154,161	700	220	0.0732	0.0382	0.1933	0.0688	0.1245	0.0059	0.0083	
Akwapim South	116,344	360	323	0.0552	0.0197	0.1201	0.0306	0.0896	0.0013	0.0020	
New Juaben	136,768	200	684	0.0649	0.0109	0.0649	0.0109	0.0540			

Appendix II (continued)

	Population	Area (Sq km.)	Density	Pop- prop	Area-prop	Cumulative Proportion		Xi-Yi	x=(Xi+1)Yi	y=(Yi+1)Xi	Gini Ratio
						Pop (Xi)	Area (Yi)				
<b>Ashanti</b>	3,612,950	23,830	152	1.0000	1.0000				4.8692	5.4153	0.5460
Sekyer East	157,396	4,510	35	0.0436	0.1893	1.0000	1.0000		0.8107	0.9564	
Ahafo- Ano North	71,952	1,220	59	0.0199	0.0512	0.9564	0.8107	0.1457	0.7265	0.7593	
Sekyer West	143,206	2,390	60	0.0396	0.1003	0.9365	0.7595	0.1770	0.6174	0.6812	
Ejura Sekyedumase	81,115	1,350	60	0.0225	0.0567	0.8969	0.6593	0.2376	0.5405	0.5765	
Amansie West	108,726	1,280	85	0.0301	0.0537	0.8744	0.6026	0.2718	0.4800	0.5088	
Ashanti –Akim South	96,868	1,080	90	0.0268	0.0453	0.8443	0.5489	0.2955	0.4252	0.4487	
Atwima	237,610	2,460	97	0.0658	0.1032	0.8175	0.5036	0.3140	0.3273	0.3786	
Ashanti - Akim North	126,477	1,260	100	0.0350	0.0529	0.7518	0.4003	0.3514	0.2612	0.2869	
Offinso	138,676	1,350	103	0.0384	0.0567	0.7168	0.3475	0.3693	0.2084	0.2357	
Amansie East	225,309	1,870	120	0.0624	0.0785	0.6784	0.2908	0.3876	0.1440	0.1791	
Adansi East	129,308	1,020	127	0.0358	0.0428	0.6160	0.2123	0.4037	0.1044	0.1232	
Afigya Sekyer	119,093	780	153	0.0330	0.0327	0.5802	0.1695	0.4107	0.0794	0.0928	
Ejisu-Juaben	124,176	650	191	0.0344	0.0273	0.5473	0.1368	0.4105	0.0599	0.0702	
Ahafo-Ano South	133,632	570	234	0.0370	0.0239	0.5129	0.1095	0.4034	0.0439	0.0521	
Bosomtwi-Atwima- Kwanwoma	146,028	620	236	0.0404	0.0260	0.4759	0.0856	0.3903	0.0284	0.0373	
Adansi West	238,440	950	251	0.0660	0.0399	0.4355	0.0596	0.3759	0.0086	0.0220	
Kwabre	164,668	250	659	0.0456	0.0105	0.3695	0.0197	0.3498	0.0034	0.0064	
Kumasi Metropolitan Area	1,170,270	220	5,319	0.3239	0.0092	0.3239	0.0092	0.3147			
<b>Brong-Ahafo</b>	1,815,408	39,540	46	1.0000	1.0000				2.7784	3.2053	0.4270
Sene	82,166	7,900	10	0.0453	0.1998	1.0000	1.0000		0.8002	0.9547	
Kintampo	146,770	6,540	22	0.0808	0.1654	0.9547	0.8002	0.1545	0.6061	0.6993	
Atebubu	163,330	5,990	27	0.0900	0.1515	0.8739	0.6348	0.2391	0.4224	0.4976	
Wenchi	166,641	5,000	33	0.0918	0.1265	0.7839	0.4833	0.3006	0.2797	0.3345	
Asutifi	84,485	1,550	55	0.0465	0.0392	0.6921	0.3569	0.3353	0.2199	0.2304	
Nkoranza	128,960	2,340	55	0.0710	0.0592	0.6456	0.3177	0.3279	0.1669	0.1825	
Dormaa	150,299	2,050	73	0.0828	0.0518	0.5746	0.2585	0.3161	0.1187	0.1271	
Asunafo	174,026	2,120	82	0.0959	0.0536	0.4918	0.2066	0.2851	0.0752	0.0818	
Jaman	148,327	1,600	93	0.0817	0.0405	0.3959	0.1530	0.2429	0.0446	0.0481	
Tano	123,404	1,220	101	0.0680	0.0309	0.3142	0.1125	0.2017	0.0257	0.0277	
Berekum	93,235	920	101	0.0514	0.0233	0.2462	0.0817	0.1645	0.0144	0.0159	
Sunyani	179,165	1,360	132	0.0987	0.0344	0.1949	0.0584	0.1364	0.0047	0.0056	
Techiman	174,600	950	184	0.0962	0.0240	0.0962	0.0240	0.0722			

Appendix II (continued)

	Population	Area (Sq km.)	Density	Pop- prop	Area- prop	Cumulative Proportion		Xi-Yi	x=(Xi+1)Yi	y=(Yi+1)Xi	Gini Ratio	
						Pop (Xi)	Area (Yi)					
Northern	1,820,806	72,865	25	1.0000	1.0000					2.6421	3.0847	0.4426
West Gonja	139,329	17,440	8	0.0765	0.2393	1.0000	1.0000			0.7607	0.9235	
Bole	127,147	10,110	13	0.0698	0.1387	0.9235	0.7607	0.1628		0.5743	0.6493	
East Gonja	174,500	12,955	13	0.0958	0.1778	0.8536	0.6219	0.2317		0.3791	0.4713	
Gushiegu – Karaga	125,430	6,000	21	0.0689	0.0823	0.7578	0.4441	0.3137		0.2742	0.3060	
West Mamprusi	115,025	4,810	24	0.0632	0.0660	0.6889	0.3618	0.3272		0.2038	0.2264	
East Dagomba (Yendi)	130,504	4,140	32	0.0717	0.0568	0.6258	0.2958	0.3300		0.1495	0.1639	
Saboba-Chereponi	93,847	2,810	33	0.0515	0.0386	0.5541	0.2389	0.3151		0.1110	0.1201	
Zabzugu-Tatali	79,201	2,310	34	0.0435	0.0317	0.5025	0.2004	0.3022		0.0848	0.0920	
Nanumba	144,278	3,900	37	0.0792	0.0535	0.4590	0.1687	0.2904		0.0529	0.0641	
Savelugu – Nanton	89,968	2,200	41	0.0494	0.0302	0.3798	0.1151	0.2647		0.0323	0.0380	
Tolon-Kumbungu	132,833	2,410	55	0.0730	0.0331	0.3304	0.0850	0.2454		0.0171	0.0219	
East Mamprusi	174,863	3,060	57	0.0960	0.0420	0.2574	0.0519	0.2056		0.0025	0.0084	
West Dagomba (Tamale)	293,881	720	408	0.1614	0.0099	0.1614	0.0099	0.1515				
Upper East	920,089	8,676	106	1.0000	1.0000					1.9354	2.1767	0.2413
Builsa	75,375	1,960	38	0.0819	0.2259	1.0000	1.0000			0.7741	0.9181	
Bawku West	80,606	979	82	0.0876	0.1128	0.9181	0.7741	0.1440		0.6071	0.6429	
Kassena-Nankana	149,491	1,700	88	0.1625	0.1959	0.8305	0.6612	0.1692		0.3864	0.4417	
Bawku East	307,917	2,097	147	0.3347	0.2417	0.6680	0.4653	0.2027		0.1494	0.1551	
Bolgatanga	228,815	1,460	157	0.2487	0.1683	0.3333	0.2236	0.1097		0.0184	0.0189	
Bongo	77,885	480	162	0.0846	0.0553	0.0846	0.0553	0.0293				
Upper West	576,583	18,220	32	1.0000	1.0000					1.1118	1.4489	0.3371
Sissala	85,442	7,130	12	0.1482	0.3913	1.0000	1.0000			0.6087	0.8518	
Nadowli	82,716	2,920	28	0.1435	0.1603	0.8518	0.6087	0.2431		0.3820	0.4312	
Wa	224,066	5,460	41	0.3886	0.2997	0.7084	0.4484	0.2599		0.1054	0.1434	
Jirapa-Lamussie	96,834	1,810	53	0.1679	0.0993	0.3197	0.1487	0.1710		0.0158	0.0226	
Lawra	87,525	900	97	0.1518	0.0494	0.1518	0.0494	0.1024				

Table A 7.3: Computation of Gini concentration ratio for persons living in localities in Ghana (2000)

Size of locality	Frequency	Population	Proportion		Cumulative proportion			
			Locality	Population	Locality	Population	$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
					$(Y_i)$	$(X_i)$		
All localities	88656	18,912,079	1.0000	1.0000				
100,000 and more	8	3,728,472	0.0001	0.1971	0.0001	0.1971	0.0000	0.0000
50,000-99,999	9	602,949	0.0001	0.0319	0.0002	0.2290	0.0001	0.0001
20,000-49,999	41	1,207,150	0.0005	0.0638	0.0007	0.2929	0.0005	0.0002
10,000-19,999	90	1,229,378	0.0010	0.0650	0.0017	0.3579	0.0015	0.0007
5,000-9,999	218	1,518,702	0.0025	0.0803	0.0041	0.4382	0.0135	0.0028
1,000-4,999	2363	4,608,881	0.0267	0.2437	0.0308	0.6819	0.0445	0.0244
500-999	3062	2,120,310	0.0345	0.1121	0.0653	0.7940	0.1060	0.0586
200-499	6047	1,944,138	0.0682	0.1028	0.1335	0.8968	0.1733	0.1251
100-199	5291	755,573	0.0597	0.0400	0.1932	0.9367	0.9367	0.1932
Less than 100	71527	1,196,526	0.8068	0.0633	1.0000	1.0000		
<i>Sum</i>							1.2762	0.4052
<i>Gini Ratio (difference of sums)</i>							0.8710	

**Western region (2000)**

Size of locality	Frequency	Population	Proportion		Cumulative proportion			
			Locality	Population	Locality	Population	$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
					$(Y_i)$	$(X_i)$		
All localities	15,176	1,924,577	1.0000	1.0000	-			
100,000 and more	2	289,593	0.0001	0.1505	0.0001	0.1505	0.0000	0.0000
50,000-99,999	0	0	0.0000	0.0000	0.0001	0.1505	0.0001	0.0000
20,000-49,999	4	96,232	0.0003	0.0500	0.0004	0.2005	0.0001	0.0001
10,000-19,999	5	56,415	0.0003	0.0293	0.0007	0.2298	0.0006	0.0002
5,000-9,999	27	202,710	0.0018	0.1053	0.0025	0.3351	0.0072	0.0015
1,000-4,999	286	542,871	0.0188	0.2821	0.0213	0.6172	0.0266	0.0157
500-999	329	230,852	0.0217	0.1199	0.0430	0.7371	0.0619	0.0362
200-499	622	199,478	0.0410	0.1036	0.0840	0.8408	0.1074	0.0746
100-199	663	91,834	0.0437	0.0477	0.1277	0.8885	0.8885	0.1277
Less than 100	13,238	214,592	0.8723	0.1115	1.0000	1.0000		
<i>Sum</i>							1.0923	0.2562
<i>Gini Ratio (difference of sums)</i>							0.8361	

### Certral Region (2000)

Size of locality	Frequency	Population	Proportion		Cumulative proportion		$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
			Locality	Population	Locality	Population		
					( $Y_i$ )	( $X_i$ )		
All localities	8,336	1,593,823	1.0000	1.0000				
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	1	82,291	0.0001	0.0516	0.0001	0.0516	0.0000	0.0000
20,000-49,999	7	215,986	0.0008	0.1355	0.0010	0.1871	0.0004	0.0003
10,000-19,999	10	149,967	0.0012	0.0941	0.0022	0.2812	0.0013	0.0008
5,000-9,999	21	148,783	0.0025	0.0933	0.0047	0.3746	0.0131	0.0032
1,000-4,999	252	481,841	0.0302	0.3023	0.0349	0.6769	0.0469	0.0281
500-999	287	202,712	0.0344	0.1272	0.0693	0.8041	0.0967	0.0617
200-499	425	137,669	0.0510	0.0864	0.1203	0.8905	0.1498	0.1114
100-199	399	56,533	0.0479	0.0355	0.1682	0.9259	0.9259	0.1682
Less than 100	6,934	118,041	0.8318	0.0741	1.0000	1.0000		
Sum							1.2342	0.3737
<i>Gini Ratio (difference of sums)</i>							0.8606	

### Greater Accra Region (2000)

Size of locality	Frequency	Population	Proportion		Cumulative proportion		$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
			Locality	Population	Locality	Population		
					( $Y_i$ )	( $X_i$ )		
All localities	1,768	2,905,726	1.0000	1.0000				
100,000 and more	3	1,950,728	0.0017	0.6713	0.0017	0.6713	0.0019	0.0012
50,000-99,999	2	135,483	0.0011	0.0466	0.0028	0.7180	0.0045	0.0022
20,000-49,999	6	166,187	0.0034	0.0572	0.0062	0.7752	0.0101	0.0052
10,000-19,999	12	158,426	0.0068	0.0545	0.0130	0.8297	0.0216	0.0115
5,000-9,999	23	159,648	0.0130	0.0549	0.0260	0.8846	0.0620	0.0245
1,000-4,999	78	170,102	0.0441	0.0585	0.0701	0.9432	0.1094	0.0675
500-999	81	56,708	0.0458	0.0195	0.1160	0.9627	0.1955	0.1136
200-499	154	49,555	0.0871	0.0171	0.2031	0.9797	0.3026	0.2008
100-199	187	26,998	0.1058	0.0093	0.3088	0.9890	0.9890	0.3088
Less than 100	1,222	31,891	0.6912	0.0110	1.0000	1.0000		
Sum							1.6965	0.7354
<i>Gini Ratio (difference of sums)</i>							0.9611	

**Volta Region (2000)**

Size of locality	Frequency	Population	Proportion		Cumulative proportion		$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
			Locality	Population	Locality	Population		
					( $Y_i$ )	( $X_i$ )		
All localities	6,540	1,635,421	1.0000	1.0000				
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	1	61,658	0.0002	0.0377	0.0002	0.0377	0.0000	0.0000
20,000-49,999	3	95,090	0.0005	0.0581	0.0006	0.0958	0.0002	0.0001
10,000-19,999	9	132,654	0.0014	0.0811	0.0020	0.1770	0.0009	0.0005
5,000-9,999	22	151,682	0.0034	0.0927	0.0054	0.2697	0.0118	0.0030
1,000-4,999	251	473,293	0.0384	0.2894	0.0437	0.5591	0.0545	0.0310
500-999	351	244,056	0.0537	0.1492	0.0974	0.7083	0.1498	0.0829
200-499	746	233,723	0.1141	0.1429	0.2115	0.8513	0.2880	0.1953
100-199	830	118,503	0.1269	0.0725	0.3384	0.9237	0.9237	0.3384
Less than 100	4,327	124,762	0.6616	0.0763	1.0000	1.0000		
<i>Sum</i>							1.4290	0.6513
<i>Gini Ratio (difference of sums)</i>							0.7777	

**Eastern Region (2000)**

Size of locality	Frequency	Population	Proportion		Cumulative proportion		$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
			Locality	Population	Locality	Population		
					( $Y_i$ )	( $X_i$ )		
All localities	13,129	2,106,696	1.0000	1.0000				
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	1	87,315	0.0001	0.0414	0.0001	0.0414	0.0000	0.0000
20,000-49,999	6	199,052	0.0005	0.0945	0.0005	0.1359	0.0002	0.0001
10,000-19,999	17	227,271	0.0013	0.1079	0.0018	0.2438	0.0010	0.0006
5,000-9,999	32	220,335	0.0024	0.1046	0.0043	0.3484	0.0089	0.0027
1,000-4,999	278	590,621	0.0212	0.2804	0.0254	0.6288	0.0310	0.0186
500-999	314	213,655	0.0239	0.1014	0.0494	0.7302	0.0832	0.0423
200-499	848	265,540	0.0646	0.1260	0.1139	0.8562	0.1543	0.1042
100-199	870	123,138	0.0663	0.0585	0.1802	0.9147	0.9147	0.1802
Less than 100	10,763	179,769	0.8198	0.0853	1.0000	1.0000		
<i>Sum</i>							1.1934	0.3487
<i>Gini Ratio (difference of sums)</i>							0.8446	

