2010

POPULATION & HOUSING CENSUS

REGIONAL ANALYTICAL REPORT

UPPER EAST REGION

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PREFACE AND ACKNOWLEDGEMENT

There cannot be any meaningful developmental activity without taking into account the characteristics of the population for whom the activity is targeted. The size of the population and its spatial distribution, growth and change over time, and socio-economic characteristics are all important in development planning. The Kilimanjaro Programme of Action on Population adopted by African countries in 1984 stressed the need for population to be considered as a key factor in the formulation of development strategies and plans.

A population census is the most important source of data on the population in a country. It provides information on the size, composition, growth and distribution of the population at the national and sub-national levels. Data from the 2010 Population and Housing Census (PHC) will serve as reference for equitable distribution of resources, government services and the allocation of government funds among various regions and districts for education, health and other social services.

The Ghana Statistical Service (GSS) is delighted to provide data users with an analytical report on the 2010 PHC at the regional level to facilitate planning and decision-making. This follows the publication of the National Analytical Report in May, 2013 which contained information on the 2010 PHC at the national level with regional comparisons. Conclusions and recommendations from these reports are expected to serve as a basis for improving the quality of life of Ghanaians through evidence-based policy formulation, planning, monitoring and evaluation of developmental goals and intervention programs.

The Regional Analytical Report for the Upper East Region is one of ten regional reports aimed at making data available to planners and decision makers at the regional and district levels. In addition to presenting district profiles, the report also discusses the social and economic dimensions of demographic variables.

For ease of accessibility of the census data, the regional reports and other census reports produced by the GSS will be disseminated widely in both print and electronic formats, including posting on the GSS website: www.statsghana.gov.gh.

The GSS wishes to express its profound gratitude to the Government of Ghana for providing the required resources for the conduct of the 2010 PHC. We also appreciate the contribution of our Development Partners (DPs) towards the successful implementation of the Census. Special mention must be made of the European Union (EU) and the Department for International Development (DFID) for providing resources for the preparation of the report, the World Bank for managing the resources and the United Nations Population Fund (UNFPA) for the lead role it played in mobilizing resources from the UN System and from other DPs for the 2010 PHC.

Finally, we wish to thank all households and individuals in Ghana who contributed to the success of the 2010 Population and Housing Census.

Dr. Philomena Nyarko
Government Statistician

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ACRONYMS

AGI: Association of Ghanaian Industries
AIDS: Acquired Immune Deficiency Syndrome
ASCII: American Standard Code for Information Interchange
CEB: Children Ever Born
CIDA: Canadian International Development Agency
CS: Children Surviving
CEDAW: Convention on Elimination of All forms of Discrimination
CERSGIS: Centre for Remote Sensing and Geographic Information Services
CHPS: Community Health Planning Services
CWIQ: Core Welfare Indicator Questionnaire
DANIDA: Danish International Development Agency
DFID: Department for International Development
ECOWAS: Economic Community of West African States
EMIS: Education Management Information System
EA: Enumeration Area
EU: European Union
fCUBE: Free Compulsory Universal Basic Education
GETFund: Ghana Education Trust Fund
GREDA: Ghana Real Estate Developers Association
GDP: Gross Domestic product
GSS: Ghana Statistical Service
GSDP: Ghana Statistics Development Plan
GPS: Global Positioning System
GPRTU: Ghana Private Road Transport Union
GES: Ghana Education Service
GDHS: Ghana Demography Health Survey
HIV: Human Immune Virus
ISCO: International Standard Classification of Occupation
ISIC: International Standard Classification of Industry
ICU: International Communication Union
ICT: Information Communication Technology
ISSER: Institute of Statistical Social and Economic Research
JSS: Junior Secondary School
JHS: Junior High School
SSS: Senior Secondary School
SHS: Senior High School
LEAP: Livelihood Empowerment Against Poverty Programme
LESDEP: Local Enterprise and Skills Development
LISGIS: Liberia Institute of Statistics and Geo-Information Services

MMDAs:	Metropolitan, Municipal and District Assemblies
MDGs:	Millennium Development Goals
MER:	Migration Effectiveness Ratio
MOE:	Ministry of Education
MICS:	Multiple Indicator Cluster Survey
MOFA:	Ministry of Food and Agriculture
MOTI:	Ministry of Trade and Industry
NCA:	National Communication Authority
NCPEC:	The National Census Publicity and Evaluation Committee
NCTAC:	National Census Technical Advisory Committee
NIPORT:	National Institute of Population Research and Training
NHIS:	National Health Insurance Scheme
ICTAD:	National ICT for Accelerated Development Policy
NDPC:	National Development Planning Commission
NGOs:	Non-governmental Organisations
OIC:	Opportunities Industrialisation Centre
PHC:	Population and Housing Census
PPP:	Public-Private Partnerships
PNDC:	Provisional National Defence Council
PAS:	Population Analysis Spreadsheet
PES:	Post Enumeration Survey
PWDs:	Persons with disabilities
PASEX:	Population Analysis System
PES:	Post Enumeration Survey
SADA:	Savanna Accelerated Development Authority
SAP:	Structural Adjustment Programme
SMAM:	Singulate Mean Age at Marriage
UNICEF:	United Nations International Children's Education Fund
UN:	United Nations
UNDP:	United Nations Development Programme
UNFPA:	United Nations Population Fund
WHO:	World Health Organization
WC:	Water Closet
ZIMSTAT:	Zimbabwe National Statistics Agency

CHAPTER ONE
INTRODUCTION

1.0   Introduction

As far back as 1969, the Government of Ghana recognized that the "Population of Ghana is the nation's greatest resource. It is both the instrument and objective of national development. The protection and enhancement of its welfare is the Government's first responsibility" (Government of Ghana, 1969. Government also explicitly recognized the reciprocal relationship between population and development (i.e., population affects development even as development affects population. An understanding of the population, is characteristics and dynamics, is therefore crucial for realistic development planning.

The Government of Ghana has operated the decentralized system of development since 1988 with the District Assembly, as the planning authority. The District Assembly is expected to initiate and coordinate the processes of planning, programming, budgeting and implementation of District plans, programmes and projects. The District Assemblies and the various organs are expected to carry out medium and long term planning including integration of population policies and issues, as they pertain to the needs of particular Districts and communities.

The overall level of development and demographic structure of the country conceals differences between and within Regions, Districts, Urban and Rural localities. As such, there are bound to be differences in the population and development needs and priorities between and within Regions, Districts, Urban and Rural localities.

The report deals with the Upper East Region and its Districts. Its objective is to make available to the general public, analysis of data, the results of the 2010 Population and Housing Census and their full implementation for policy and planning in the component Districts.

As far as feasible, comparisons between the 2000 PHC and 2010 PHC results are presented.

1.1   Background of the Region

The Upper East Region, historically is part of what used to be the upper Region (Upper East and Upper West), which was itself carved out of what used to be the Northern Region, on 1st July 1960. The Upper Region was later divided into Upper East and Upper West in 1983 during the regime of the Provisional National Defence Council (PNDC).   The process actually started in 1980 when the current Upper East was administered on an experimental basis, as an autonomous Region, with Wa as the East Regional Municipal.

1.2   Physical Features

The Upper East Region is located in the north-eastern corner of the country, between longitude 00 and 10 West and latitudes 100 30"N and 110N. It is bordered to the north by Burkina Faso, the east by the Republic of Togo, the west by Sissala District in Upper West and the south by West Mamprusi District in Northern Region (Figure 1).   The land is relatively flat with a few hills to the East and southeast. The total land area is about 8,842 sq km, which translates into 2.7 percent of the total land area of the country.

Soil and Drainage

The Region's soil is "upland soil" mainly developed from granite rocks. It is shallow and low in soil fertility, weak with low organic matter content, and predominantly coarse textured. Erosion is a problem. Valley areas have soils ranging from sandy loams to salty clays. They have higher natural fertility but are more difficult to till and are prone to seasonal water logging and floods. Drainage is mainly by the White and Red Volta and Sissili Rivers (Regional Coordinating Unit, 2003).

Vegetation

The natural vegetation is that of the savannah woodland, characterized by short scattered drought-resistant trees and grass that gets burnt by bushfire or scorched by the sun during the long dry season. Human interference with ecology is significant, resulting in near semi-arid conditions. The most common economic fruit trees are the sheanut, dawadawa, boabab and acacia.

Climate

The climate is characterized by one rainy season from May/June to September/October. The mean annual rainfall during this period is between 800 mm and 1.100 mm. The rainfall is erratic spatially and in duration. There is a long spell of dry season from November to mid-February, characterized by cold, dry and dusty harmattan winds. Temperatures during this period can be as low as 14 degrees centigrade at night, but can go to more than 35 degrees centigrade during the daytime.

Humidity is, however, very low making the daytime high temperature less uncomfortable. The Region is entirely within the "Meningitis Belt" of Africa. It is also within the onchocerciasis zone, but with the control of the disease, large areas of previously abandoned farmlands have been declared suitable for settlement and farming.

1.3 Political and Administrative Structure

Political structure

At the time of the 2010 Census, the Region had the following administrative Districts and their capitals: Builsa (Sandema), Kassena-Nankana West (Paga), Kasena Nankana Eest (Navrongo), Bolgatanga Municipal (Bolgatanga), Talensi Nabdam (Tongo), Bongo (Bongo), Bawku West (Zebila), Garu Tempane (Garu) and Bawku Municipal (Bawku).

Since, and as a result of the 2010 Census, the following four new Districts have been created: Nabdam (carved out of Talensi-Nabdam) with its capital at Nangodi, Builsa South (carved out of Builsa) with its capital at Fumbisi, Binduri (carved out of Bawku East) with its capital at Binduri and Pusiga (carved out of Bawku East) with its capital at Pusiga.

Figure 1.1: Administrative map of Upper East Region
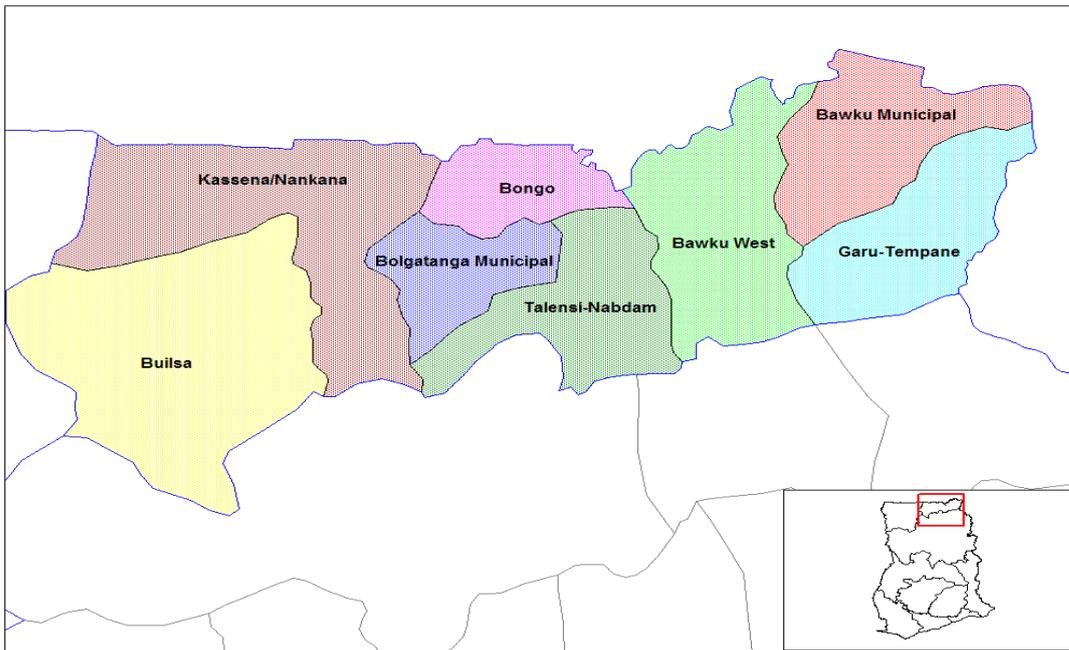
Administrative Structure

The Region is administered politically from Bolgatanga. The main administrative structure at the Regional level is the Regional Co-ordinating Council (RCC), headed by the Regional Minister. Other members of the RCC include representatives from each District Assembly, Regional Heads of Decentralized Ministries, and representatives of the Regional House of Chiefs.