**Ashanti Region (2000)**

Size of locality	Frequency	Population	Proportion		Cumulative proportion			
			locality	Population	locality	population	$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
					( $Y_i$ )	( $X_i$ )		
All localities	19,582	3,612,950	1.0000	1.0000				
100,000 and more	2	1,285,834	0.0001	0.3559	0.0001	0.3559	0.0000	0.0000
50,000-99,999	0	0	0.0000	0.0000	0.0001	0.3559	0.0001	0.0000
20,000-49,999	4	116,224	0.0002	0.0322	0.0003	0.3881	0.0004	0.0001
10,000-19,999	16	223,913	0.0008	0.0620	0.0011	0.4500	0.0013	0.0006
5,000-9,999	36	252,431	0.0018	0.0699	0.0030	0.5199	0.0141	0.0023
1,000-4,999	472	955,267	0.0241	0.2644	0.0271	0.7843	0.0364	0.0232
500-999	378	266,998	0.0193	0.0739	0.0464	0.8582	0.0669	0.0423
200-499	619	198,054	0.0316	0.0548	0.0780	0.9130	0.0970	0.0729
100-199	553	77,876	0.0282	0.0216	0.1062	0.9346	0.9346	0.1062
Less than 100	17,502	236,353	0.8938	0.0654	1.0000	1.0000		
<i>Sum</i>							1.1508	0.2478
<i>Gini Ratio (difference of sums)</i>							0.9031	

**Brong Ahafo Region (2000)**

Size of locality	Frequency	Population	Proportion		Cumulative proportion			
			Locality	Population	Locality	Population	$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
					( $Y_i$ )	( $X_i$ )		
All localities	17,547	1,815,408	1.0000	1.0000				
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	2	118,179	0.0001	0.0651	0.0001	0.0651	0.0000	0.0000
20,000-49,999	7	182,928	0.0004	0.1008	0.0005	0.1659	0.0002	0.0001
10,000-19,999	12	159,495	0.0007	0.0879	0.0012	0.2537	0.0008	0.0004
5,000-9,999	33	218,204	0.0019	0.1202	0.0031	0.3739	0.0065	0.0020
1,000-4,999	249	520,181	0.0142	0.2865	0.0173	0.6605	0.0204	0.0130
500-999	240	165,824	0.0137	0.0913	0.0309	0.7518	0.0449	0.0260
200-499	505	158,889	0.0288	0.0875	0.0597	0.8393	0.0770	0.0527
100-199	562	79,582	0.0320	0.0438	0.0918	0.8832	0.8832	0.0918
Less than 100	15,937	212,126	0.9082	0.1168	1.0000	1.0000		
<i>Sum</i>							1.0330	0.1861
<i>Gini Ratio (difference of sums)</i>							0.8469	

### Northern Region (2000)

Size of locality	Frequency	Population	Proportion		Cumulative proportion		$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
			Locality	Population	Locality	Population		
					( $Y_i$ )	( $X_i$ )		
All localities	4,008	1,820,806	1.0000	1.0000				
100,000 and more	1	202,317	0.0002	0.1111	0.0002	0.1111	0.0000	0.0000
50,000-99,999	0	0	0.0000	0.0000	0.0002	0.1111	0.0001	0.0000
20,000-49,999	3	86,289	0.0007	0.0474	0.0010	0.1585	0.0005	0.0002
10,000-19,999	8	105,254	0.0020	0.0578	0.0030	0.2163	0.0015	0.0008
5,000-9,999	15	102,947	0.0037	0.0565	0.0067	0.2729	0.0176	0.0034
1,000-4,999	231	419,689	0.0576	0.2305	0.0644	0.5033	0.0943	0.0441
500-999	493	331,527	0.1230	0.1821	0.1874	0.6854	0.3342	0.1687
200-499	1,203	391,342	0.3001	0.2149	0.4875	0.9004	0.6276	0.4719
100-199	840	123,185	0.2096	0.0677	0.6971	0.9680	0.9680	0.6971
Less than 100	1,214	58,256	0.3029	0.0320	1.0000	1.0000		
<i>Sum</i>							2.0438	1.3863
<i>Gini Ratio (difference of sums)</i>							0.6574	

### Upper East Region (2000)

Size of locality	Frequency	Population	Proportion		Cumulative proportion		$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
			Locality	Population	Locality	Population		
					$(Y_i)$	$(X_i)$		
All localities	1,391	920,089	1.0000	1.0000				
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	1	51,379	0.0007	0.0558	0.0007	0.0558	0.0001	0.0001
20,000-49,999	1	49,162	0.0007	0.0534	0.0014	0.1093	0.0002	0.0002
10,000-19,999	1	15,983	0.0007	0.0174	0.0022	0.1266	0.0006	0.0003
5,000-9,999	4	27,758	0.0029	0.0302	0.0050	0.1568	0.0194	0.0023
1,000-4,999	165	284,844	0.1186	0.3096	0.1237	0.4664	0.1935	0.0955
500-999	405	281,135	0.2912	0.3056	0.4148	0.7719	0.6071	0.3997
200-499	517	176,242	0.3717	0.1915	0.7865	0.9635	0.8783	0.7800
100-199	174	25,975	0.1251	0.0282	0.9116	0.9917	0.9917	0.9116
Less than 100	123	7,611	0.0884	0.0083	1.0000	1.0000		
Sum							2.6910	2.1896
Gini Ratio (difference of sums)							0.5013	

### Upper West Region (2000)

Size of locality	Frequency	Population	Proportion		Cumulative proportion			
			Locality	Population	Locality (Y <sub>i</sub> )	Population (X <sub>i</sub> )	X <sub>i</sub> (Y <sub>i+1</sub> )	(X <sub>i+1</sub> )Y <sub>i</sub>
All localities	1,179	576,583	1.0000	1.0000				
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	1	66,644	0.0008	0.1156	0.0008	0.1156	0.0001	0.0001
20,000-49,999	0	0	0.0000	0.0000	0.0008	0.1156	0.0001	0.0001
10,000-19,999	0	0	0.0000	0.0000	0.0008	0.1156	0.0006	0.0001
5,000-9,999	5	34,204	0.0042	0.0593	0.0051	0.1749	0.0159	0.0024
1,000-4,999	101	170,172	0.0857	0.2951	0.0908	0.4700	0.1160	0.0626
500-999	184	126,843	0.1561	0.2200	0.2468	0.6900	0.4091	0.2275
200-499	408	133,646	0.3461	0.2318	0.5929	0.9218	0.7131	0.5794
100-199	213	31,949	0.1807	0.0554	0.7735	0.9772	0.9772	0.7735
Less than 100	267	13,125	0.2265	0.0228	1.0000	1.0000		
<i>Sum</i>							2.2321	1.6458
<i>Gini Ratio (difference of sums)</i>							0.5863	

### Computation of Gini concentration ratio of persons living in localities in Ghana (1984)

Size of locality	Frequency	Population	Proportion		Cumulative proportion			
			Locality	Population	Locality (Y <sub>i</sub> )	Population (X <sub>i</sub> )	X <sub>i</sub> (Y <sub>i+1</sub> )	(X <sub>i+1</sub> )Y <sub>i</sub>
All localities	56,170	12,296,081	1.0000	1.0000	-	-	-	-
100,000 and more	4	1,479,709	0.0001	0.1203	0.0001	0.1203	0.0000	0.0000
50,000-99,999	6	348,529	0.0001	0.0283	0.0002	0.1487	0.0001	0.0000
20,000-49,999	24	671,278	0.0004	0.0546	0.0006	0.2033	0.0003	0.0002
10,000-19,999	42	583,238	0.0007	0.0474	0.0014	0.2507	0.0009	0.0004
5,000-9,999	127	855,863	0.0023	0.0696	0.0036	0.3203	0.0104	0.0021
1,000-4,999	1,616	3,041,810	0.0288	0.2474	0.0324	0.5677	0.0426	0.0228
500-999	2,397	1,663,442	0.0427	0.1353	0.0751	0.7030	0.1265	0.0641
200-499	5,891	1,855,452	0.1049	0.1509	0.1799	0.8539	0.2446	0.1661
100-199	5,984	852,256	0.1065	0.0693	0.2865	0.9232	0.9232	0.2865
Less than 100	40,079	944,507	0.7135	0.0768	1.0000	1.0000		
<i>Sum</i>							1.3486	0.5421
<i>Gini Ratio (difference of sums)</i>							0.8064	

**Western Region (1984)**

Size of locality	Frequency	Population	Proportion		Cumulative proportion			
			Locality	Population	Locality	Population	$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
					( $Y_i$ )	( $X_i$ )		
All localities (WR)	8,933	1,157,807	1.0000	1.0000	-	-	-	-
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	1	61,484	0.0001	0.0531	0.0001	0.0531	0.0000	0.0000
20,000-49,999	3	77,819	0.0003	0.0672	0.0004	0.1203	0.0001	0.0001
10,000-19,999	5	65,333	0.0006	0.0564	0.0010	0.1767	0.0004	0.0002
5,000-9,999	9	57,555	0.0010	0.0497	0.0020	0.2265	0.0047	0.0011
1,000-4,999	169	341,377	0.0189	0.2948	0.0209	0.5213	0.0250	0.0141
500-999	242	174,523	0.0271	0.1507	0.0480	0.6720	0.0688	0.0387
200-499	485	153,983	0.0543	0.1330	0.1023	0.8050	0.1362	0.0898
100-199	597	83,736	0.0668	0.0723	0.1691	0.8774	0.8774	0.1691
Less than 100	7,422	141,997	0.8309	0.1226	1.0000	1.0000		
<i>Sum</i>							1.1126	0.3130
<i>Gini Ratio (difference of sums)</i>							0.7995	

**Central Region (1984)**

Size of locality	Frequency	Population	Proportion		Cumulative proportion			
			Locality	Population	Locality	Population	$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
					( $Y_i$ )	( $X_i$ )		
All localities (C/R)	6,020	1,142,335	1.0000	1.0000	-	-	-	-
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	1	57,224	0.0002	0.0501	0.0002	0.0501	0.0000	0.0000
20,000-49,999	2	58,331	0.0003	0.0511	0.0005	0.1012	0.0002	0.0001
10,000-19,999	8	107,957	0.0013	0.0945	0.0018	0.1957	0.0008	0.0005
5,000-9,999	15	103,185	0.0025	0.0903	0.0043	0.2860	0.0105	0.0026
1,000-4,999	196	362,530	0.0326	0.3174	0.0369	0.6033	0.0445	0.0272
500-999	222	154,179	0.0369	0.1350	0.0738	0.7383	0.1073	0.0633
200-499	431	137,302	0.0716	0.1202	0.1453	0.8585	0.1811	0.1320
100-199	395	56,775	0.0656	0.0497	0.2110	0.9082	0.9082	0.2110
Less than 100	4,750	104,852	0.7890	0.0918	1.0000	1.0000		
<i>Sum</i>							1.2527	0.4368
<i>Gini Ratio (difference of sums)</i>							0.8160	

**Greater Accra Region (1984)**

Size of locality	Frequency	Population	Proportion		Cumulative proportion			
			Locality	Population	Locality		$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
					( $Y_i$ )	( $X_i$ )		
All localities	1,171	1,431,099	1.0000	1.0000	-	-	-	-
100,000 and more	2	967,511	0.0017	0.6761	0.0017	0.6761	0.0023	0.0013
50,000-99,999	2	110,470	0.0017	0.0772	0.0034	0.7533	0.0045	0.0028
20,000-49,999	3	88,976	0.0026	0.0622	0.0060	0.8154	0.0049	0.0049
10,000-19,999	0	0	0.0000	0.0000	0.0060	0.8154	0.0077	0.0050
5,000-9,999	4	26,259	0.0034	0.0183	0.0094	0.8338	0.0413	0.0085
1,000-4,999	47	97,733	0.0401	0.0683	0.0495	0.9021	0.0940	0.0462
500-999	64	43,519	0.0547	0.0304	0.1042	0.9325	0.2246	0.1008
200-499	160	49,575	0.1366	0.0346	0.2408	0.9671	0.3774	0.2369
100-199	175	23,835	0.1494	0.0167	0.3903	0.9838	0.9838	0.3903
Less than 100	714	23,221	0.6097	0.0162	1.0000	1.0000		
<i>Sum</i>							1.7404	0.7965
<i>Gini Ratio (difference of sums)</i>							0.9439	

**Volta Region (1984)**

Size of locality	Frequency	Population	Proportion		Cumulative proportion			
			Locality	Population	Locality		$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
					( $Y_i$ )	( $X_i$ )		
All localities	6,142	1,211,907	1.0000	1.0000	-	-	-	-
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20,000-49,999	3	79,675	0.0005	0.0657	0.0005	0.0657	0.0001	0.0001
10,000-19,999	5	72,256	0.0008	0.0596	0.0013	0.1254	0.0005	0.0003
5,000-9,999	16	96,206	0.0026	0.0794	0.0039	0.2047	0.0067	0.0019
1,000-4,999	176	335,958	0.0287	0.2772	0.0326	0.4820	0.0355	0.0204
500-999	252	174,753	0.0410	0.1442	0.0736	0.6262	0.1094	0.0579
200-499	621	195,118	0.1011	0.1610	0.1747	0.7872	0.2506	0.1553
100-199	882	123,076	0.1436	0.1016	0.3183	0.8887	0.8887	0.3183
Less than 100	4,187	134,865	0.6817	0.1113	1.0000	1.0000		
<i>Sum</i>							1.2914	0.5541
<i>Gini Ratio (difference of sums)</i>							0.7373	

**Eastern Region (1984)**

Size of locality	Frequency	Population	Proportion		Cumulative proportion			
			Locality	Population	Locality		$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
					( $Y_i$ )	( $X_i$ )		
All localities (E/R)	5,596	1,680,890	1.0000	1.0000	-	-	-	-
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	1	58,731	0.0002	0.0349	0.0002	0.0349	0.0000	0.0000
20,000-49,999	4	99,930	0.0007	0.0595	0.0009	0.0944	0.0002	0.0001
10,000-19,999	8	109,457	0.0014	0.0651	0.0023	0.1595	0.0012	0.0007
5,000-9,999	30	204,213	0.0054	0.1215	0.0077	0.2810	0.0137	0.0042
1,000-4,999	229	456,124	0.0409	0.2714	0.0486	0.5524	0.0570	0.0330
500-999	305	211,856	0.0545	0.1260	0.1031	0.6784	0.1846	0.0882
200-499	946	297,049	0.1690	0.1767	0.2722	0.8551	0.3758	0.2542
100-199	936	132,712	0.1673	0.0790	0.4394	0.9341	0.9341	0.4394
Less than 100	3,137	110,818	0.5606	0.0659	1.0000	1.0000		
<i>Sum</i>							1.5665	0.8198
<i>Gini Ratio (difference of sums)</i>							0.7467	

**Ashanti Region (1984)**

Size of locality	Frequency	Population	Proportion		Cumulative proportion			
			Locality	Population	Locality		$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
					( $Y_i$ )	( $X_i$ )		
All localities (A/R)	12,053	2,090,100	1.0000	1.0000	-	-	-	-
100,000 and more	1	376,246	0.0001	0.1800	0.0001	0.1800	0.0000	0.0000
50,000-99,999	1	60,617	0.0001	0.0290	0.0002	0.2090	0.0001	0.0000
20,000-49,999	2	45,916	0.0002	0.0220	0.0003	0.2310	0.0002	0.0001
10,000-19,999	5	73,734	0.0004	0.0353	0.0007	0.2663	0.0006	0.0002
5,000-9,999	18	123,237	0.0015	0.0590	0.0022	0.3252	0.0105	0.0014
1,000-4,999	361	671,674	0.0300	0.3214	0.0322	0.6466	0.0414	0.0250
500-999	384	270,796	0.0319	0.1296	0.0641	0.7761	0.0927	0.0563
200-499	667	215,094	0.0553	0.1029	0.1194	0.8791	0.1516	0.1102
100-199	640	91,151	0.0531	0.0436	0.1725	0.9227	0.9227	0.1725
Less than 100	9,974	161,635	0.8275	0.0773	1.0000	1.0000		
<i>Sum</i>							1.2197	0.3658
<i>Gini Ratio (difference of sums)</i>							0.8539	