Each District is administered by a Municipal/District Assembly headed by a Chief Executive nominated by the President and approved by a two-thirds majority of the Assembly Members present and voting. Two-thirds of the members of the Assembly are directly elected. The other one-third is appointed by the Central Government. Members of Parliament are ex-officio members of the Assemblies of the Districts in which their constituencies are located.

The Districts are autonomous with regard to the planning, budgeting and implementation of projects. The Districts are further subdivided into Area/Town Councils/Unit Committees. With their own designated roles, there is also effective traditional leadership and vibrant Youth Development Associations to facilitate efficient and effective mobilization of local resources. Within the Region, there are fifteen (15) political parliamentary constituencies including two new constituencies (Bolgatanga East and Tempane); the rest are Builsa South, Navrongo Central, Chiana-Paga, Bongo, Bolgatanga, Builsa North, Talensi, Nabdan, Zebilla, Binduri, Bawku Central, Pusiga and Garu-Tempane.

1.4   Social Structure

Social structure is the organized pattern of social relationships and social institutions that together compose society. It includes the chieftaincy, institutions, lineage and systems of interitance, ethnicity, festivals, language, religion, customs and others, the complex of which constitutes the society.

Chieftaincy

There are seventeen Paramount Chiefs representing the various traditional councils in the Upper East Region. These traditional Councils are: Paga (Paga Pio), Nabdam (Sekoti-Naba), Bawku (Bawku Naba), Talensi (Tongo-Rana), Bolgatanga (Bolga-Naba), West Nankana (Kayoro-Pio),West Nankana (Nakong-Pio), Navrongo (Navro Pio), West Nankana (Katio-Pio), Bongo(Bon-naba), West Nankana (China Regent), Mirigu (Mirigu Regent), Sirigu (Sirigu Regent), Nabdam (Nangodi-Naba), Builsa (Sandema Regent) and South Nankana (Kologo-Regent) Councils.

Festivals

Festivals such as the Feok, Samapiid, Azambene, Gologo, and Fowl are celebrated by the people of Builsa, Bawku East, Bongo, Bolgatanga-Tongo and Kassena-Nankana. These attract tourists to the Region. Sandema township in the Builsa District, is famous as the site where Builsa warriors captured and killed the slave mauranders, Samori and Babatu, to mark the end of the slave trade in Northern Ghana

Lineage System and Ethnic Groups

The Region is noted for the partrilineal system of customary inheritance. The main ethnic groups in the Region are the Mole-Dagbon, Grusi, Mande-Busanga and Gurma. Among the Mole-Dagbon, the Nabdam, Kusasi, Nankani/Gurense and Builsa are significant. The other significant subgroups are the Kassena among the Grusi, the Busanga among the Mande-Busanga and the Bimoba among the Gurma.

Religion

Three main religious groupings are found in the Region, namely the Traditional, Christianity and Islam.

1.5   Economic and Living Conditions

Agriculture

Agriculture, hunting and forestry are the main economic activities in the Region. About eighty percent of the economically active population engages in agriculture. The main produce are millet, guinea-corn, maize, groundnut, beans, sorghum and dry season tomatoes and onions.

Livestock and poultry production are also important. There are two main irrigation projects, the Vea Project in Bolgatanga covering 850 hectares and the Tono Project in Navrongo covering 2,490 hectares. Altogether they provide employment to about 6,000 small-scale farmers. Other water-retaining structures (dams and dugouts) provide water for both domestic and agricultural purposes.

Industry

Industrial activity in the Region is generally low, with only one industry in operation at the moment. This is the newly built cotton ginnery at Pusu-Namongo (near Bolgatanga). Other industrial establishement are the Tomato Canning Factory (GIHOC) at Pwalugu, the Meat Processing Factory (GIHOC) at Zuarungu and the Rice Mills at Bolgatanga, which are not operational and have been earmarked for divestiture.

The two forms of extractive activities in the Region are mining and quarrying. While the quarrying industry is being actively exploited the same cannot be said about the mining industry. There are two commercial quarries in the Region namely, the Upper Quarry Limited located at Pwalugu on the Bolgatanga-Tamale road and the Granites and Marbles Company Limited located in Tongo. The former produces granite chippings for the construction industry while the latter cuts rocks in the form of bricks for export. These are polished and used in the cladding of commercial buildings and monuments.

The gold mining industry is not very developed in the Region. Gold was mined during the colonial era around Nangodi, about 24 kms from Bolgatanga on the Bolgatanga- Bawku road. Mining activities, however, stopped in 1930. Lately, small-scale gold mining, popularly known as "galamsey" (gather and sell) or "alakpiri" has become rampant in the area of Tongo, Sheaga, Duusi, Pelengu and other small villages. This gives an indication of the existence of mineral deposits in viable quantities. It is also known that deposits of manganese exist in the areas between Nangodi and Duusi and to the North West of Pwalugu.

Small-scale industries constitute the most important industries in the Region. This is due to the simple technology involved, the availability of local inputs and linkages between them and other economic activities. These crafts, varied as they are, include, pottery, basketry and smock weaving at Namoo, Zokko, Navrongo and Paga. Leather works are carried out in areas around Bolgatanga and the surrounding villages. Straw works are also concentrated around Bolgatanga. One distinct feature of these cottage industries is that they are basically labour intensive and rely mostly on traditional talent and skill.

Tourism

The Region is not left out when it comes to sites and scenes of tourist interest. There are numerous tourist attractions in the Region, notable among which are the Paga Crocodile Pond, the Bolgatanga Museum which houses objects of historical importance of the Region and the Kulungugu Bomb site, where an attempt was made on the life of Ghana's first President.

Others are the three point elevation at Pusiga, where the tip of the boundary demarcation between the three sister countries of Ghana, Burkina Faso and Togo converge. The Tongo hills and Tengzug Shrine are located at Tengzug, 17 kms southeast of Bolgatanga, the Regional Capital of the Upper East Region. The Tengzug area has a unique landscape of outstanding natural beauty and cultural tradition which is dominated by dramatic granite land formations. The rocky terrain consists of wondrous formation of caves and rocks. These natural formations have over the centuries, evolved as the scared epic centre of the Talensis, an ethnic group in Northern Ghana. Over many generations, the community has preserved their unique cultural environment. The Tengzug Shrine is rested in the beautiful hills and it is believed that the shrine has the power to grant luck and prosperity. Many Ghanaians and even foreigners make the journey to Tongo to make requests at the shrine. Visitors also have the opportunity to explore the local architecture and other aspects of the Talensi culture.

Sirigu is the place to visit for anyone interested in pottery and local art. Sirigu is famous for its local wall decorations. Wall decorations are common in Northern Ghana, but have been perfected in Sirigu. The Sirigu Women's Association for Pottery and Art (SWOPA) was started in 1997 to help preserve this art. Visitors to Sirigu can browse the wide selection of pottery, crafts and artwork in SWOPA Hall. Sirigu offers tours to surrounding homes to see the decorations at first hand, and tours of the village are also possible. The best way to experience Sirigu is through one of the "Be Part of the Art" workshops. Visitors can choose to learn how to make pottery, basketry, or wall design; house and village tours are part of the workshop package and guests can stay in the recently completed SWOPA Guest House.

The archaeological treasures of the River Sissili Basin, the Whistling and Drumming rocks at Pwalugu and Chiana, the Awologo-Tango at Bongo, wall decoration at Tilli, Kandiga, famous shrines and caves also constitute places of culture and tourist attractions. Despite these potentials, the Region lacks the necessary infrastructure and other services to support and market this industry. The Region will require substantial investment to exploit and develop this potential and to create employment.

Post and Telecommunications

Postal services are available in large settlements (Bolgatanga, Bongo, Zebilla, Navrongo, Sandema and Bawku). Telecommunication linkages are also available at Bolgatanga, Navrongo, Sandema, Bongo and Bawku. Linkages of District Capitals are poor, and in some cases not operational e.g., Bongo and Sandema. Private telecommunication centres have sprung up, especially in Bolgatanga, Navrongo and Bawku. However, the tele-density measures very low in the Region.

Electricity and Energy

The towns on the national grid in the Region include Bolgatanga, Navrongo, Sandema, Bawku, Zebilla Chuchuliga, Chiana, Pwalugu, Tongo, Kongo, Garu, Bongo, Nangodi and many others. The use of liquefied petroleum gas is being encouraged. There is a fuel depot at Bolgatanga for the storage of petroleum products.

Energy

Fuel wood for cooking is scare and dry stem of sorghum and millet are mostly used for cooking. The use of liquefied petroleum gas is being encouraged, but constant shortages of liquefied gas remains a major obstacle to a significant shift from the stem of sorghum and millet to liquefied gas.

Water Supply

About 51 percent of the Region's population has access to improved drinking water sources. Ghana Water Company Limited (GWCL) supplies pipe-born water to Bolgatanga, Chuchuliga, Zebilla, Bawku, Sandema, Navrongo, Bongo and Paga.

Almost two thousand (1,627) hand pumps (boreholes) and a number of hand-dug wells serve a majority of the rural populations. While water treated for consumption in Bolgatanga is from the Vea Dam, the pipe-borne water systems in the other townships make use of mechanised boreholes. The dam is also used for irrigation and fish farming.

Health Facilities

The orthodox health service in the Region is organised in a four-tier system: Regional, District, Sub-District and Community levels. The Regional Health Directorate is responsible

for the overall health service planning, organisation, monitoring, supervision, evaluation and provision of technical support to Districts. The Regional Hospital located at Bolgatanga, is the second level referral centre in the Region.

There are four District hospitals which provide first level referral services. These are Sandema, the War Memorial Hospital (Navrongo), Zebilla and Bawku Presbyterian Hospital. The Bongo Health Centre is in the process of being upgraded into a District hospital. There are 26 health centres and 36 clinics. There are also maternity homes and nine dressing centres. The Region has three Midwifery Schools and one State Registered Nursing Training School. Navrongo also has a Health Research Centre.

Education Facilities

Basic education facilities are available in almost all communities. There are 632 Primary Schools, 330 JHS and 37 SHS. Private educational institutions are found mainly in Bolgatanga, Navrongo and Bawku.

Housing

The majority of the people live in huts built of mud and roofed with straw or zinc. The main features of the predominantly traditional architecture are round huts with flat roofs and small windows with poor ventilation.

Development Potentials

There is a great potential in the Region for the large-scale production of rice, especially in the now onchocerciasis (river blindness) free zone. In fact, this zone, which is around Fumbisi-Gbedembillisi area, is normally termed the "rice-bowl" of the Region. This area has vast lands and suitable soil, which if properly exploited, would give high yield of rice.

The Region also has a great potential in the area of cash crop production and fish farming. This is due to the existence of many irrigation sites in the Region. In addition to the Vea and Tono irrigation dams, there are more than 220 dams and dugouts in the Region, which have lands suitable for crops such as onion, tomatoes and pepper.