**Brong Ahafo Region (1984)**

			Proportion		Cumulative proportion			
					Locality	Population		
Size of locality	Frequency	Population	Locality	Population	(Y <sub>i</sub> )	(X <sub>i</sub> )	X <sub>i</sub> (Y <sub>i+1</sub> )	(X <sub>i+1</sub> )Y <sub>i</sub>
All localities (BA/R)	9,334	1,206,608	1.0000	1.0000	-	-	-	-
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20,000-49,999	3	86,362	0.0003	0.0716	0.0003	0.0716	0.0001	0.0000
10,000-19,999	6	83,615	0.0006	0.0693	0.0010	0.1409	0.0005	0.0003
5,000-9,999	21	150,525	0.0022	0.1248	0.0032	0.2656	0.0062	0.0018
1,000-4,999	187	357,054	0.0200	0.2959	0.0232	0.5615	0.0250	0.0158
500-999	199	140,760	0.0213	0.1167	0.0446	0.6782	0.0652	0.0357
200-499	481	148,229	0.0515	0.1228	0.0961	0.8010	0.1270	0.0834
100-199	583	80,802	0.0625	0.0670	0.1586	0.8680	0.8680	0.1586
Less than 100	7,854	159,261	0.8414	0.1320	1.0000	1.0000		
Sum							1.0919	0.2956
Gini Ratio (difference of sums)							0.7964	

**Northern Region (1984)**

			Proportion		Cumulative proportion			
					Locality	Population		
Size of locality	Frequency	Population	Locality	Population	(Y <sub>i</sub> )	(X <sub>i</sub> )	X <sub>i</sub> (Y <sub>i+1</sub> )	(X <sub>i+1</sub> )Y <sub>i</sub>
All localities N/R)	3,566	1,164,583	1.0000	1.0000	-	-	-	-
100,000 and more	1	135,952	0.0003	0.1167	0.0003	0.1167	0.0000	0.0000
50,000-99,999	0	0	0.0000	0.0000	0.0003	0.1167	0.0001	0.0000
20,000-49,999	1	31,633	0.0003	0.0272	0.0006	0.1439	0.0002	0.0001
10,000-19,999	4	51,617	0.0011	0.0443	0.0017	0.1882	0.0008	0.0004
5,000-9,999	10	69,534	0.0028	0.0597	0.0045	0.2479	0.0100	0.0020
1,000-4,999	128	228,500	0.0359	0.1962	0.0404	0.4441	0.0507	0.0240
500-999	263	174,819	0.0738	0.1501	0.1141	0.5943	0.2103	0.0937
200-499	855	263,967	0.2398	0.2267	0.3539	0.8209	0.5122	0.3328
100-199	963	139,260	0.2701	0.1196	0.6239	0.9405	0.9405	0.6239
Less than 100	1,341	69,301	0.3761	0.0595	1.0000	1.0000		
Sum							1.7249	1.0771
Gini Ratio (difference of sums)							0.6478	

**Upper East Region (1984)**

			Proportion		Cumulative proportion			
					Locality	Population		
Size of locality	Frequency	Population	Locality	Population	(Y <sub>i</sub> )	(X <sub>i</sub> )	X <sub>i</sub> (Y <sub>i+1</sub> )	(X <sub>i+1</sub> )Y <sub>i</sub>
All localities (UE/R)	2,163	772,744	1.0000	1.0000	-	-	-	-
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20,000-49,999	2	66,569	0.0009	0.0861	0.0009	0.0861	0.0001	0.0001
10,000-19,999	1	19,269	0.0005	0.0249	0.0014	0.1111	0.0003	0.0002
5,000-9,999	2	13,669	0.0009	0.0177	0.0023	0.1288	0.0037	0.0005
1,000-4,999	57	78,839	0.0264	0.1020	0.0287	0.2308	0.0425	0.0151
500-999	336	228,045	0.1553	0.2951	0.1840	0.5259	0.3008	0.1600
200-499	839	265,527	0.3879	0.3436	0.5719	0.8695	0.7063	0.5546
100-199	520	77,516	0.2404	0.1003	0.8123	0.9698	0.9698	0.8123
Less than 100	406	23,310	0.1877	0.0302	1.0000	1.0000		
Sum							2.0234	1.5428
Gini Ratio (difference of sums)							0.4806	

**Upper West Region (1984)**

			Proportion		Cumulative proportion			
					Locality	Population		
Size of locality	Frequency	Population	Locality	Population	(Y <sub>i</sub> )	(X <sub>i</sub> )	X <sub>i</sub> (Y <sub>i+1</sub> )	(X <sub>i+1</sub> )Y <sub>i</sub>
All localities (UW/R)	1,192	438,008	1.0000	1.0000	-	-	-	-
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20,000-49,999	1	36,067	0.0008	0.0823	0.0008	0.0823	0.0001	0.0001
10,000-19,999	0	0	0.0000	0.0000	0.0008	0.0823	0.0002	0.0001
5,000-9,999	2	11,480	0.0017	0.0262	0.0025	0.1086	0.0063	0.0009
1,000-4,999	66	112,021	0.0554	0.2558	0.0579	0.3643	0.0608	0.0330
500-999	130	90,192	0.1091	0.2059	0.1669	0.5702	0.2894	0.1446
200-499	406	129,608	0.3406	0.2959	0.5076	0.8661	0.6525	0.4899
100-199	293	43,393	0.2458	0.0991	0.7534	0.9652	0.9652	0.7534
Less than 100	294	15,247	0.2466	0.0348	1.0000	1.0000		
Sum							1.9745	1.4219
Gini Ratio (difference of sums)							0.5526	

**Computation of Gini concentration ratio of persons living in localities in Ghana (1970)**

Size of locality	Frequency	Population	Proportion		Cumulative Proportion			
			Locality	Population	Locality		Population	
					(Y <sub>i</sub> )	(X <sub>i</sub> )		
All localities	47,769	8,559,313	1.0000	1.0000	-	-	-	-
100,000 and more	2	824,480	0.0000	0.0963	0.0000	0.0963	0.0000	0.0000
50,000-99,999	4	254,234	0.0001	0.0297	0.0001	0.1260	0.0001	0.0000
20,000-49,999	17	460,713	0.0004	0.0538	0.0005	0.1799	0.0002	0.0001
10,000-19,999	29	378,960	0.0006	0.0443	0.0011	0.2241	0.0006	0.0003
5,000-9,999	83	554,069	0.0017	0.0647	0.0028	0.2889	0.0078	0.0015
1,000-4,999	1,148	2,084,331	0.0240	0.2435	0.0269	0.5324	0.0343	0.0182
500-999	1,795	1,233,161	0.0376	0.1441	0.0644	0.6765	0.1040	0.0537
200-499	4,268	1,340,827	0.0893	0.1567	0.1538	0.8331	0.2057	0.1395
100-199	4,449	632,023	0.0931	0.0738	0.2469	0.9069	0.9069	0.2469
Less than 100	35,974	796,515	0.7531	0.0931	1.0000	1.0000		
Sum							1.2596	0.4602
Gini Ratio (difference of sums)							0.7994	

**Western Region (1970)**

Size of locality	Frequency	Population	Proportion		Cumulative Proportion			
			Locality	Population	Locality		Population	
					(Y <sub>i</sub> )	(X <sub>i</sub> )		
All localities (W/R)	5,157	770,087	1.0000	1.0000	-	-	-	-
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	1	58,161	0.0002	0.0755	0.0002	0.0755	0.0000	0.0000
20,000-49,999	2	53,895	0.0004	0.0700	0.0006	0.1455	0.0001	0.0001
10,000-19,999	2	29,845	0.0004	0.0388	0.0010	0.1843	0.0005	0.0003
5,000-9,999	9	65,442	0.0017	0.0850	0.0027	0.2692	0.0066	0.0015
1,000-4,999	112	212,542	0.0217	0.2760	0.0244	0.5452	0.0312	0.0169
500-999	169	113,608	0.0328	0.1475	0.0572	0.6928	0.0868	0.0478
200-499	351	109,591	0.0681	0.1423	0.1253	0.8351	0.1587	0.1123
100-199	334	47,581	0.0648	0.0618	0.1900	0.8969	0.8969	0.1900
Less than 100	4,177	79,422	0.8100	0.1031	1.0000	1.0000		
Sum							1.1808	0.3690
Gini Ratio (difference of sums)							0.8118	

### Central Region (1970)

Size of locality	Frequency	Population	Proportion		Cumulative Proportion			
			Locality	Population	Locality	Population	$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
					( $Y_i$ )	( $X_i$ )		
All localities (C/R)	4,570	890,135	1.0000	1.0000	-	-	-	-
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	1	51,653	0.0002	0.0580	0.0002	0.0580	0.0000	0.0000
20,000-49,999	2	52,300	0.0004	0.0588	0.0007	0.1168	0.0002	0.0001
10,000-19,999	5	60,025	0.0011	0.0674	0.0018	0.1842	0.0009	0.0005
5,000-9,999	14	94,658	0.0031	0.1063	0.0048	0.2906	0.0111	0.0028
1,000-4,999	153	263,688	0.0335	0.2962	0.0383	0.5868	0.0452	0.0279
500-999	177	127,268	0.0387	0.1430	0.0770	0.7298	0.1143	0.0664
200-499	364	117,954	0.0796	0.1325	0.1567	0.8623	0.1970	0.1432
100-199	328	46,242	0.0718	0.0519	0.2284	0.9142	0.9142	0.2284
Less than 100	3,526	76,347	0.7716	0.0858	1.0000	1.0000		
<i>Sum</i>							1.2830	0.4695
<i>Gini Ratio (difference of sums)</i>							0.8135	

### Greater Accra Region (1970)

Size of locality	Frequency	Population	Proportion		Cumulative Proportion			
			Locality	Population	Locality	Population	$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
					( $Y_i$ )	( $X_i$ )		
All localities (GA/R)	997	903,447	1.0000	1.0000	-	-	-	-
100,000 and more	1	564,194	0.0010	0.6245	0.0010	0.6245	0.0013	0.0007
50,000-99,999	1	60,767	0.0010	0.0673	0.0020	0.6918	0.0028	0.0015
20,000-49,999	2	61,931	0.0020	0.0685	0.0040	0.7603	0.0046	0.0032
10,000-19,999	2	27,015	0.0020	0.0299	0.0060	0.7902	0.0063	0.0048
5,000-9,999	2	12,646	0.0020	0.0140	0.0080	0.8042	0.0315	0.0070
1,000-4,999	31	66,951	0.0311	0.0741	0.0391	0.8783	0.0731	0.0358
500-999	44	32,200	0.0441	0.0356	0.0832	0.9139	0.1778	0.0792
200-499	111	34,300	0.1113	0.0380	0.1946	0.9519	0.3237	0.1896
100-199	145	20,192	0.1454	0.0223	0.3400	0.9743	0.9743	0.3400
Less than 100	658	23,251	0.6600	0.0257	1.0000	1.0000		
<i>Sum</i>							1.5953	0.6619
<i>Gini Ratio (difference of sums)</i>							0.9334	

### Volta Region (1970)

Size of locality	Frequency	Population	Proportion		Cumulative Proportion			
			Locality	Population	Locality	Population	$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
					( $Y_i$ )	( $X_i$ )		
All localities (V/R)	5,655	947,268	1.0000	1.0000	-	-	-	-
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20,000-49,999	1	24,199	0.0002	0.0255	0.0002	0.0255	0.0000	0.0000
10,000-19,999	6	77,882	0.0011	0.0822	0.0012	0.1078	0.0003	0.0002
5,000-9,999	8	49,015	0.0014	0.0517	0.0027	0.1595	0.0044	0.0012
1,000-4,999	140	266,394	0.0248	0.2812	0.0274	0.4407	0.0285	0.0162
500-999	211	143,668	0.0373	0.1517	0.0647	0.5924	0.0924	0.0493
200-499	516	160,652	0.0912	0.1696	0.1560	0.7620	0.2144	0.1352
100-199	709	99,112	0.1254	0.1046	0.2813	0.8666	0.8666	0.2813
Less than 100	4,064	126,346	0.7187	0.1334	1.0000	1.0000		
Sum							1.2066	0.4834
Gini Ratio (difference of sums)							0.7232	

### Eastern Region (1970)

Size of locality	Frequency	Population	Proportion		Cumulative Proportion			
			Locality	Population	Locality	Population	$X_i(Y_{i+1})$	$(X_{i+1})Y_i$
					( $Y_i$ )	( $X_i$ )		
All localities (E/R)	4,986	1,209,828	1.0000	1.0000	-	-	-	-
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20,000-49,999	4	115,929	0.0008	0.0958	0.0008	0.0958	0.0002	0.0001
10,000-19,999	5	63,660	0.0010	0.0526	0.0018	0.1484	0.0009	0.0005
5,000-9,999	20	130,484	0.0040	0.1079	0.0058	0.2563	0.0105	0.0031
1,000-4,999	176	334,399	0.0353	0.2764	0.0411	0.5327	0.0470	0.0274
500-999	235	160,753	0.0471	0.1329	0.0882	0.6656	0.1468	0.0736
200-499	660	203,743	0.1324	0.1684	0.2206	0.8340	0.2999	0.2020
100-199	693	99,007	0.1390	0.0818	0.3596	0.9158	0.9158	0.3596
Less than 100	3,193	101,853	0.6404	0.0842	1.0000	1.0000		
Sum			4,986	1,209,828			1.4211	0.6663
Gini Ratio (difference of sums)							0.7548	

### Ashanti Region (1970)

Size of locality	Frequency	Population	Proportion		Cumulative Proportion			
			Locality	Population	Locality		Population	$X_i(Y_{i+1})$
					(Y <sub>i</sub> )	(X <sub>i</sub> )		
All localities (A/R)	11,451	1,481,698	1.0000	1.0000	-	-	-	-
100,000 and more	1	260,286	0.0001	0.1757	0.0001	0.1757	0.0000	0.0000
50,000-99,999	0	0	0.0000	0.0000	0.0001	0.1757	0.0000	0.0000
20,000-49,999	2	64,666	0.0002	0.0436	0.0003	0.2193	0.0002	0.0001
10,000-19,999	5	61,437	0.0004	0.0415	0.0007	0.2608	0.0004	0.0002
5,000-9,999	9	54,137	0.0008	0.0365	0.0015	0.2973	0.0063	0.0009
1,000-4,999	227	412,821	0.0198	0.2786	0.0213	0.5759	0.0276	0.0153
500-999	305	213,934	0.0266	0.1444	0.0479	0.7203	0.0710	0.0405
200-499	579	183,998	0.0506	0.1242	0.0985	0.8445	0.1238	0.0884
100-199	551	78,557	0.0481	0.0530	0.1466	0.8975	0.8975	0.1466
Less than 100	9,772	151,862	0.8534	0.1025	1.0000	1.0000		
<i>Sum</i>							1.1268	0.2920
<i>Gini Ratio (difference of sums)</i>							0.8348	

### Brong Ahafo Region (1970)

Size of locality	Frequency	Population	Proportion		Cumulative Proportion			
			Locality	Population	Locality		Population	$X_i(Y_{i+1})$
					(Y <sub>i</sub> )	(X <sub>i</sub> )		
All localities (BA/R)	9,393	766,509	1.0000	1.0000	-	-	-	-
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20,000-49,999	1	23,780	0.0001	0.0310	0.0001	0.0310	0.0000	0.0000
10,000-19,999	3	40,200	0.0003	0.0524	0.0004	0.0835	0.0002	0.0001
5,000-9,999	15	105,092	0.0016	0.1371	0.0020	0.2206	0.0031	0.0010
1,000-4,999	115	221,441	0.0122	0.2889	0.0143	0.5095	0.0153	0.0092
500-999	148	102,885	0.0158	0.1342	0.0300	0.6437	0.0395	0.0230
200-499	295	93,059	0.0314	0.1214	0.0614	0.7651	0.0768	0.0511
100-199	366	50,971	0.0390	0.0665	0.1004	0.8316	0.8316	0.1004
Less than 100	8,450	129,081	0.8996	0.1684	1.0000	1.0000		
<i>Sum</i>							0.9666	0.1848
<i>Gini Ratio (difference of sums)</i>							0.7818	

### Northern Region (1970)

Size of locality	Frequency	Population	Proportion		Cumulative Proportion			
			Locality	Population	Locality		Population	
					(Y <sub>i</sub> )	(X <sub>i</sub> )		
							X <sub>i</sub> (Y <sub>i+1</sub> )	(X <sub>i+1</sub> )Y <sub>i</sub>
All localities (N/R)	3,150	727,618	1.0000	1.0000	-	-	-	-
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	1	83,653	0.0003	0.1150	0.0003	0.1150	0.0001	0.0000
20,000-49,999	1	22,072	0.0003	0.0303	0.0006	0.1453	0.0001	0.0001
10,000-19,999	0	0	0.0000	0.0000	0.0006	0.1453	0.0004	0.0001
5,000-9,999	6	42,595	0.0019	0.0585	0.0025	0.2038	0.0054	0.0010
1,000-4,999	75	132,710	0.0238	0.1824	0.0263	0.3862	0.0281	0.0137
500-999	146	97,633	0.0463	0.1342	0.0727	0.5204	0.1249	0.0536
200-499	527	157,569	0.1673	0.2166	0.2400	0.7370	0.3612	0.2138
100-199	788	112,086	0.2502	0.1540	0.4902	0.8910	0.8910	0.4902
Less than 100	1,606	79,300	0.5098	0.1090	1.0000	1.0000		
<i>Sum</i>							1.4111	0.7725
<i>Gini Ratio (difference of sums)</i>							0.6386	