In spite of the relatively developed nature of the mining and quarrying industry, the industry has potential for further development. Potential investors therefore stand to gain from the sector, considering the 'ready-market' available and the existence of large tracks of granite rock outcrops especially in Chiana and its environs.

This, however, requires a feasibility study of the lifespan of the deposits and a comprehensive environmental impact assessment. It is also known that large deposits of manganese exist in areas between Nangodi and Duusi and to the north west of Pwalugu.

No exploitation of this mineral has been carried out yet. Investors could therefore take advantage of this. There is a large prospect in the Region for investors wishing to go into brick and tile production because of the availability of large deposits of clay of various types. Areas with clay deposits include Gambibgo, Zanlerigu, Yikini and Kalbeo.

Burnt bricks produced from clay deposits can be used in the development of cheaper housing, which is in line with the government's policy of developing rural dwellings using more local resources. Thus, this should be an incentive to potential investors.

As already indicated, small-scale industries constitute the most important industries in the Region. An investment in this sector (especially in basketry, leather works and smock

weaving) in the form of the injection of capital would help expand production to meet the growing demand for these crafts outside the country. Markets abound for these crafts in countries such as Britain, Germany and the USA. Already, these constitute a large proportion of non-traditional exports.

1.6   Demographics

The population of the Region is 1,046,545, which is less than one twentieth (4.2%) of the national population. This however is an increase of 13.7 percent over the 2000 figure of 920,089, which is the lowest rate of increase among all the Regions in the country.

The inter censual growth rate of 1.2 percent per annum is slightly below one-half of the national growth rate of 2.5 percent and is the lowest Regional growth rate recorded. The Region's population density of 118.4 persons per square kilometre is higher than the national density of 103.4 persons per square kilometre and ranks fifth in the country. The Region is one of the least urbanized in the country with only 21.0 percent of the population living in urban communities.

1.7   Organization of the Report

The report consists of twelve chapters. Chapter one provides basic information about the Region. It gives a brief historical background of the Region, describing its physical features, political and administrative structure, cultural and social structure, demographic and economic characteristics and also highlights its economic development potentials.

Chapter Two describes the methodology used during the 2010 Population and Housing Census in the country as a whole, highlighting specific Upper East Regional challenges. It also includes concepts and definitions used in the Census data collection processes.

In chapter Three, the population size, composition and age-sex structure are analyzed.

Chapter Four focuses on household size, structure and composition while chapter Five describes the marital characteristics.

Chapter Six deals with Information, Communication Technology (ICT). It analyses mobile phone ownership, internet use and ownership of desktop/laptop computers while chapter seven describes the education and literacy status of the population.

In chapter eight examines fertility, mortality and migration. In chapter nine economic characteristics are discussed.

Chapter Ten is devoted to Persons living with disabilities (PWDs). The various types of disabilities such as visual/sight impairment, hearing impairment, mental retardation, emotional or behavioural disorders and other physical challenges are analysed based on the socio-demographic characteristics of the PWDs

Chapter Eleven concentrates on the agricultural activities of households, describing the types of farming activities, livestock rearing and numbers of livestock reared.

In chapter Twelve, housing conditions such as housing stock, type of dwelling and construction materials, room occupancy, holding and tenancy, lighting and cooking facilities, bathing and toilet facilities, waste disposal and source of water by District and locality are discussed and analyzed in detail.

CHAPTER TWO

CENSUS METHODOLOGY

2.1   Introduction

The primary objective of the 2010 PHC was to provide information on the number, distribution and social, economic and demographic characteristics of the population of Ghana necessary to facilitate the socio-economic development of the country. In conducting the 2010 PHC, the Ghana Statistical Service (GSS) was guided by the principle of international comparability and the need to obtain accurate information on population and housing census in the country. Therefore, the 2010 PHC was conducted using all the essential features of a modern census as contained in the United Nations Principles and Recommendations for countries taking part in the 2010 Round of Population and Housing Censuses. The exercise was also informed by experience from previous post-independence censuses of Ghana (1960, 1970, 1984 and 2000). From the previous experiences, it was recognized that a large scale statistical operation as the 2010 Population and Housing Census required meticulous planning for its successful implementation. This chapter presents information on the pre-census planning, enumeration and post enumeration activities. It is organized into five sections namely, pre-enumeration activities, the census enumeration itself, post enumeration activities, challenges and lessons learnt, summary and recommendations.

2.2   Pre-Enumeration Activities

The pre-enumeration period consisted of a number of discreet and related activities. This section outlines the major pre-enumeration activities which were undertaken.

2.2.1   Development of Census Project Document and Workplans

The first stage of the exercise involved the setting up of a working group at the head office of Ghana Statistical Service which was charged with the responsibility of preparing the census project document with the assistance of consultants. The document contained the rationale and objectives of the census, census organisation, a work plan and a budget. The project document was launched in November 2008 as part of the Ghana Statistics Development Plan (GSDP). In November 2009, the document was reviewed and updated to take into account the changes which had occurred over the period. Secondly, a management and supervisory framework which outlined the responsibilities of the various stakeholders essential for the effective implementation of a population and housing census was also produced as part of the initial preparation.

2.2.2   Census Secretariat and Committees

To implement the activities outlined in the 2010 PHC project document, a National Census Secretariat was set up at the GSS head office in January 2008. The Secretariat comprised professional and technical staff of GSS as well as staff of other Ministries, Departments and Agencies (MDAs), some of whom were seconded to GSS. The Secretariat, primarily responsible for the day-to-day planning and implementation of the census activities, consisted of seven units namely, census administration, cartography, recruitment and training, publicity and education, field operations and logistics management, data processing, and data analysis and dissemination.

The Census Secretariat was initially headed by an Acting Census Coordinator engaged by the United Nations Population Fund (UNFPA) in 2008 to support GSS in planning the Census. In 2009, the Census Secretariat was re-organised with the Government Statistician as the National Chief Census Officer and overall Coordinator of the census. As part of the re-organization, a Census Management Team and a Census Coordinating Team were established to assist the National Chief Census Officer/Coordinator. The Census Management Team had oversight responsibility for the implementation of the Census and took critical decisions on the census in consultation with other national committees. The Census Coordinating Team, on the other hand, was responsible for the day-to-day implementation of the Census programme.

Census committees were set up at both national and sub-national levels to provide technical advice and assist with resource mobilization. At the national level, the committees were the National Census Steering Committee (NCSC), the National Census Technical Advisory Committee (NCTAC) and the National Census Publicity and Education Committee (NCPEC). At the regional and district levels, the committees were the Regional Census Implementation Committee (RCIC) and the District Census Implementation Committee (DCIC) respectively.

At the apex of the structure of the 2010 PHC management was the National Census Steering Committee as the main policy making body. The Committee was responsible for policy setting and direction on all aspects of the 2010 PHC. The composition of the NCSC was inter-sectoral with representation at the highest level, from both public and private institutions, such as the Ministry of Finance and Economic Planning, Ministry of Education, National Population Council, United Nations Population Fund (UNFPA), Electoral Commission and National House of Chiefs.

The next tier was the National Census Technical Advisory Committee (NCTAC) which was multi-disciplinary in its membership, comprising subject-matter specialists from a broad spectrum of Ministries, Departments and Agencies (MDAs), universities, other research institutions and private consultants. This Committee served as a think-tank and an advisory body to the Census Management Team and supported the Census Coordinating Team at specific stages of the census programme. For instance, the Committee assisted in developing the questionnaires and ancillary documents used for the census.

A National Census Publicity and Education Committee comprising senior level representatives in communication, civic education and advocacy from relevant public and private institutions was set up to advice on education and publicity. The Committee provided technical advice to the Census Secretariat in the development of publicity and educational materials and implementation of the publicity programmes for the census.

Inter-sectoral Regional and District Census Implementation Committees were formed in all the regions and districts in the country. With membership drawn mainly from decentralized departments, Regional and District Coordinating Directors chaired the Committees respectively. The Greater Accra Regional Census Implementation Committee worked closely with the Regional/District Census officials to plan the regional, district and locality level activities in areas such as recruitment, training, publicity and field operations. The Committee also assisted in mobilising logistical support for the census.

2.2.3   Census Mapping

A timely and well implemented census mapping was considered pivotal for the success of the 2010 PHC as it is the process for delineating the country into enumeration areas to facilitate smooth enumeration of the population. For the 2010 PHC, the process involved updating the 2000 Census Enumeration Area (EA) maps, which started in the last quarter of 2007, the acquisition of topographic and digital sheets of all indices from the Geographical Information System Unit of the Survey and Mapping Division of the Lands Commission.

Updating of the 2000 PHC enumeration areas in the region was faced with a number of challenges including the problem of demarcating fast growing areas. One other major challenge for the mapping teams was the reconciliation of administrative boundaries following the creation of new districts. Field cartographic work in the region was completed in August, 2009.

2.2.4   Development of Questionnaire and Manuals

For effective data collection, there is the need to design appropriate documents to solicit the required information from respondents. In developing questionnaires and other materials, the GSS consulted widely with main data users and other stakeholders such as MDAs, research institutions, civil society organisations and development partners. The aim was to give these institutions and bodies the opportunity to indicate the type of questions they felt should be included in the census questionnaire.

The documents developed for the census consisted of questionnaires, manuals and field operation documents. Three types of questionnaires were developed to cover different population groups: (1) PHC1A to enumerate the household population; (2) PHC1B for non-household (Group Quarters) population; and (3) PHC1C to enumerate out-door sleepers/floating population.

The field operation documents were the Enumerator's Visitation Record Book, Supervisor's Record Book, and operational control forms. Enumerators and supervisors used the record books as operational and quality control tools to control and monitor field activities respectively. The supervisor's record book consisted of checklists and was used to monitor enumerators under his/her supervision, to record all errors identified in the work of an enumerator and the measures which were taken to rectify the situation. Two summary sheets were developed for recording summaries of information collected at the enumeration and locality level: The PHC3 and the PHC4 forms. The PHC3 form was used to record total number of persons in each enumeration area by sex and the data from that form were collated and used to publish the provisional results. The PHC4 form was used to record information at the locality level on total number of persons enumerated and the availability of social facilities such as health and educational institutions, public toilets, and the distance to the nearest facility if that facility was not available in the locality. This form is used to prepare the Gazetteer, which is the alphabetical listing of all localities in the country by region and by district with their population and the identified facilities.

The topics which were eventually selected for the 2010 Population and Housing Census were based on recommendations from the United Nations Principles and Recommendations for 2010 Round of Population and Housing Censuses, the African Addendum to that document and the needs of data users. The 2010 PHC adopted all the core topics recommended at the global level, i.e. topic such as geographical and internal characteristics, internal and international migration, household characteristics, demographic and social characteristics

such as age, date of birth, sex, and marital status, fertility and mortality, educational and economic characteristics, issues relating to disability and housing conditions and amenities were adopted and included in the census.

Some topics which were not considered 'core' by the United Nations' recommendations but were found to be of great interest and importance to Ghana were included in the 2010 PHC questionnaire. These topics were religion, ethnicity, employment sector and place of work, agricultural activity, Information and Communication Technology (ICT) and issues on housing, such as type of dwelling, materials used for outer walls, floor and roof, tenure/holding arrangement, number of sleeping rooms, cooking fuel and cooking space.

The specific items of information collected from the population encountered on census night were name, sex, age, date of birth, nationality, ethnicity, birthplace, religion, internal migration, marital status, literacy, full time education, fertility, mortality, economic activity, occupation, industry, employment status, employment sector, disability, use of ICT, and agricultural activity. All questions were pre-coded except those on ethnic group, agricultural activity, occupation and industry, which were coded in the field.