### Upper East Region (1970)

Size of locality	Frequency	Population	Proportion		Cumulative Proportion			
			Locality	Population	Locality		Population	
					(Y <sub>i</sub> )	(X <sub>i</sub> )		
							X <sub>i</sub> (Y <sub>i+1</sub> )	(X <sub>i+1</sub> )Y <sub>i</sub>
All localities (UE/R)	1,392	542,858	1.0000	1.0000	-	-	-	-
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20,000-49,999	1	20,567	0.0007	0.0379	0.0007	0.0379	0.0001	0.0001
10,000-19,999	1	18,896	0.0007	0.0348	0.0014	0.0727	0.0001	0.0001
5,000-9,999	0	0	0.0000	0.0000	0.0014	0.0727	0.0044	0.0004
1,000-4,999	82	113,465	0.0589	0.2090	0.0603	0.2817	0.0676	0.0356
500-999	250	167,709	0.1796	0.3089	0.2399	0.5906	0.3522	0.2144
200-499	496	164,498	0.3563	0.3030	0.5963	0.8937	0.7210	0.5802
100-199	293	43,091	0.2105	0.0794	0.8068	0.9730	0.9730	0.8068
Less than 100	269	14,632	0.1932	0.0270	1.0000	1.0000		
<i>Sum</i>							2.1183	1.6376
<i>Gini Ratio (difference of sums)</i>							0.4808	

**Upper West Region (1970)**

Size of locality	Frequency	Population	Proportion		Cumulative Proportion			
			Locality	Population	Locality		Population	
					(Y <sub>i</sub> )	(X <sub>i</sub> )		
							X <sub>i</sub> (Y <sub>i+1</sub> )	(X <sub>i+1</sub> )Y <sub>i</sub>
All localities (UW/R)	1,018	319,865	1.0000	1.0000	-	-	-	-
100,000 and more	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50,000-99,999	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20,000-49,999	1	21,374	0.0010	0.0668	0.0010	0.0668	0.0001	0.0001
10,000-19,999	0	0	0.0000	0.0000	0.0010	0.0668	0.0001	0.0001
5,000-9,999	0	0	0.0000	0.0000	0.0010	0.0668	0.0025	0.0002
1,000-4,999	37	59,920	0.0363	0.1873	0.0373	0.2542	0.0369	0.0181
500-999	110	73,503	0.1081	0.2298	0.1454	0.4839	0.2458	0.1228
200-499	369	115,463	0.3625	0.3610	0.5079	0.8449	0.6300	0.4850
100-199	242	35,184	0.2377	0.1100	0.7456	0.9549	0.9549	0.7456
Less than 100	259	14,421	0.2544	0.0451	1.0000	1.0000		
<i>Sum</i>							1.8702	1.3718
<i>Gini Ratio (difference of sums)</i>							0.4984	

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## CHAPTER EIGHT

### INFRASTRUCTURE AND UTILITIES DEVELOPMENT<sup>8</sup>

#### **Executive Summary**

##### **Introduction**

The study of the policy implication of population trend data for infrastructure and utilities poses critical questions for the country's development. The questions as to why population, infrastructure and utilities are more concentrated in some regions in Ghana than others and the implications of such patterns for the socio-economic development of Ghana are critical issues addressed in this study.

The basic foundations of infrastructure and utilities development in Ghana were laid during the colonial period when Governor Gordon Guggisberg produced the first elaborate Ten-Year Development Plan for the Gold Coast. The implementation of this plan of infrastructure and utilities development was concentrated within a triangle, with the apex at Kumasi and the base at Accra and Sekondi/Takoradi. The population distribution in Ghana at the time was reflected in this development pattern. For instance, 70 per cent of Ghana's populations in 1960 lived in the southern half of the country, with the highest population densities in Greater Accra (167), Eastern (54) and Ashanti (45) all located within the triangle. The urban population especially within the triangle increased from 532,720 in 1948 to 1.6 million in 1960.

This development created a sharp cleavage between the "Golden Triangle" as it was called, and the rest of the country to satisfy the development objectives of the colonial space economy. This pattern of development changed during the post independence era when the development of Ghana as a whole became important. The early development pattern however affected the trend of the population distribution in the country by attracting population concentrations around areas of economic promise and infrastructural development. The main infrastructural developments cover areas such as education and health which have been analyzed elsewhere. This study is therefore focused on transport and utilities infrastructure.

The transport infrastructure comprises road, rail, port, water and air networks. The internal mode of transportation is dominated by road transport which accounts for 97 per cent of all person trips and about 90 per cent of all freight. The road transport network evolved through time to the present situation relating closely to population distribution and trends. The composition of the road network in Ghana in 2000 consists of: 13,700 kilometres trunk roads or 27 per cent of the country's total road network; 5000 kilometres urban roads or 10 per cent of the country's total road network; and 32,800 kilometres feeder roads or 63 per cent of the country's total road network. By far the largest road networks in Ghana are feeder roads. These road networks are better developed in areas of high population concentrations. The rail transport network was developed to facilitate the exploitation of natural resources of the country especially in areas of economic promise and

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<sup>8</sup> Dr. George Botchie and Mr. Paul Onyina have contributed this chapter.

population concentrations. Currently, there are 924 kilometers of railways serving mainly the cocoa growing areas, mining towns and the seaports.

There are two major seaports in Ghana, located in Takoradi and Tema. The Takoradi port handles bulky export commodities such as cocoa, timber, bauxite and manganese, while the Tema port handles 75 per cent of Ghana's imports. These seaports are also major areas of population concentrations due to their relative attractiveness to migrant labour.

Ghana currently operates an inland water transport system on the Volta Lake. Responsibility for this operation lies with the Volta Lake Transport Company which operates vessels from Akosombo to Bupe carrying liquid and dry cargo, and passengers. This system has the potential of attracting large numbers of people as tourists. The port settlements along the lake transport routes are also focal points of high population concentrations.

Air transportation in Ghana is handled by the Ghana Civil Aviation Authority. Ghana's main airline is Ghana Airways which operates international scheduled passenger and cargo services to European, Middle Eastern, American and African destinations. The transport infrastructure relates closely to population distribution in the country. Areas of higher transport infrastructure concentrations are also the areas of high population densities.

The utilities infrastructure comprises electricity, water and post and telecommunication. The major electricity resources of Ghana comprise thermal electricity, hydro electricity and solar powered electricity. The developments of electrical energy resources of Ghana evolved through time but are concentrated in areas with high population densities.

There are important variations between urban and rural areas with regard to access to potable water supply. While 91.3 per cent of the urban populations have access to potable water only 52.5 per cent of the rural populations have access to potable water.

Ghana's post and telecommunication service is undergoing a remarkable transformation due to the liberalization of the telecommunication sector. The result is, the mushrooming of telecommunication services, internet services, radio and television services and information and communication technology services. Like the transport infrastructure, utilities infrastructure relates closely to population distribution in the country. Areas of high population concentrations are also the areas of high post and telecommunication services.

The patterns imposed on the development of Ghana by population concentration and transport and utilities infrastructure, have important implications for the socio-economic development of Ghana. It is evident that areas with highest population concentration are also the areas of highest transport and utilities infrastructure. The socio-economic development of Ghana also closely follows the thrust of population distribution and infrastructural development in the country. Generally, socio-economic development tends to move in the direction of areas with high population concentration and relatively better transport and utilities infrastructure to take advantage of economies of scale. The critical challenge is how to deliberately promote infrastructural development in less populated regions despite the infrastructural concentration in the heavily populated areas. Some recommendations can be made to this effect to meet these challenges.

With regard to the road transport infrastructure, deliberate attempts should be made to penetrate areas with poor road transport networks with improved road networks to tap the potentially rich resources in these areas to satisfy the needs of the increasing population. This proposal entails considerable costs in the short term but in the long term the benefits are likely to outweigh the costs when the rich resources in these areas are effectively integrated into the overall space economy of the country.

Rail transport networks should also be extended to the resources rich frontiers such as Western, Brong Ahafo and Northern to integrate them fully into the space economy to effectively serve the increasing populations through employment generation and improvement in passenger and cargo services.

Inland transport network holds a lot of promise for the development of tourist industry and transportation of cargo and passengers on the Volta Lake. Considerable attention should be devoted to this transport network through publicity and marketing of its potentials since it is likely to generate substantial employment opportunities through its services.

Air transport services are concentrated in major urban areas. For effective integration of the space economy, domestic aerodromes with runways should be built to provide feeders to the existing air transport lines in the country.

Electricity supply from hydro and thermal sources are currently concentrated in urban areas with high population densities. Rural areas where the bulk of Ghana's population live is relatively poorly served. A potential source of rural electrification is solar energy. Deliberate attempts should be made to tap this potential source of electricity to improve rural electrification in Ghana.

Potable water supply is urban biased in Ghana. Deliberate attempts should be made to improve water supply in the rural areas especially in areas with water borne diseases such as guinea worm and bilharzias.

With regard to post and telecommunications, the teledensity in the country as a whole is quite low. Strenuous efforts should therefore be made to extend the telecommunication services especially to the rural settlements through the establishment of telecentres in the rural communities. Telecentres hold tremendous promise for effective integration of the rural space economy and improvement of the livelihood of the rural population in Ghana.

## **8.1 Introduction**

Population trend data for infrastructure and utilities developments have important policy implications for the socio-economic development of Ghana. The critical issues are why some regions within Ghana are more densely populated and relatively more endowed with infrastructure and utilities than others; how the glaring regional disparities in population concentrations and the provisions of infrastructure and utilities in Ghana can be effectively managed to ensure the strengthening of regional co-operation and integration within the country; and if market forces will tend to cumulatively accentuate regional disparities in population concentrations and the provision of infrastructure and utilities in Ghana. These are very pertinent issues because the trend data for major population components such as size, density and migration relate meaningfully to the development of infrastructure and utilities in the country.

### **Objectives of Study**

The main objectives of the chapter include analysis of population trend data for infrastructure and utilities development in Ghana; and analysis of policy implications of these patterns of change or trends for the future socio-economic development of Ghana.

### **Approach and Method**

The study adopts genetic or historical approach to analyze and explain the population trend and provision of infrastructure and utilities in Ghana. The trend in specific population variables such as size, density and migration are analyzed and related to the development of infrastructure and utilities.

### **Structure of the Chapter**

The report is structured into 5 major sections comprising the basic introduction involving the study objective, and method and approach of the study; the historical overview of population trends in relation to infrastructure and utilities development in Ghana; population trends in relation to transport infrastructure comprising road, air, water and rail; population trends in relation to provision of utilities comprising electricity, water, telecommunication and Information Communication Technology; policy implications of the population trends in relation to the provision of infrastructure and utilities. Generally, education and health services may be included in infrastructural services but they have been thoroughly discussed elsewhere. In this study therefore infrastructural services are focused on transport and utilities

## **8.2. Overview of Population, Infrastructure and Utilities Development in Ghana**

### **The Colonial Period**

The infrastructural and utilities development in Ghana evolved through time. In the pre-colonial era, infrastructural development was rudimentary up to the end of the 19<sup>th</sup> century. During this period head-portage, cask and wheel-barrows were the major means of transportation (Dickson, 1969). Population settlements were predominantly rural except in a few coastal settlements such as Accra and Sekondi which were administrative centres and trading posts. This situation changed

when Governor Gordon Guggisberg produced the first elaborate and comprehensive Ten-Year Development Plan (1920-1930) for the Gold Coast. This plan, which became known as the “Infrastructural Plan,” was aimed at development and construction of railway and road transport networks, port facilities, schools and hospitals in the Gold Coast to enhance the colonial import and export trade.

The total planned expenditure on this plan was estimated at £G 24 million with top priority given to the development of good railway system which attracted an investment of £G14.6 million. This amount accounted for 58 per cent of aggregate government development expenditure at the time. By 1927, the seventh year of the plan, the actual development expenditure was £Gm12.4 million. Out of this amount, £G 5.8 million was spent on the construction and improvement of 207 miles of railway, £G 2.3 million on the Takoradi Harbour and £G 1.2 million on 3,380 miles of roads. Similarly, 19 new hospitals including Korle Bu (£G 254,000) were built in addition to the Prince of Wales College (Achimota School) which was built at the cost of £G 600, 000.

To a large extent, the implementation of this plan was successful and the foundations of basic infrastructure, which shaped the development of Ghana, were laid. From the coast to the interior, railway and road networks moved mainly to the potential sources of raw materials such as gold, bauxite, diamond and manganese as well as crops such as oil palm, rubber and cocoa. Along these transportation corridors, settlements sprang up and assumed new functions such as commerce, administration and services which transformed them into urban centres with relatively high population concentrations. The urban population during this period increased from 179,080 in 1921 to 296,053 in 1931 and 532,720 in 1948 (Ghana Statistical Service, 1995).

Though the major determinant of these developments was economic interests of the colonial administration, the triangle covered the major settlements in the country. The investment projects were to later constitute magnets which attracted more migrants to the investment centres. Indeed, it became increasingly evident that areas with infrastructural development concentrations became relatively attractive. This relative attractiveness pulled increasing population, infrastructure and utilities development to the areas. Consequently, settlements in these relatively attractive areas became larger and in turn encouraged more migration from less resource-endowed areas. These developments imposed a distinctive infrastructure and utilities development triangle on the Gold Coast with the apex at Kumasi and the base at Accra and Sekondi/Takoradi. This triangle, often referred to as the “Golden Triangle,” contained almost all the natural resources of major interest to the colonial economy.

Natural resources including gold (Obuasi, Tarkwa, Prestea, Konongo and Bremang), diamond (Akwatia and Bonsa) manganese (Nsuta), timber resources (Oda, Brofoyedru, Dunkwa and Kade) as well as the major cocoa growing areas in Ashanti and Eastern are all located in the “triangle”.

These resources are usually conveyed from Kumasi along the rail and road networks in the “triangle” to Accra and Sekondi-Takoradi to export markets. As a result of these intensive economic activities within the “triangle”, not only did Accra and Kumasi become the largest urban centres within the “triangle”, but also the centres with the heaviest population densities, infrastructural and utility developments. Accra, as the capital city of the colonial administration, became the nerve centre of population concentration, and infrastructure and utilities development.

The disparity between the “Golden Triangle” and areas outside the triangle, with respect to population concentration, infrastructure and utilities development was very sharp, since the overall development of the nation was peripheral to the development objectives of the colonial space economy (Club Du Sahel, 1993). There are important variations in parts of Brong Ahafo and Western where cocoa, minerals and timber production became major attractions for population concentrations and infrastructural development.

### **The Post Independence Era**

Post independence census results reflect the colonial development pattern. The total 1960 population was 6.7 million, 70 per cent of whom lived in the southern half of the country with the highest population densities in Greater Accra (167 per km<sup>2</sup>), Central (76 per km<sup>2</sup>) Eastern (54 per km<sup>2</sup>) and Ashanti (45 per km<sup>2</sup>). The urban population in 1960 had increased to 1.6 million from 532,720 in 1948. The 1970 population census figures also showed that urban populations are concentrated in Accra (624,091), Kumasi (346,336), Sekondi/Takoradi (143,682), Tema (60,767), Cape Coast (51,563), Koforidua (46,235) and Obuasi (31,005). Population of Accra increased from 624,091 in 1970 to 969,195 in 1984, while the population of Kumasi increased from 346,336 in 1970 to 496,628 in 1984.

The early years of the post independence era marked a special milestone in the infrastructure and utilities development in Ghana. Even though the infrastructure and utilities development in the “Golden Triangle” intensified, the strategy for the economic development of Ghana changed to the development of Ghana as a whole.

Accordingly, new regions were created, each with its capital. A new wave of infrastructure and utilities development was introduced into this broad spatial framework. From the existing road networks, new road networks were constructed to link each region and its capital to the existing space economy. In addition, hospitals, schools and power stations were built. The number of telephones tripled while the number of people served by piped water more than doubled. A modern artificial harbour was also built at Tema together with a large hydroelectric plant and an aluminium smelting plant at Tema .

After a period of prolonged economic stagnation in the late 1970s and early 1980s during which the country experienced very little infrastructure development, the policy of infrastructural development of Ghana was given a push with the implementation of the decentralization policy since 1988. This policy was expected to improve the capacity of local communities to take the initiative in planning and development at the district level with funding mainly from an established District Assemblies Common Fund. To facilitate this process, 110 districts were created throughout the country in 1988. Under this system, development plans are prepared by District Assemblies, taking into consideration development needs identified at the community level by the communities themselves.