Two manuals were developed: enumerator and supervisor's manuals. The enumerator's manual contained procedures, definitions and concepts used in the census, instructions on how to enumerate all persons and households in localities and a historical calendar of national and regional events which was used to estimate the ages of persons who did not know their date of birth or age. The supervisor's manual contained information on the duties of a supervisor and how to conduct checks on the work of enumerators.

For the coding of occupations and industrial activities in the country, codebooks based on the International Standard Classification of Industry (ISIC) and International Standard Classification of Occupation (ISCO) were developed. The codes, which were a four-digit alphabetical ordering, were prepared taking into consideration the ISCO and ISIC structure as well as occupations and industrial activities specific to Ghana.

2.2.5 Pre-tests and Trial Census

The census questionnaire was pre-tested twice in the course of its development in line with the internationally accepted practices for conducting censuses. The first pre-test was carried out in March 2009 and was used to assess the suitability of questions and instructions, adequacy and completeness of questions and respondents' understanding of the questions. The second pre-test was conducted in 10 selected enumeration areas in August 2009. The objective of the second pre-test was to examine the sequencing of questions, testing of new questions which were introduced in the 2010 PHC such as date of birth and migration and to assess how the introduction of 'date of birth' could help to reduce 'age heaping'. For the questions on fertility, the pre-tests sought to find out the difference, if any, between proxy responses and responses by respondents themselves. Both pre-tests were carried out in the Greater Accra Region. Experiences from the pre-tests informed the development of the final census questionnaires.

In May 2010, GSS with the support of the United Nations Population Fund conducted a special test-census in the Awutu Senya District of the Central Region. The aim of the exercise was to test the hypothesis that questions on children ever born and children surviving could be asked in a census and secondly, if answered by respondents themselves or through proxy would generate useful and good quality data. The results from this test showed that it was possible to obtain lifetime fertility data in a census and that there were no significant

differences between the responses given by proxy and the eligible women themselves. Based on this finding, lifetime fertility questions were re-introduced in the questionnaire.

A trial census was held in October/November 2009 as a dress rehearsal for all the activities and procedures which had been planned for the main census. These were recruitment and training, distribution of census materials, administration of questionnaires and other census forms, enumeration of the various categories of the population (household, institutional and floating population), and data processing. The trial census was held in six selected districts across the country. The selection of districts for the trial census districts was informed by factors such as administrative boundary issues, ecological zones, accessibility, and availability of outdoor-sleepers/floating and institutional populations, fast-growing areas and enumeration areas with scattered settlements.

The trial census provided an opportunity to assess plans, procedures and the state of preparedness for the conduct of the 2010 PHC. Results from the trial census were used to estimate the number of persons per questionnaire and the average number of persons in the household roster, to assess the question on migration, the placement of the mortality question, serial numbering of houses/housing structures and method of collection of information on community facilities. Some of the common errors encountered during the editing of the completed questionnaires resulted in modifications to the questionnaire and the enumerator's manual. Lessons learnt from the trial census also guided the planning of the recruitment process, the procedures for training of field staff, publicity and education on the census.

2.2.6 Distribution of Census Materials

Experience from the trial census guided in the distribution of census materials in the region. The Regional Census office liaised with institutions that had the capacity to transport large volumes of materials to the districts. The District Assemblies, Ghana Education Service (GES), the Electoral Commission and Information Services Department were the institutions that assisted in transporting the census materials from Accra to the district capitals for distribution to field personnel.

2.2.7 Publicity and Education

Publicity and public education on the census were considered essential for the success of the 2010 PHC. The objectives of the census education campaign were to sensitize the public on the importance of the census, to create awareness on the census topics/questions, to solicit support from the public on the exercise and to assure the population of the confidentiality of the information provided. The publicity programme was implemented in two phases. Phase one was the publicity for the trial census and was restricted to the six trial census districts. For this phase, the publicity was mostly through direct communication such as interpersonal communication through the Information Service Department vans and traditional forms such as drums and drama as some of the trial districts were rural and some of the people did not have access to radio or television. Phase two was the publicity for the main census and this involved sensitization of civil society groups, religious leaders and community leaders; seminars; workshops; television and radio programmes; and use of public address systems.

Materials used for the publicity of the main census included jingles, posters, banners, car stickers, brochures, handbills, flyers and t-shirts. These materials were distributed freely through Regional and District Offices of the GSS, and Regional and District Census Implementation Committees.

The Census Night, Sunday, 26th September 2010, was observed in all Districts in the region with various activities to make the day memorable. The rationale for celebrating the Census Night was to create public awareness on the commencement of the census and also for people to remember that night since information on the census was collected with reference to that night.

Activities organised in communities included:

- Sounding of sirens using Information Service Department, the Police vehicles and Fire Service tenders
- Television and radio discussions explaining the importance of the census on Census Night
- Tooting of horns by Ghana Private Road Transport Union (GPRTU) vehicles
- Tolling of church bells
- Brass band floats and street processions
- Bonfires (especially in Greater Accra)
- Traditional drumming, gong-gong beating and firing of muskets (especially in the rural and semi-urban areas)
- Cultural shows and music by spinning groups
- Film shows.

2.2.7 Recruitment and Training of Census Personnel

Recognising the importance of using high calibre personnel, training and motivation in conducting a successful census, the GSS developed elaborate plans for the recruitment and training of field personnel. The Census Secretariat developed a criterion for field personnel. Using the developed criteria, an online recruitment process and interested persons' selection was adopted in all the regions. Applicants were requested to complete an online application form after which qualified candidates were shortlisted and interviewed in the district of their choice. The names of successful applicants were forwarded to the Census Secretariat after which the names were posted to the districts for interviews and selection of successful applicants.