This community participatory approach to development decision-making ensures that projects and activities which are implemented at the local level address the developmental needs and problems identified by the beneficiaries themselves. Consequently, the District Assemblies Common Fund that is allocated to each District is channeled through the District Assemblies for the implementation of self-identified projects.

During this period, the Government intensified the rural electrification programme to provide the basic energy resources to facilitate the development of small scale local enterprises in the districts. In addition to improvement of existing road networks, areas which were hitherto inaccessible have been linked with accessible road networks. These developments reflected in the population distribution in the country between 1960 and 2000 (Table 8.1).

**Table 8.1 Population by Region (1960, 1970, 1984, 2000)**

Regions	1960	1970	1984	2000
Western	9.3	9.0	9.4	10.2
Central	11.2	10.4	9.3	8.4
Greater Accra	8.1	10.6	11.6	15.4
Volta	11.6	11.1	9.8	8.6
Eastern	15.5	14.1	13.7	11.1
Ashanti	16.4	17.3	17.0	19.1
Brong Ahafo	8.7	9.0	9.8	9.6
Northern	7.9	8.5	9.5	9.6
Upper East	7.0	6.3	6.3	4.9
Upper West	4.3	3.7	3.6	3.0
All Regions	100.0	100.0	100.0	100.0
N	6,726,815	8,559,313	12,296,018	18,912,079

*Source: Computed from the 1960, 1970, 1984 and 2000 Censuses of Ghana.  
Ghana Statistical Service, Accra, Ghana*

Even though a relatively even development of the country as a whole was emphasized during the post independence era, the regions within the “Golden Triangle” continued to experience relatively high concentration of the country’s population between 1960 and 2000 owing to the initial advantages gained during the colonial period. For instance, the population concentration increased from 8.1 per cent in 1960 to 15.4 per cent in 2000 in Greater Accra, from 16.4 per cent in 1960 to 19.1 per cent in 2000 in Ashanti, while the proportion increased only slightly from 9.3 per cent in 1960 to 10.2 per cent in 2000 in Western. Generally, this trend is expected to continue due to the relative attractiveness of these regions but there are clear signs of steady decline of population proportions in some of the regions within the golden triangle. Central and Eastern, for example, have experienced steady decline in population proportions between 1960 and 2000. There are important variations to this trend; Brong Ahafo and Northern, regions outside the triangle for example, increased their share of population between 1960 and 2000.

These changing patterns are also reflected in the distribution of urban centres in the country as shown in Table 8.2. The number of large urban centres with population size of 100,000 and above increased from 1 in 1960 to 3 in 2000 in Greater Accra. The three large urban centres recorded in 2000 refer to Accra (capital city), Tema and Ashaiman. The population of Accra particularly increased from 968,195 in 1984 to 1,658,935 in 2000, an increase of 71.2 per cent. These population increases are exerting tremendous pressure in the city. A clear manifestation of this pressure is reflected in the long queues at lorry stations and traffic congestions in the city. It is important to note that despite the growth of Accra and Kumasi during the period, other urban centres emerged giving a relatively more even distribution of urban population between 1960 and 2000 as indicated in Table 8.2. Infrastructural developments in the country tend to follow this pattern of population distribution.

**Table 8.2 Urban Centres by Region and Size of Locality (1960,1970,1984,2000).**

Regions	Small Urban				Medium Urban				Large Urban			
	1960	1970	1984	2000	1960	1970	1984	2000	1960	1970	1984	2000
National	88	112	169	305	8	21	30	51	2	2	4	8
Western	9	11	14	32	2	3	4	4	-	-	-	2
Central	17	19	23	31	2	3	3	8	-	-	-	-
Greater Accra	5	4	4	32	-	3	5	9	1	1	2	3
Volta	12	14	21	31	-	1	3	4	-	-	-	-
Eastern	18	25	38	49	2	4	5	7	-	-	-	-
Ashanti	9	14	23	52	1	2	3	5	1	1	1	2
Brong Ahafo	12	18	27	45	-	1	3	9	-	-	-	-
Northern	3	6	14	23	1	2	1	3	-	-	-	1
Upper East	2	1	3	5	-	1	1	2	-	-	-	-
Upper West	1	-	2	5	-	1	2	1	-	-	-	-

Small Urban: Towns with population 5,000-19,999.

Medium Urban: Towns with population 20,000-99,999

Large Urban: Towns with population 100,000 and over.

Source: *Migration Research Study in Ghana Volume 1*

2000 Population and Housing Census Publication all by, Ghana Statistical Service, Accra.

### 8.3 Transport Infrastructure

The provision of infrastructural services such as road, railway network, port, water and air in relation to the population distribution has a direct impact on the development of Ghana. This section relates the changes in population distribution to the provision of infrastructure and utilities development in Ghana.

#### Road Transport

The internal mode of transportation in Ghana is dominated by road transport which accounts for 97 per cent of all person trips and about 90 per cent of all freight. This network of roads evolved through time in response to socio-economic development and population distribution in the country. Prior to 1900, there was hardly any good road network in the country. Road construction in Ghana started in the early 1920s with the implementation of Guggisberg's Infrastructural Plan. By 1949 there were 3,382 kilometres of gravel roads and 1,053 kilometres of bitumen surfaced roads. By the time of independence in 1957, the road network had grown to about 6,500 kilometres out of which 2,626 kilometres were paved.

Map 8.1 shows the major road network system in Ghana in the early 1950s. The principal road networks were North to South, linking northern Ghana with Kumasi, and Kumasi with the rest of the country, the coastal ports of Sekondi/Takoradi and Accra/Tema. The road network south of Kumasi is more dense than north of it. There are three major trunk roads in northern Ghana. One links Bolgatanga with Tamale and Salaga. Another road passes through Lawra, Wa and Bole and the third links Tamale with Kumasi through Buiepe, Kintampo and Techiman. By contrast, southern Ghana has a dense network of roads, especially in Central and Eastern or natural resource rich areas.

The development of the road network westwards into Brong Ahafo and Western was quite rudimentary at this time. Since 1987, however, there has been an upsurge in road rehabilitation and construction. By 1993, the approximate composition of the road network in the country was as indicated in Table 8.3. The road network currently is 51,500 kilometres, of which 32,800 kilometres are feeder roads (63.7 per cent), 13,700 kilometres are trunk roads (26.6 per cent) and 5,000 kilometres are urban roads (9.7 per cent).

**Table 8.3 Composition of Road Network, 1993**

Composition of Road Network	Distance (km)
Paved with portland cement	19
Paved with asphaltic concrete	690
Paved with bituminous surface dressing	7,200
Bituminous surface with slurry seal	28
Grand Surface	19,000
Earth surface	12,000

Source: Larbi Yeboa (1993)

**Map 8.1: Spatial Distribution of Road Transport Network System in 1920s**

The spatial distribution of this road network by surface type is indicated in Map 8.2. Even though the highest road density still prevails in southern Ghana, there has been much improvement in the road networks in northern Ghana, Brong Ahafo and Western. The pattern of dense road networks in Western, Central, Eastern, Ashanti and Brong Ahafo directly relate to the upsurge in the production of minerals, timber, cocoa and other cash crops in these areas. As capital accumulated around these areas, strong migratory movements of labour gravitated towards these regions. The relative increases in the share of population of Western, Ashanti and Brong Ahafo between 1960 and 2000 are indicative of these developments in road density and production of minerals, timber and cocoa in these regions. Western, which is particularly described as a promising resource frontier, has shown steady increases in its population share owing to its timber, mineral and cocoa growing potentials.

By far the largest road networks in Ghana are feeder roads. The regional distribution of feeder road networks in Ghana by length and surface type are indicated in Table 8.4. Although the feeder roads cover all the regions of Ghana in varying proportions, the variations are not very pronounced either by length or surface type. Ashanti (17.2 per cent) Western (16.5 per cent), and Brong Ahafo (15.0 per cent) however have the largest proportion of gravel surface roads while the earth surface roads are predominant in Brong Ahafo (21.5 per cent) Ashanti (15.7 per cent) and Northern (15.0 per cent). The implication of these types of the road network is that the roads are not all-weather roads and therefore susceptible to deterioration during the rainy season. To convert these roads to all-weather bitumen surface roads would require enormous resources. Since these road networks constitute 64 per cent of all road networks in Ghana, priority attention must be focused on their development to enhance socio-economic development of Ghana.

**Table 8.4: Feeder Roads Network in relation to Population Density**

Region	Road		Surface Type				Population Density 2000
	Length (km)	per cent	Gravel (km)	per cent	Earth (km)	per cent	
Western	4,074.8	12.9	2,701.8	16.5	1,372.3	9.0	81
Central	2,670.4	8.5	1,757.8	10.7	912.6	6.0	162
Greater Accra	513.1	1.6	279.5	1.7	2,33.6	1.5	896
Volta	2,986.5	9.5	1,778.2	10.9	1,208.4	8.0	80
Eastern	3,563.9	11.2	1,655.6	10.1	1,908.3	12.6	109
Ashanti	5,203.1	16.5	2,818.3	17.2	2,384.8	15.7	148
Brong Ahafo	5,716.5	18.1	2,459.6	15.0	3,256.9	21.5	46
Northern	3,820.4	12.1	1,535.0	9.5	2,285.4	15.0	26
Upper East	1,129.8	3.6	443.4	2.7	686.4	4.5	104
Upper West	1,884.7	6.0	939.9	5.7	944.8	6.2	31
National	31,563.2	100.0	16,369.1	100.0	15,193.9	100.0	79

Source: Ministry of Roads and Transport, 2001

**Map 8.2: Spatial Distribution of Road Network by Surface type**

Table 8.5 relates regional population to the road density and road length per 1,000 people. The road densities are extremely low throughout the country. The highest densities occur in Greater Accra, Central, Western and Volta, the first two of which also have high population concentrations.

**Table 8.5: Regional Distribution of Relationship between Population and Road Density**

Region	Population (2000)	Road Length (km)	Area (sq. km)	Road Density per 1,000 sq km	Road Length per 1,000 population
All Regions	18,912,079	45,776	238,537	191.9	2.4
Western	1,924,577	6,577	23,921	274.9	3.4
Central	1,593,822	3,891	9,826	396.0	2.4
Greater Accra	2,905,726	1,364	3,245	420.3	0.5
Volta	1,635,421	4,960	20,572	241.1	3.0
Eastern	2,106,696	5,362	19,324	177.5	2.5
Ashanti	3,612,950	7,302	24,390	199.4	2.0
Brong Ahafo	1,815,408	5,891	39,557	148.9	3.0
Northern	1,820,806	5,984	70,383	85.0	3.3
Upper East	920,089	1,558	8,842	176.2	1.7
Upper West	576,583	2,887	18,477	156.2	5.0

Source: Extracted from the 2002 Road Inventory of Ghana, Ministry of Roads and Highways.

### **Rail Transport**

Like the road transport network, the rail transport network was developed to facilitate the exploitation of natural resources of the country. Currently, there are 924 kilometres of railways serving the cocoa growing areas, mining towns and the seaports. The development of the rail network started in 1898 from Sekondi. By 1901, it had reached Tarkwa, Obuasi in 1902 and Kumasi in 1903. A branch line from Tarkwa to the gold mines at Prestea was completed in 1911. The eastern railway line from Accra to Kumasi was completed in 1911, mainly to transport cocoa which was being produced in Eastern and Ashanti. By 1927, the Huni Valley-Kade railway had been built to stimulate production of cocoa, kola nuts and timber in Central and Eastern to be transported to Takoradi Harbour for export. In 1956, the Achiase-Kotoku and the Achimota-Tema rail lines were completed to facilitate transportation of heavy machinery which was needed for the Volta River Project (Dickson and Benneh, 1988). Table 8.6 shows passenger and freight traffic on the rail network between 1995 and 2001.

**Table 8.6: Passenger and Freight Traffic on Railway Network 1995 –2001**

Year	Passengers	Freight Traffic (000 tons)					Totals
		Cocoa	Timber	Bauxite	Manganese	Others	
1995	2,200,000	1,619	5,554	51,855	18,755	3,506	81,289
1996	2,077,000	3,479	4,787	46,390	24,774	6,278	85,708
1997	2,105,000	2,052	3,816	45,065	26,930	6,786	84,649
1998	2,208,000	3,105	6,013	36,218	30,053	6,211	81,600
1999	1,469,000	2,673	6,035	36,595	44,440	7,559	97,302
2000	844,000	1,908	5,504	39,817	65,236	3,281	115,746
2001	599,000	1,440	4,086	58,214	86,478	5,206	155,424

Source: State of the Ghanaian Economy in 2002, ISSER

The major freight transported on the rail network between 1995 and 2001 consists of bauxite and manganese. The bauxite cargo increased from 51,855,000 tons in 1995 to 58,214,000 tons in 2001 although there are a few fluctuations between 1996 and 2000. Manganese cargo on the rail network also increased from 18,755,000 tons in 1995 to 86,478,000 tons in 2001.

Map 8.3 shows the complete rail transport network linking the mineral, cocoa and timber producing areas of the country. From the nodal points of these rail networks, some major road transport networks branched off to the northern, eastern and western parts of the country. So far, the railway network has not been extended to the northern regions. The reason for this apparent neglect may be that there were no known mineral deposits and other economic resources at the time of railway construction in the south to justify the railway extension to the north. The situation is different now; there are at the moment gold deposits being mined in Upper East. The region also holds specialized type of rocks which are being transported to the south for the manufacturing of floor tiles. In addition to these resources, Northern produces tubers and cereals which can be transported to the export market by rail to stimulate increased production. In the near future, therefore, it may be economically feasible to extend the railway network to the northern regions to tap their resources potentials. The resources frontiers in Western and Brong Ahafo which have experienced steady population increase between 1960 and 2000 also make the regions potential candidates for railway extension to tap the rich cocoa, timber and gold resources in the regions. The Accra-Tema rail link is currently lying dormant despite its enormous potential for transportation of cargo and passengers between Accra-Tema and beyond.

The railway networks enhanced population concentration especially in southern Ghana. The nodal points of the rail networks such as Sekondi/Takoradi, Tarkwa, Obuasi, Prestea, Kumasi and Accra became centres of population concentrations. Table 8.7 shows the population concentrations in these nodal settlements in 1984 and 2000.

**Table 8.7: Population Nodal Settlements of the Railway Network, 1984 and 2000**

Nodal Settlement	Population		Rate of Increase
	1984	2000	
Accra	968,195	1,658,935	71.2
Kumasi	496,628	1,170,270	135.6
Sekondi/Takoradi	188,203	289,693	53.9
Obuasi	60,617	115,564	90.6
Tarkwa	22,107	30,631	38.6
Prestea	16,922	21,844	29.1

Source: Computed from 2000 Population census Publication

Due to their initial advantage of serving as nodal points of railway networks, the population of these nodal settlements has shown relative increases between 1984 and 2000. Population increase of Obuasi particularly is remarkable, reflective of its status as the nerve centre of gold mining in the country. This activity continues to attract migrants to Obuasi for labour in the mines and other ancillary activities. The pattern of the rail transport network has not changed but its spatial concentration together with the density of the road network in its areas of influence accentuated the spatial disparity in the development and population distribution in the country.

Map 8.3: Main Railway Links in Ghana

## Seaports

Closely associated with the road and rail transport networks are the two major seaports of Takoradi and Tema. Takoradi harbour, which was opened in 1928, was enlarged in 1953. It is the main export port of the country. Bulky commodities such as cocoa, timber, bauxite and manganese which are brought by rail from their various destinations in the resource rich areas are exported through Takoradi.

Tema harbour, which was opened in 1962, handles 75 per cent of Ghana's imports, as well as export of cocoa from Eastern and Volta and aluminium ingots from the Volta Aluminium Company at Tema. As part of the government's five year plan (1986-1991) to improve Ghana's physical infrastructure, the Port at Tema was rehabilitated and this helped to increase the port's capacity for handling dry tonnage by 50 per cent to 2.7 million tons.

Table 8.8 shows the tonnage of actual imports and exports (1991-2000) and the forecast of future demand (2010-2020) for Tema Port for imports and exports. The Tema port is expected to experience increasing imports especially in dry bulk cargo, liquid bulk cargo, petroleum products, general cargo and containerized cargo during the period as a result of rehabilitation of the port. For exports, liquid bulk cargo, and containerized cargo are expected to increase during the period.

To further improve the facilities at Tema, the Ghana Ports and Harbours Authority is expected to continue the development of one of the quays into a well established container terminal.

**Table 8.8: Actual and Future Cargo Demand Forecast in Tema Port for Imports and Exports (Tons)**

Cargo	Actual Caargo Demand				Future Cargo Demand			
	1991	per cent	2000		2010	2020	per cent	
<b>Import</b>								
Dry Bulk	1,001,605	24.0	1,652,557	20.1	2,157,747	15.2	3,426,302	14.2
Alumina	365,906	8.8	301,775	3.7	384,950	2.7	800,645	3.3
Clinker	470,277	11.2	972,772	11.8	1,262,240	8.9	1,855,840	7.7
Liquid Bulk	1,106,336	26.5	1,853,315	22.5	3,439,000	24.3	5,815,000	24.2
Crude Oil	165,112	4.0	1,000,000	12.1	2,575,747	18.2	4,357,500	18.1
Petrol Products	168,901	4.0	850,000	10.3	858,500	6.1	1,452,500	6.0
Bagged Cargo	301,253	7.2	537,553	6.5	897,518	6.3	618,367	2.6
General Cargo	201,898	4.8	235,135	2.9	701,388	5.0	1,326,602	5.5
Containerized Cargo	397,663	9.5	833,529	10.1	1,875,000	13.2	4,423,300	18.4
Total	4,178,951	100.0	8,236,636	100.0	14,152,090	100.0	24,076,056	100.0
<b>Export</b>								
Liquid Bulk	198,070	34.3	246,584	27.7	401,659	29.6	867,152	31.8
Bagged Cargo	84,092	14.5	104,370	11.7	26,891	2.0	25,062	1.0
General Cargo	192,109	33.2	156,230	17.6	106,734	7.9	103,908	3.8
Containerized Cargo	103,904	18.0	382,371	43.0	820,835	60.5	1,728,055	63.4
Total	578,175	100.0	889,555	100.0	1,356,119	100.0	2,724,177	100.0

*Source: Ghana Ports and Harbours Authority, 2003*

Table 8.9 indicates the tonnage of actual imports and exports (1991-2000) and the forecast of future cargo demand for Takoradi port for imports and exports between 2010 and 2020. Like the Tema port, the Takoradi port is expected to experience increasing imports of dry bulk cargo, clinker and containerized cargo during the period. Similarly, exports of dry bulk cargo, bauxite, manganese and containerized cargo are expected to increase during the period as a result of the rehabilitation of the Takoradi port.

Table 8.9: Actual and Future Cargo Demand Forecast in Takoradi Port for Imports and Exports  
(Tons)

Cargo	1991	per cent	2000	per cent	2010	per cent	2020	per cent
<b>Import</b>								
Dry Bulk	43,040	8.6	891,815	48.5	1,258,530	38.6	1,823,978	26.8
Clinker	323,538	64.3	694,374	37.8	991,760	30.4	1,458,160	21.4
Liquid Bulk	92,284	18.4	157,012	8.5	224,787	7.0	366,154	5.4
Bagged Cargo	2,514	0.5	5,770	0.3	51,839	1.6	106,104	1.6
General Cargo	20,868	4.1	26,619	1.5	222,250	6.8	682,675	10.0
Containerized Cargo	20,610	4.1	62,103	3.4	509,022	15.6	2,366,337	34.8
<b>Total</b>	<b>502854</b>	<b>100.0</b>	<b>1,837,693</b>	<b>100.0</b>	<b>3,258,188</b>	<b>100.0</b>	<b>6,803,408</b>	<b>100.0</b>
<b>Export</b>								
Dry Bulk	644,310	37.2	1,461,732	44.4	2,000,000	41.2	2,500,000	39.4
Bauxite	323,313	18.6	503,823	15.3	1,000,000	20.6	1,500,000	23.6
Manganese	319,997	18.5	929,296	28.2	1,000,000	20.6	1,000,000	15.7
Liquid Bulk	0	0.0	6,551	0.2	8,386	0.2	12,413	0.2
Bagged Cargo	106,772	6.1	70,368	2.1	21,944	0.4	29,062	0.5
General Cargo	292,888	16.9	102,658	3.2	37,517	0.8	37,977	0.6
Containerized Cargo	46,182	2.7	217,889	6.6	789,981	16.2	1,273,734	20.0
<b>Total</b>	<b>1,733,462</b>	<b>100.0</b>	<b>3,292,317</b>	<b>100.0</b>	<b>4,657,828</b>	<b>100.0</b>	<b>6,353,186</b>	<b>100.0</b>

Source: Ghana Ports and Harbours Authority, 2003

Rehabilitation of Takoradi port is also expected to increase capacity by 128 per cent to 1.6 millions tons. Further upgrading of the Takoradi port is expected to include private sector participation. Accordingly, the Ports Authority has secured land close to the harbour to be leased to the private sector for the development of fish processing and cold store facilities. Other developments include extension of the clinker-bauxite jetty and the main breakwater, reclamation of the old log pond for use as container handling area and construction of new offices and marine operation berth.

### **Inland Water Transportation**

The road, rail and seaport transport networks are complemented by an inland water transport system which is operated by the Volta Lake Transport Company (VLTC) on the Volta Lake. The Volta Lake Transport Company operates vessels from Akosombo (Eastern) to Buiepe (Northern) carrying liquid and dry cargo as well as passengers. The company also operates cross-ferry crafts at five locations namely Yeji, Kete Krachi, Dambai, Adawso and Oti-Damanko.

Its passenger transport increased from 441,090 in 2000 to 527,282 in 2001 showing an increase of 19.5 per cent. Its total cargo transport however, decreased from 98,380 tons in 2001 to 48,706 ton in 2002 showing a decrease of 50.5 per cent. The Volta Lake provides 1,125 kilometers of arterial and feeder waterways. In addition, the government is developing new ports on the Volta Lake to create an inland waterway network.

The inland water transport has contributed to population redistribution and increases in the major port settlements on the Volta Lake. These population increases are mainly due to migration to these port settlements for trading and ancillary activities. Table 8.10 shows the change in population size of these settlements between 1970 and 2000.

**Table 8.10: Population Size of Volta Lake Port Settlements**

Settlement	Population			Rate of Increase	
	1970	1984	2000	Rate of 1970-1984	1984-2000
Akosombo	7,716	9,820	14,429	27.3	46.9
Yeji	5,485	11,144	18,593	103.2	66.8
Buipe-Bridge	-	1,002	5,692	-	468.1
Kete Krachi	5,097	6,353	9,285	24.6	46.2

Source: Computed from 2000 Population Census Publication, Ghana Statistical Service.

The population of Akosombo for instance increased from 9,820 to 14,429 between 1984 and 2000, a rate of increase of 46.9 per cent, while that of Buipe Bridge increased from 1,002 in 1984 to 5,692 showing a rate of increase of 468.1 per cent. These population trends show the cumulative effect of the lake activities and their impact on the port settlements in terms of increasing migration inflows.

Inland water transport is also active in the lower Volta basin especially between Akuse, Amedeka and Ada. This transportation service takes the form of launch service that ply between Akuse and Ada touching on almost all the major settlements along the route.

### **Air Transport**

Air transportation in Ghana is handled by the Ghana Civil Aviation Authority (GCAA). This authority was established in 1986 by PNDC Law 151 as the regulatory agency of Government on air transportation in Ghana. The Aviation Authority originated in 1918 when the idea of air transportation was conceived for the then Gold Coast. It remained a unit within the Public Works Department until 1953, when it was granted a departmental status under the Ministry of Transport and Communication. On 16 May 1986, it assumed its current status as a corporate body under the Ministry.

Currently, the GCAA has invited consultancy services for the development of a master plan for another international airport in Kumasi. This master plan is expected to include preparation of land use plan; optimum development strategy for the proposed airport; and preparation of environmental impact assessment report. The GCAA is also expected to co-ordinate the activities of the various airlines serving in Ghana. These airlines include KLM, Lufthansa, Alitalia, British Airways, South Africa Airways, Ethiopian Airlines and Kenya Airways.

The air traffic services provided by GCAA in terms of aircraft movement, passengers, freight and transit from 1991 to 2001 are indicated in Table 8.11. There are relative increases in aircraft movement, passengers, freight and transit in 1994 as a result of improvement in the air traffic services. The more significant rates of increase in the aircraft movements and passengers occurred between 1998 and 2000. Between 1997 and 1998, there was substantial increase in freight while transit also recorded increases between 1999 and 2000. These periods proved to be good years for aircraft movement, passengers, freight and transit in Ghana.

**Table 8.11: Air Traffic Services (1991-2001)**

Year	Aircraft Movement	Rate of change	Passengers	Rate of change	Freight (tons)	Rate of change	Transit	Rate of change
1991	5,634		362,218		19,342		-	
1992	5,278	-6.3	307,493	-15.1	19,341		-	
1993	5,343	1.2	313,697	2	26,981	39.5	-	
1994	6,068	13.6	352,103	12.2	30,400	12.7	-	
1995	6,385	5.2	368,202	4.6	35,817	17.8	61,224	
1996	6,664	4.4	402,608	9.3	37,045	3.4	45,998	(24.9
1997	6,209	-6.8	429,335	6.6	37,623	1.6	45,767	-0.5
1998	7,210	16.1	484,326	12.8	45,767	21.6	48,057	5
1999	9,107	26.3	553,659	14.3	46,757	2.2	38,705	-19.5
2000	10,414	14.4	592,276	7	46,826	0.1	71,126	83.8
2001	9,064	-13	622,525	5.1	44,779	-4.4	68,590	-3.6
Total	77,376		4,788,442		390,678		379,467	

Source: Ghana Civil Aviation Authority, 2003

These transport infrastructural developments reflect significantly in the distribution of population densities in the country. High population density areas relate positively to areas of high transport infrastructural densities. Table 3.12 shows the relationship between population density and road density in Ghana.

**Table 8.12: Population and Road Density of Ghana (1960, 1970, 1984 and 2000)**

Regions	Area (sq.km)	Population Density				Road Density Per 1,000sq km
		1960	1970	1984	2000	
Western	23,921	20	32	48	81	274.9
Central	9826	76	88	116	162	396
Greater Accra	3245	167	278	441	896	420.3
Volta	20,570	38	46	59	80	241.1
Eastern	19,323	54	63	87	109	177.5
Ashanti	24,389	45	61	86	148	199.4
Brong Ahafo	39,557	15	19	31	46	148.9
Northern	70,384	8	10	17	26	85
Upper East	8,842	53	61	87	104	176.2
Upper West	18,476	16	17	24	31	156.2
All Regions	238,533	28	36	52	79	191.9

Source: Computed from the 1960, 1970, 1984 and 2000 Population Census of Ghana Statistical Service, Accra, Ghana

High population densities in the country are recorded in 1984 for Central (116), Greater Accra (441), Eastern (87), Upper East (87) and Ashanti (86). This pattern of population concentrations remained the same in 2000 when Central (162), Greater Accra (896), Eastern (109), Ashanti (148) and Upper East (104) recorded the highest population densities, especially in the regional capitals such as Accra, Kumasi, Koforidua and Cape Coast. These areas of relatively high population densities in 1984 and 2000 are also the focal points of high road, rail and air transport infrastructure. These developments imply that there is pressure to provide more transport infrastructural facilities to satisfy the demands of the increasing population in the high population density areas.

The Table shows that the highest population density areas also happen to have high road densities. These areas of high population densities are also the areas of concentration of rail and air transport infrastructure as observed earlier.

## 8.4 Utilities Infrastructure

### Electricity

The major electricity resources of Ghana comprise thermal electricity, hydro electricity and solar powered electricity. To these electricity resources may be added the on-going oil and natural gas prospecting ventures and the construction of the West African Gas Pipeline.

The spatial distribution of these electricity resources are indicated in Map 8.4. At independence in 1957, thermal electricity was the major form of electricity supply. Only a few urban centers such as Accra, Kumasi and Sekondi/Takoradi benefited from the thermal electricity supply because they were the major centres of population concentration, administrative and economic interests.

The situation changed in 1966 when the hydro electric power supply started at Akosombo. By 1970, 57 settlements were linked to hydro electric supply from Akosombo. Almost all these settlements are located in Greater Accra, Eastern and Ashanti which are also centres of high population densities and economic dominance in the country. By 1990, the number of settlements in the area that had electricity increased to 80. The proportions of households using electricity/solar energy in 2000 in relation to population density in 1984 and 2000 are shown in Table 8.13.

**Table 8.13: Population Density and Electricity/Solar Energy Usage by Region and Locality**

Region	Electricity		Solar Energy		Population Density	
	Urban	Rural	Urban	Rural	1984	2000
Western	78.1	20.7	0.1	0.2	48	81
Central	66.6	23.4	0.0	0.0	116	162
Greater Accra	82.9	26.4	0.1	0.1	441	896
Volta	47.6	18.0	0.3	0.2	59	80
Eastern	66.1	15.8	0.0	0.2	87	109
Ashanti	81.7	19.2	0.2	0.1	86	148
Brong Ahafo	68.0	13.0	0.0	0.0	31	46
Northern	61.6	5.4	0.1	0.1	17	26
Upper East	56.6	3.2	0.1	0.1	87	104
Upper West	60.2	2.9	0.1	0.2	24	31
All Regions	74.6	16.1	0.1	0.1	52	79

Source: Computed from 2000 Population and Housing Census

The major criteria for electricity connections to the national grid are population densities and economic considerations. For instance, the highest proportions of households using electricity in 2000 are in Greater Accra, Ashanti, and Western, which are some of the high population density regions. The regions with the lowest proportions of households with access to electricity are Volta, Upper East, Upper West and Northern, which (except Upper East) are also regions of low population densities.

#### **Map 8.4 : Hydro Electricity Transmission Links**

In 1994, Ghana's electricity generation capacity was about 1,187 megawatts, and annual production totaled approximately 4,490 million kilowatts. The main source of supply is the Volta River Authority with six 127-megawatt turbines. The bulk of the electricity consumed in Ghana is provided by Volta River Authority's (VRA) power plant at Akosombo. Some 60 per cent of this power is purchased by Volta Aluminium Company (VALCO) for its smelter. The power plant also supplies the needs of Togo and Benin.

Power consumption by VALCO fluctuated between 1990 and 2000. From 2,788,500 kilowatts in 1990, it decreased to 926,655 in 1998 before increasing to 2,504,762 kilowatts in 2000. The fluctuation is explained by national load curtailment in 1995 and 1998 due to the low level of the Volta Lake. This curtailment also affected Togo and Benin which experienced decrease in power consumption from 452,078 kilowatts in 1990 to 391,902 kilowatts in 2000 (VRA 2000). While the fall in electricity may have been the result of the low water level in the lake, population pressure on land use in the catchment area cannot be discounted. The average consumption was also certainly influenced by population numbers. To contain any shortfall in power consumption as occurred in 1994, 1995 and 1998 during the national power curtailment, Ghana imported power from Cote d'Ivoire. This importation more than tripled from 319,776 kilowatts in 1994 to 1,031,640 kilowatts in 1998.

Ghana's electricity need is also produced by diesel units owned by the Electricity Company of Ghana, by mining companies and by a 160-megawatt hydroelectric plant at Kpong, about 40 kilometres downstream from Akosombo. A third dam with a 450 megawatt generating capacity is expected to be built at Bui on the Black Volta River to increase power supply to northern Ghana and to sell power to Cote d'Ivoire and Burkina Faso.

In addition to hydroelectricity, Ghana is currently increasing the supply of electricity by utilization of thermal energy. This thermal power generating plant is built at Aboadze near Takoradi to produce 300 megawatts of electricity to the national grid. A third source, solar powered electricity supply, is currently available to Yeji, Salaga, Kumbungu and Gambaga (Northern), Atebubu, Prang, Berekum and Dorma Ahenkro (Brong Ahafo) and Enchi, Samreboi and Asankrangua (Western) as shown in Map 8.4. The proportion of households using solar energy is insignificant but there are plans to encourage the installation of solar systems in rural areas. For example, 140 Junior Secondary Schools are expected to benefit from installation of solar system in 2004.

### **Water**

Water is an essential commodity for human existence, but it must be safe to be beneficial. Safe water may be defined as potable water, that is, piped borne water and water from a borehole. Table 8.14 shows the distribution of households served with potable water by locality of residence and region. According to this information, more households in urban areas (72.3 per cent) than households in rural areas (42.1 per cent) have access to potable water. The sources of water supply for urban households are mainly piped borne water, both inside and outside, while boreholes provide the bulk of potable water to rural households. Greater Accra (86.9 per cent), Central (74.5), Upper West (72.8 per cent) and Ashanti (71.9 per cent) are the regions with the highest proportions of households with potable water, while Volta (46.6 per cent) Eastern (57.3 per cent)

and Brong Ahafo (59.3 per cent) are the regions with the least access to potable water supply. Population pressure/density may be responsible for provision of piped borne water in urban areas while population spatial spread may account for the provision of boreholes in rural areas.

**Table 8.14: Population Density and Households with Potable Water by Region and Locality**

Region	Piped borne inside		Piped borne out side		Borehole		Total Potable		Population Density
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	
Western	18.1	2.3	46.9	8	3	21.4	68.0	31.7	81
Central	19.9	2.8	50.3	34.2	4.3	25.5	74.5	62.5	165
Greater Accra	39.1	11.6	47.5	25.8	0.3	6.6	86.9	44.0	896
Volta	12.4	1.5	29.5	16.6	4.7	11.1	46.6	29.2	80
Eastern	19	2.6	35.4	9.7	2.9	24.6	57.3	36.9	109
Ashanti	34.9	1.6	31	9	6	41.4	71.9	52.0	148
Brong Ahafo	11.1	1	34.4	7.3	13.8	33.2	59.3	41.5	46
Northern	21.7	1.7	35.7	6.1	8	20.7	65.4	28.5	26
Upper East	21	1.6	27.6	4.2	14.9	41.2	63.5	47.0	104
Upper West	16.5	1.1	35.2	4.4	21.1	55.2	72.8	60.7	31
Ghana	27.8	2.2	40.1	12.6	4.4	27.3	72.3	42.1	79

Source: Computed from the 2000 Population and Housing Census

In view of the rapid population growth in urban areas, the demand for water is likely to increase with its cost implications; not only will cost of production increase, but cost of providing the service to households will also increase. Currently in Accra, for example, the Ghana Water Company is experiencing difficulties in meeting demand for water because of the increasing population and production cost. The issue is compounded by the fact that water is considered a social good and should therefore be provided at minimal cost to households. The effect of population pressure, particularly in urban areas, is therefore great. To solve the problem, proposals for privatizing water supply in Accra are under consideration, but these are facing opposition from labour and other interest groups.

The Ghana Water Company also faces difficulties in making potable water accessible to the majority of the population. The difficulties include leakages on the transmission lines, faulty metres at the treatment plant, diversion of transmission lines for agricultural purposes and several domestic consumers using water for commercial purposes. The result is that about 50 per cent of processed water is unaccounted for (GWCL, Statistical News Letter, 2000).

The household sewerage system in the country as a whole is relatively poor even in the high population density regions such as Central and Ashanti. The only exception is Greater Accra, especially the capital city Accra, where 15.2 per cent urban and 7.9 per cent rural households utilize the sewerage system (Table 8.15).

**Table 8.15: Method of Liquid Waste Disposal by Region and Locality of Residence**

Region	Sewerage System		Street/Outside		Gutter		Compound		Other	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Western	6.7	0.9	23.9	41.4	46.2	9.2	21.1	46.6	2.1	1.9
Central	3.8	0.9	33.7	45.6	35.8	10.6	25.5	41.8	1.2	1.1
Greater Accra	15.2	7.9	18.1	28.6	43.5	3.8	22.5	58.4	0.6	1.3
Volta	3.1	0.5	40.4	41.8	14.6	7.6	41.2	49.0	0.7	1.1
Eastern	3.7	0.9	30.9	32.1	33.9	7.9	31.1	58.6	0.4	0.5
Ashanti	6.5	0.7	26.0	54.8	47.1	7.1	20.1	37.0	0.3	0.4
Brong Ahafo	1.9	0.9	56.6	53.3	12.3	3.8	29.0	41.7	0.2	0.3
Northern	3.6	1.3	59.5	64.0	19.9	3.8	16.7	30.4	0.3	0.5
Upper East	3.8	3.3	59.3	51.1	15.2	4.2	17.3	39.5	0.4	1.9
Upper West	5.6	1.4	65.0	68.2	12.1	2.7	17.0	27.2	0.3	0.5
All Regions	8.1	1.3	30.0	47.0	37.0	6.9	24.2	43.9	0.7	0.9

Source: Computed from 2000 Population and Housing Census

Other methods of liquid waste disposal such as throwing on to street/outside, gutter and compound are common throughout the country, especially in the densely populated areas such as Central, Eastern, Ashanti and Greater Accra. This situation suggests that the disposal of household liquid waste is quite unsatisfactory. This is on account of the fact that housing development and the liquid waste disposal system depend on the availability of water. Even dwelling units with pipe borne water inside may not have the water piped into the sewerage system.

### ***Post, Telecommunications and ICT***

The early post and telecommunication development in Ghana comprised mainly post offices and postal agencies. The post offices provide postal and telecommunication services while postal agencies offer sale of postage stamps and delivery of letters. Although trend data are not available to analyse the development of these services through time, the existing data indicate the concentration of the facilities in the most developed and resource-rich areas of the country, which had experienced years of considerable development efforts in the country.

**Table 8.16: Localities with Access to Post Office Facility by Region and Place of Residence**

Region	Urban			Rural		
	Post office in town		Average Distance (km) to facility	Post office in town		Average Distance (km) to facility
	No	per cent		No	per cent	
Western	39	73.6	10.4	14	26.4	16.0
Central	33	39.3	4.0	51	60.7	8.1
Greater Accra	49	89.1	2.7	6	10.9	8.9
Volta	27	39.7	30.1	41	60.3	15.8
Eastern	54	39.4	1.0	83	60.6	12.0
Ashanti	70	59.3	10.0	48	40.7	12.7
Brong Ahafo	46	56.8	12.0	35	43.2	15.7
Northern	16	66.7	23.7	8	33.3	25.6
Upper East	4	57.1	12.7	3	42.9	15.1
Upper West	6	60.0	0.0	4	40.0	25.5
All Regions	344	540	12.5	293	460	16.0

Source: Extracted from *Special Report on 20 Largest Localities*, Ghana Statistical Service, Accra Ghana, March 2002

Table 8.16 shows the distribution of localities with post office facility in each region by urban and rural residence. As indicated in the Table, all regions except Central, Volta and Eastern have the majority of post office facilities located in the urban localities. In four regions (Central, Greater Accra, Eastern and Upper West), the average distance to the nearest facility of urban localities

without a post office is less than 5 kilometres, while in Volta and Northern the distance to nearest facilities is more than 20 kilometres. The distances for rural areas, particularly in the northern regions, are much farther away

### **Transformation of the Telecommunication Sector**

Ghana's post and telecommunication scene has undergone a remarkable transformation during the past seven years due to the liberalization of the telecommunication sector and the introduction of cellular telephones, frequency modulation (FM) radios, cable television and the internet. These developments were facilitated by the deregulation of the telecommunication sector in 1994, when the government promulgated a five year comprehensive restructuring of the telecommunication industry within the context of "Accelerated Development Programme, 1994-2000 (ADP, 2000).

The aims of the programme included: achieving a teledensity of between 1.5 and 2.5 telephone lines per 100 people; improving public access in rural and urban areas through the provision of payphone facilities; expanding the coverage of mobile services; promoting Ghanaian ownership and control of telecommunication companies; permitting other network operators to have the same rights and privileges as Ghana Telecom Limited; and retaining an overall public regulatory control over the sector through the creation of a single agency, the National Communications Authority (NCA).

The accelerated development programme ended in 2000 without the teledensity of 1.5 -2.5 telephone lines per 100 people being achieved. Indeed by 2002, the country had achieved a teledensity of only 0.7. Only Greater Accra has a teledensity of 3.2 and this is even accounted for mainly by the capital city Accra. Public access in rural and urban areas through the provision of pay-telephone facilities and expanding the coverage of mobile services are concentrated mainly to the major urban centres such as Accra and Kumasi at the moment. This is because national administration and commercial activities that require the use of telecommunication services are mainly concentrated in cities and large towns. According to the NCA, the projections submitted by the existing operators show an increase from 718,831 subscribers in January 2003 to 1,123,945 by December 2003.

### **Telecommunications Services**

As a result of the implementation of the telecommunication policy and the passing of the Communication Act of 1995, a number of companies have been licensed by NCA to provide national and international telecommunication services in the country. These companies include Ghana Telecom, Westel and Capital Telecom.

### **Ghana Telecom**

Ghana Telecom was established in June 1995 as a successor to the telecommunication division of the Ghana Posts and Telecommunication Corporation. Ghana Telecom increased its number of telephone lines from 140,000 lines in 1998 to 170,000 lines in 2000. The number of pay telephones also increased from 480 in 1995 to 2,500 in 2000. In line with its network expansion mandate, Ghana Telecom has introduced Wireless Local Loop (WILL) System to the rural areas. In addition, fixed telecommunication service is being improved through installation of new digital telephone exchanges in various parts of Ghana. It is also providing rural radio communication system and integrating them with the national network.

Table 8.17 shows that the distribution of pay telephones and fixed telephone subscribers is highly skewed in favour of urban areas. Greater Accra, the most urbanized, for instance, accounts for nearly half (45.9 per cent) of all telephone lines. It also accounts for the largest number (1834 or 44.5 per cent) of pay telephones and fixed telephone subscribers (66.4 per cent) in Ghana. Between 1998 and 2001, the Ghana Telecom targeted the high population density areas for its expansion. Ghana Telecom has entered into joint venture agreement with network operators and investors to provide data transmission, mobile telephone, and a new satellite earth station to cater for increases in international traffic and to carry out preventive and timely routine maintenance of new equipment to prevent faults. The population numbers therefore account for the high concentration of telephone lines and telephone subscribers in Greater Accra (Accra) and Ashanti (Kumasi), where the demand for the facility is greater than it is in other regions of the country.

**Table 8.17: Ghana Telecom Pay Telephones and Fixed Telephone Subscribers, 1998-2001**

Region	Pay Telephone	Share of Phones	Total Number of Fixed Telephone subscribers								Population/Phones Density 2000
			1998	per cent	1999	per cent	2000	per cent	2001	per cent	
Western	440	10.5	6,048	4.5	8,270	5.2	12,153	6.4	12,800	6.4	81
Central	152	3.7	4,100	3.1	4,842	3.1	5,629	2.9	5,883	2.9	162
Greater Accra	1,834	45.9	93,390	70.0	109,533	69.1	127,000	6.4	132,724	66.4	896
Volta	103	2.5	1,783	1.3	2,001	1.3	3,441	1.8	3,596	1.8	80
Eastern	268	6.7	4,921	3.7	6,503	4.1	7,174	3.7	7,400	3.7	109
Ashanti	800	20.0	17,172	13.0	18,648	11.8	22,462	11.7	23,400	11.7	148
B Ahafo	104	2.6	1,808	1.4	3,455	2.2	5,275	2.8	5,513	2.8	46
Northern	126	3.2	2,083	1.6	2,369	1.5	4,498	2.4	4,701	2.4	26
Upper East	126	3.2	992	0.7	1,757	1.1	2,708	1.4	2,830	1.4	104
Upper West	67	1.7	1,000	0.7	1,020	0.6	1,040	0.5	1,087	0.5	31
All Regions	4,120	100.0	133,297	100.0	158,398	100.0	191,380	100.0	199,934	100.0	79

Source: Ghana Telecommunications Limited, Accra-North, Ghana (2000) and 2000 Population Census.

### **WESTEL**

WESTEL is a joint venture between African Communications Group Inc, Western Wireless International and the Government of Ghana, through Ghana National Petroleum Company (GNPC), licensed for 20 years to provide voice, cellular mobile, paging, leased line and value added services. It is expected to meet backlog of telephone lines demanded by consumers, and to ensure efficiency and improved services in the telephone sub-sector.

### **Capital Telecom**

Capital Telecom which began operation in 1994 provides rural telephone in Ghana. By 2000 it had provided 500 telephone lines in the rural areas in Ghana. By January 2003, the telephone lines increased to 710. It is projected that by December 2003, the telephone lines would increase by 83.1 per cent to 1,300 lines.

### **Cellular Phone Operators**

Table 8.18 shows the subscriber base of other communication services providers other than Ghana Telecom fixed lines and pay telephones. Currently, Ghana has four cellular phone operators, namely Millicom Limited (Mobitel), Celltel Limited (Kasapa), Scancom Limited (Spacefon) and Ghana Telecom (GT One Touch). Between them, they have an installed base of about 774,000 subscribers. Their services cover voice, data and facsimile transmission.

**Table 8.18: Other Communication Services Providers Subscriber base as at December 2003**

Table 3.10: Other Communication Services Providers' Subscriber Base as at December 2003							
	(GT One Touch)	Spacefon	Mobitel	Kasapa		Westel	Capital Telecom
Fixed					√		√
Mobile	√	√	√	√			
Year	Subscriber Base	Subscriber Base	Subscriber Base	Subscriber Base	Subscriber Base	Pay Telephone	Subscriber Base
1997	-	5,000	-	-	-	-	-
1998	-	15,000	-	-	-	-	-
1999	-	38,000	-	5,000	2,000	150	-
2000	-	85,000	-	2,400	2,288	166	-
2001	30,000	150,000	35,000	7,000	2,332	166	-
2002	75,000	245,000	55,000	8,000	2,054	166	-
2003	77,000	510,000	150,000	37,000	2,578	166	Less than 1,000

Source: National Communication Authority, 2003.

Millicom Ghana, a subsidiary of Millicom International UK/Luxemburg, started its operation in 1991. By 1999, Millicom Ghana had over 28,000 subscribers, with a market share of above 70 per cent of the mobile market in the country. It is currently embarking on an expansion programme to cover major commercial centres in Ghana with a planned capacity of 150,000 by 2003. Its services include voice, data and facsimile transmissions.

Celltel started its operations in 1995. Its current network covers only Accra-Tema metropolis with planned capacity of over 37,000 by end of 2003.

Scancom started operation in 1996 under the service name Spacefon. It is currently the only fully digital mobile telephone system in Ghana with subscribers close to 520,000. Its service coverage is concentrated in Accra-Tema, Kumasi, Obuasi, Tarkwa, Takoradi and Cape Coast as well as most urban centres. It provides short message services (SMS).

Ghana Telecom started its cellular phone service in 2000 and operates under the name, 'One Touch' and has a subscriber base close to 80,000.

Table 8.19 shows the population densities in relation to teledensity in each region. The teledensity is highest in Greater Accra which has the highest population density and where the demand for cellular phone service is highest. The cellular phone services are thinly distributed throughout the country except in Ashanti where the teledensity is 0.5. This distribution pattern suggests that a lot more effort is required to expand the cellular phone services throughout the country.

**Table 8.19: Teledensity and Population Density by Region, 2000**

Region	Population Density	Teledensity (Phones per 100 Pop.)
Western	81	0.3
Central	162	0.3
Greater Accra	896	3.2
Volta	80	0.1
Eastern	109	0.2
Ashanti	148	0.5
Brong Ahafo	46	0.1
Northern	26	0.1
Upper East	104	0.1
Upper West	31	0.2
All Regions	79	0.7

Source: National Communications Authority, 2003 and 2000 Population Census, Ghana Statistical Service.

According to NCA however the combined teledensity (fixed and mobile) now stands at approximately 5.5 per cent, that is 1.1 million lines for population of 20 million. The teledensity figure would have been impressive by now if Westel had deployed the 50,000 lines expected of them at the end of their first five years (end of 2001) instead of their current deployment of approximately 3,000 lines for which the NCA has imposed a penalty as stipulated in the license conditions. Contributing to the poor growth of teledensity in the country is the unimpressive performance of Capital Telecom (with less than 1000 lines) in the southern rural telecom sector (NCA, 2003).

### **Internet Services**

The internet service market in Ghana is very dynamic and competitive. Currently in operation are at least 8 companies licensed to provide commercial internet services. These include Network Computer Systems, Internet Ghana Ltd, Africa Online (Gh) Ltd., Africa Express (Christian Internet Service Providers), and Africanus.net. Each internet service provider connects to the international internet links independently as there is no local internet exchange or peering.

By the end of December 1999, the estimated number of internet subscribers in Ghana was about 10,000 (ISSER, 2000). This figure reflects the mushrooming of a number of cyber cafes in the country; there are currently over 165 cyber cafes in Ghana. About 90 per cent of these cafes are however found in the national capital, Accra. It is estimated that Accra alone has over 100 internet access centres with occupancy rates reaching over 90 per cent in most centres. By these developments, the traditional role of post offices will decline through time as many customers are likely to turn to the internet for the provision of faster and cheaper services. Post offices are however not likely to phase out completely because customers may still want to protect the confidentiality of their correspondence which is not provided by the internet services.

### **Internet Content**

The number of companies providing specialized website content development and hosting in response to the rising demand for such services is quite low in Ghana. There are three web-hosting institutions in Ghana namely, Business Ghana, Ghana Classifieds and Webstar. Business Ghana is an internet service provider located in Accra. Its main task is to categorize and define Ghanaian business sites on the internet. To date, these companies have created the biggest directory listing of Ghanaian business sites on the internet. These sites are categorized into groups to facilitate searching and comparing firms in the same type of businesses. Business Ghana is a subsidiary of Zipzig Ventures Information Technology Company in Ghana. Webstar provides useful and relevant online marketing services.

A number of data service companies were also granted licenses by the National Communication Authority (NCA) to operate in Ghana. These companies include, Afripa Ghana, Datatel Ltd, Milcom and Koompudata Services Ltd. All three currently provide data services.

### **Radio and Television Service Providers**

With the full liberalization of the airwaves of Ghana, over 100 radio stations are operating in Ghana. Each regional capital has at least one frequency modulation (FM) radio station. Table 8.20 shows the national spread of frequency modulation stations as at end of 2003.

**Table 8.20: Frequency Modulation Stations by Region (end of 2003)**

Region	Number of Station	Population Density
Western	16	81
Central	10	162
Greater Accra	22	896
Volta	7	80
Eastern	10	109
Ashanti	29	148
Brong Ahafo	17	46
Northern	9	26
Upper East	2	104
Upper West	4	31
All Region	126	79

Source: National Communication Authority, 2003

The largest number of frequency modulation stations is concentrated in Greater Accra and Ashanti where population densities are relatively high. There are important variations, especially in the case of Brong Ahafo and Western, which have relatively low population densities and yet have 17 and 16 frequency modulation stations, while Upper East has only 2 stations in spite of its high population density. This indicates that provision of infrastructural facilities is dictated more by the level of development and population size than population density that includes an element of area.

In addition, there are three micro-wave based television stations which are concentrated mainly in Greater Accra and Ashanti. Greater Accra and Ashanti, which are the most populous and most developed regions, have between them 14 of the 23 television stations in the country. The multi media capability of the internet offers the opportunity for frequency modulation and television stations to broadcast their programmes live on the internet.

Radio and television sets have increased. The number of radios per 100 inhabitants, for instance, increased from 23.1 in 1995 to 68.2 in 1998. Unlike the situation with radios, television viewing tends to be more communal. The coverage of Ghana Television (GTV), for example, spreads right across the country; this way, everyone virtually becomes a viewer.

### **Information and Communication Technology Services (ICT)**

Information and communication technology coverage in Ghana may be expressed in terms of the type of services provided, the type of users and the nature of demand. With regard to the provision of telephone, Ghana Telecom accounts for over 73 per cent of the total in the country in 1999 (ISSER, 2000). To meet the demand for line telephones about 5,000 payphones have been installed throughout the country. The subscription to cellular phones has also increased to about 774,000 in 2003. The coverage is gradually spreading to the northern parts of Ghana.

The number of computers available in the country has also risen sharply from an initial 1.2 per 1000 inhabitants in 1995 to 3.0 per 1000 in 1998. Internet connectivity is mushrooming in the country as a result of the increased access to telephone facilities and computers.

## **8.5. Policy Implications of Population Trends**

The patterns imposed by population on the provision of infrastructure and utilities have important implications for the socio-economic development of Ghana. It is evident from the analysis that population movements closely follow socio-economic development in general and infrastructure and utilities development in particular in Ghana. Infrastructure and utilities development generally gravitates towards areas with relatively better economic promise and potential as well as areas of relatively high population densities. This has been the case, especially with the development of the road and railway networks, electricity, water and post and telecommunication in the country.

### **Population and Road Transport Network**

The population trends and development of the road transport network have important development policy implications. For instance, areas with initial advantages in the provision and development of road transport networks continue to demand improvements in road transport networks in proportion to improvements in the economic development and potential in these areas and in response to increasing population concentrations in these areas. This suggests that improvements in road construction and maintenance costs will continue to increase in these areas at the expense of other less economically endowed areas. There are important deviations from this thesis, but the skewed pattern still persists. The challenge therefore is to ensure that transport and utilities infrastructural facilities are not concentrated at heavily populated areas at the expense of the many settlements with small population sizes scattered over large areas in the country.

Scarce resource constraints however may not sustain this development pattern. Not surprisingly, trunk roads are only 13,700 kilometres or 27 per cent of the country's total road network and only, 5000 kilometres or 10 per cent of the country's road networks are urban roads. Consequently, 63 per cent of Ghana's total road network or 32,800 kilometres are feeder roads. This is where the challenge exists for a holistic development of the country. Many potentially resource rich areas cannot be fully absorbed by the country's space economy because of the poor and often inaccessible feeder road networks. As a policy measure, deliberate attempts should be made to improve areas with poor road networks in order to be able to tap potentially rich resources to satisfy the needs of the increasing population and for the socio-economic development in Ghana. This measure could be one way of leading Ghana on to middle income country status.

### **Population and Rail Transport Network**

Beside the limited coverage, Ghana's rail transport network is quite old. Several attempts have been made to rehabilitate the network, but it is yet to reach modern standards. The rail network between Accra and Tema, for example, has been lying idle for years; yet there is an increasing cargo and passenger traffic between the two settlements owing to the high population concentration in the two areas. There is an urgent need to rehabilitate this network to facilitate freight and passenger traffic in this part of Ghana. Similar attention is required for the entire national network to enhance rapid transit of people, goods especially of bulk materials, and services throughout the country.

There are however important constraints that currently threaten the flow of goods and passengers on the rail network. Since 1992 when the Minerals Commission granted licenses to small scale

mining companies, there has been an upsurge of small scale illegal mining operators popularly known as “galamsey” along the rail networks. Their indiscriminate and unregulated methods of mineral exploitation leave pits and trenches under the railway lines. This situation constitutes potential danger to passenger and cargo transport on the rail network. The challenges involve implementing measures to repair the damages as well as prevent further destruction of the rail network by these galamsey operators to ensure smooth flow of cargo and passengers on the networks.

The rail network is old and therefore needs substantial rehabilitation involving considerable financial resources which may involve foreign assistance. In addition, maintenance of the trains and the rehabilitation of dilapidated coaches are major problems for the railway administration. Attempts are already being made to rehabilitate some of the coaches, especially at Sekondi/Takoradi, with external financial resources. Since the rehabilitation of the railway network and maintenance of the trains and coaches have to be continued to ensure efficient flow of cargo and passengers on the rail networks, the challenge is to have the railway network generate enough internal resources to minimize dependence on external inflows of financial resources. A policy that can ensure the generation of enough internal financial resources to ensure sustainability of the operation of the rail network should be instituted.

The coverage of the rail networks is limited, but given the discovery and exploitation of new resources and population movements towards new frontiers in Western, Brong Ahafo and the Northern, there is the need to expand the rail network to such areas. This expansion may involve large capital outlays but it could prove to be worthwhile investment in the long run for the efficient integration of the space economy. These developments have important implication for population movements especially at the nodal points that may be established. As already noted, a number of nodal points along the railway network have experienced substantial population increases between 1984 and 2000. The population of Obuasi for example, increased by 90.6 per cent during the period. Such population increases are anticipated, especially for the nodal points that may be established, because of the steady movements of migrants to these areas to benefit from the agglomeration of economies that are likely to be created at the nodal points. As a policy measure, it is important to factor these population increases into development plans for the expansion of these railway networks.

### **Population and Seaports**

Ghana's seaports at Takoradi and Tema have seen major rehabilitation works to facilitate exports and imports of goods. There are new developments that tend to exert some pressure on these ports and the road transport network in Ghana. Land locked countries, such as Burkina Faso, channel their imports through the port of Tema. These imports are transported over land routes to Burkina Faso. The increased pressure on the port of Tema and road transport network suggests that these developments should be factored into future developments of the port and over land transport routes. Meanwhile, the improvement of port facilities at Tema and Takoradi is expected to attract population concentrations owing to their relative attractiveness. The challenge is how to create employment opportunities in these areas to absorb a large number of people seeking to enter the labour force in these areas.

### **Population and Inland Water Transport System**

The inland transport system on the Volta Lake has many advantages to commend it. Compared with alternative means of transporting goods and services to and from northern Ghana, the inland transport may be cheaper. For instance, it is shorter and safer to transport dry and liquid cargo as well as passengers utilizing the services of the Volta Lake Company from Akosombo to the north than the land transport routes from Tema. Not surprisingly, transport of petroleum products, for example, increased from 6,458 tons in 1998 to 23,241 tons in 1999 and to 53,827 tons in 2000. The passenger traffic on the Volta Lake also achieved 93 per cent of its target.

The scenic beauty of the Volta Lake together with a number of islands such as Dodi Island constitutes attractions for tourists. The Volta Lake Transport Company is developing many tourist attractions on the lake to attract tourists. These steady developments together with the developments of other lake activities are attracting influx of population especially to the lake port settlements. As indicated, the population of Buiepe for example increased by 468.1 per cent between 1984 and 2000. As a result, many facilities including schools, electricity and water have been provided to the township. Similar increases are expected as the lake transport activities increase with time. It is therefore important for the Volta Lake Transport Company to factor these steady population increases, especially at its port settlements, into its strategic plans to ensure orderly and sustainable development of the lake transport system.

At the moment, however, there is limited publicity on the potential advantages of utilizing the services of the Volta Lake Company to transport passengers, goods and services, and this needs to be addressed. The challenge is how to attract domestic and international tourists to this potential to create additional employment opportunities and incomes. This development would also entail population increases especially of the port settlements for which adequate measures must be instituted to cater for such challenges.

The potentials of the water transportation network on the lower Volta from Akuse to Ada are promising. Efforts should therefore be made to cut down the travel time to make the water transportation network attractive to tourist, traders and local communities.

### **Population and Air Transport**

Currently, Ghana's local air transport links are limited to areas with high population densities especially Accra, Kumasi, Sekondi/Takoradi and Tamale. The Accra International Airport is currently undergoing a major rehabilitation to improve the runway, the freight terminal, departure and arrival lounges and the lighting system. Similarly the Kumasi Airport is expected to have a new passenger terminal and extension of length and width of its runway. The terminal building and runway at the Tamale Airport are also to be improved.

These developments suggest that new job opportunities are expected to be created at these high population density areas which will attract more migrants to these centres to swell up the number of existing job seekers. More importantly, these developments are focused on international air transport links at the expense of establishing effective civil air transport links that can provide important feeders to the local and international transport system. The implication is that the

employment opportunities that may be generated in response to the establishment of domestic civil air transport may not be realized at the moment.

Fortunately, the Ghana Civil Aviation Authority plans to develop other airports to lay the foundation for a viable and vibrant domestic air transport system. If this plan succeeds, the new airports would provide new employment opportunities that could attract migrants away from the existing high population density areas as well as provide improved feeder to the domestic and international air links that could effectively integrate the space economy of the country. What is needed is the provision of policy direction that could translate these proposals into reality.

### **Population and Electricity**

Generally, there has been tremendous improvement in the provision and distribution of electricity in Ghana. With regard to electricity, solar energy as a viable source of electrical energy is abundant in Ghana but largely unexplored. The initial capital cost may be high but compared to other alternative sources, it may be cheaper in the long-run. It can be deliberately popularized in Ghana, especially for domestic and rural consumption. Solar energy can provide additional energy resources to supplement hydro electric and thermal electric resources to relieve consumers of high tariffs on hydro and thermal electric sources. The potential of solar energy should therefore be explored for relatively cheaper energy sources in Ghana.

This proposal has important ramifications for households with access to electricity, especially in rural areas which have a greater share of Ghana's total population. Rural households compared to the urban households have less access to electricity in Ghana. The implication of this distributional pattern is that households need a more focused rural electrification programme to satisfy the needs of the rural population. This is where a rural electrification programme focused on solar energy has a great potential. A deliberate policy focus on solar energy as a source of electricity supply, especially for rural areas, is needed to enhance socio-economic development in many areas.

### **Population and Water**

The provision and distribution of potable water supply in Ghana is steadily improving throughout the country, especially in the urban areas where population densities are high. Urban areas in high population density regions such as Greater Accra and Ashanti, for example, have households with piped borne water inside and outside their homes. In view of the rapid population growth in these urban areas, the demand for water is likely to increase. These increases have serious cost implications. In Accra, for example, the Ghana Water Company is experiencing difficulties in meeting demand for water supply because of the increasing population cost. Proposals for privatization of water supply as a way of solving the problem are under discussion with no firm decision yet.

Despite this problem, there are a lot of leakages and wastage along water transmission lines because of illegal connections for various purposes, including agricultural and commercial use. The Ghana Water Company estimates that 50 per cent of water supply sources at Kpong and Weija cannot be account for. This is considered a serious problem for urban water supply especially in Accra. The Ghana Water Company may therefore be encouraged and equipped to closely monitor its water transmission lines to solve this problem.

Closely associated with this problem is the problem of the household sewerage system, which is woefully inadequate throughout the country. The only exception is Greater Accra which has the highest proportion of the sewerage system in the country. Even here, the sewerage system is considered inadequate given the high population density in Accra. The situation poses serious health and sanitation problems, especially in areas with high population densities. Serious policy measures are therefore needed to address the sewerage problems in the country.

Unlike urban areas, the major source of rural water is mainly from boreholes. Rural households, especially in Volta, Greater Accra and Northern however, experience relatively poor water supply systems. As a result, the rural areas in these regions experience water borne diseases such as guinea worm and bilharzia. The impact of these water borne diseases especially on the economically active rural population is quite serious. Guinea worm disease for example can deform and even debilitate its victims for several days preventing them from attending to their economic activities. As a policy measure, it is important to initiate viable and adequate actions to solve these rural water supply problems.

### **Population and Post, Telecommunication and ICT**

Ghana's post and telecommunication service has undergone a remarkable change during the past seven years. Telecommunication services, internet services, radio and television services and information and communication technology services are mushrooming in the country. These are laudable developments in the right direction. Nevertheless, there is a need to deliberately extend these services to rural Ghana to enhance rural development. In this context, the development of telecentres in the rural areas is crucial. With deliberate efforts, farmers could be educated, trained and guided to utilize these telecentres to market their produce as well as access valuable information to improve their farming practices. This proposition requires careful design, planning and implementation to enhance rural productivity. A plausible approach is to channel this development through the District Assemblies. Identifiable farming communities or groups in each district may be identified for training involving the concept and utilization of telecentres. These farming groups could also be encouraged to manage and own the telecentres as sources of revenue and telecommunication services. It is worth noting that the International Development and Research Centre (IDRC) is currently promoting the establishment of these telecentres in Sub-Saharan Africa and other developing countries.

### **Conclusion**

The chapter has tried to show that population trends and infrastructure and utilities development in Ghana have imposed a distinctive pattern of development on the country. Cumulatively, population concentrations have developed in close association with infrastructure and utilities development in the country to create glaring disparities in the development of the country as a whole. Inherent in this pattern of development is the generation of an agglomeration of economies and market forces which have cumulatively perpetuated the disparities in the development of the country as a whole. This pattern of development is expected to continue as the market forces continue to perpetuate the development of the centres of population concentration and infrastructure and utilities facilities.

To bring the rest of the country into the mainstream of holistic and sustainable development, deliberate efforts should be made to redistribute the population through the extension of infrastructure and utilities development to potentially rich resources frontiers and other rural areas to tap resources that can provide viable employment opportunities for the increasing population. This proposal entails considerable costs in the short term but in the long term the benefits are likely to outweigh the costs when the rich resources in these areas are effectively integrated in the overall space economy of the country.

Deliberate attempts should be made to penetrate and upgrade areas with poor road transport networks in order to tap the potentially rich resources in these areas. Rail transport networks should also be extended to the new resources rich frontiers of Western, Brong Ahafo and Northern to integrate them fully into the space economy to effectively serve the increasing populations through employment generation and improvement in passenger and cargo services. Considerable attention should be devoted to inland transport network through publicity and marketing of its potentials to generate substantial employment opportunities through its services. For effective integration of the space economy, domestic aerodromes should be built to provide feeders to the existing air transport lines in the country.

Rural areas where the bulk of Ghana's population live is relatively poorly served with hydro and thermal electricity; fortunately, a potential source of rural electrification can be found in solar energy. Deliberate attempts should therefore be promoted to tap this potential source of electricity to improve rural electrification in Ghana. A national commitment should be made to improve water supply with boreholes in rural areas, especially in areas with water borne diseases such as guinea worm and bilharzia. With regard to post and telecommunications, the teledensity in the country as a whole is quite low. Strenuous efforts should be made to extend the telecommunication services to rural settlements, especially through the establishment of telecentres in rural communities. Telecentres hold tremendous promise for effective integration of the rural space economy and improvement of the livelihood of the rural population in Ghana.

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