Given the large number of personnel that had to be trained for the census enumeration, a four-tier training programme was implemented at the national level. In the first tier, GSS trained about 50 national level trainers. These together with senior officials of GSS, formed the core of trainers who trained about 250 regional level trainers. The regional level trainers then trained about 2000 district level trainers who in turn trained about 50,000 enumerators, supervisors and senior supervisors. These district level trainers were mainly from the Ghana Education Service (GES). It also included officials of other MDAs. In August 2010, a one-week training programme was conducted at the national level for all district level trainers. This was to ensure standardized training. After the training of the district level trainers, they in-turn organized training for field personnel in their respective districts.

The training of the field personnel for the main census took place concurrently in all the 20 districts in the region. The training focused on the objectives of the census, interview techniques, map reading skills, listing of households, administration of the census questionnaires and how to complete the operational control forms. The field personnel who were trained included senior field supervisors, field supervisors and enumerators.

Based on results from an assessment of the trainers, some of them were selected as supervisors. Those selected were given additional training which focused mainly on

supervision of enumerators, field checks, and the completion of census operational control forms and summary sheets.

Enumerators and supervisors were trained to undertake the census due to the fact that Ghana is largely an illiterate society. Thus, the canvasser method, which involves trained field personnel visiting houses and households to enumerate members, was adopted for the 2010 PHC. Specific arrangements were made for the coverage of special population groups, such as the homeless and the floating population.

2.3   Census Enumeration

2.3.1   Enumeration

In the 2010 PHC, people were enumerated at where they were on census night (de facto) as in all the four post-independence censuses (1960, 1970, 1984, and 2000) conducted in the country and not at where they usually resided (de jure). The de facto count was adopted because it is based on physical presence on a defined date and therefore it is simple, straightforward, and easy to interpret as well as minimizes the risks of under-enumeration and over enumeration. The reference period, the census night, was fixed for 26th September 2010.

The field personnel used the week preceding the Census Night to identify EA boundaries, list houses and other structures in their enumeration areas and enumerated institutional populations (health facilities, boarding schools and prisons). Prior to the census enumeration, officials of the Regional Census office identified possible locations of out-door sleepers in the region. This was to assist the officials to plan on how to enumerate the floating population. Field officers were deployed to enumerate the floating population on Census Night using the census questionnaire (PHC1C).

Following the census night on 26th September 2010, enumeration of household populations started on Monday, 27th September 2010 with visits to houses, compounds and structures in enumeration areas. The enumeration was carried out in the order in which houses/structures were listed. Where the members of a household were absent, the enumerator left a call-back-card indicating when he/she would return to enumerate the household. The enumeration process took off smoothly and on schedule. However, after a few days' work, some enumerators ran short of questionnaires, delaying the process for about three days.

Enumeration resumed in all districts when the shortage of questionnaires was resolved and by 17th October, 2010, enumeration was completed in most districts. Enumerators who completed their work early were mobilized to assist in the enumeration of localities that had large EAs particularly the district capitals.

2.3.2   Supervision and Monitoring of Field work

To achieve effective supervision, one supervisor was assigned to five enumerators. The supervisors ensured that enumerators followed all the instructions and procedures in carrying out their assigned responsibilities. In addition, District and Regional Census Officials and census committee members also went round to ensure that the enumeration exercise was successful.

2.3.3   Retrieval of Census Materials

One of the post enumeration activities in the region involved the collection and transportation of census forms to Accra for data processing. At the end of field work on 17th October, 2010,

enumerators submitted their completed questionnaires, summary forms (PHC3 & PHC4) and other census materials to their supervisors who in turn forwarded them to the District Census Office. Materials received at the District Office were documented and the receipts which accompanied the census materials were used to reconcile the items given to an enumerator and those returned. The PHC3 forms were quickly dispatched to the Census Secretariat from which the provisional results were compiled.. Vehicles were sent from Accra to collect the completed questionnaires and other documents from the districts to the Census Secretariat.

2.4   Post Enumeration Survey

In line with United Nations' recommendations, GSS conducted a Post Enumeration Survey (PES) in April, 2011. The objective was to use the results to check for content and coverage errors and to provide feedback on aspects such as concepts and procedures on census operations. Findings from PES can also guide users in their interpretation of the 2010 PHC results. Five items of information were collected in the PES: name, sex, age, relationship to head of household and marital status. Similar PESs were undertaken in previous post-independence censuses. The results of the 1960 and the 1970 PESs were published but not those of 1984 and 2000.

For the PES a sample of 250 (0.67%) out of 37,642 enumeration areas, was selected across the country. To ensure reliability of the survey estimates of the PES, the 2010 PHC frame was used. First stratified into the 10 administrative regions, enumeration areas were allocated to each stratum (region) according to the proportion of EAs in each region. Systematic sampling with probability proportional to size (number of households) was applied in selecting the enumeration areas in each region. A matching exercise was conducted to check both coverage and content errors.

Some of the personnel who took part in the 2010 PHC field enumeration exercise were recruited and trained for six days on the instruments prepared for the PES. The field work was carried out for 21 days in April 2011 and was closely monitored and supervised to ensure quality output. The main findings of the PES were that:

- 97.0 percent of all household residents who were in the country on Census Night (26th September, 2010) were enumerated in the 2010 PHC representing an omission rate of 3.0 percent.

- 1.3 percent of the population was erroneously included in the census.

- Regional differentials are observed. Upper East region recorded the highest coverage rate of 98.2 percent while the Volta region had the lowest coverage rate of 95.7 percent.

- Males (3.3%) were more likely than females (2.8%) to be omitted in the census. The coverage rate for males was 96.7 percent and the coverage rate for females was 97.2 percent. Also, the coverage rates (94.1%) for those within the 20-29 and 30-39 age groups are relatively lower compared to the coverage rates of the other age groups.

- There was a high rate of agreement between the 2010 PHC data and the PES data for sex (98.8%), marital status (94.6%), relationship to head of household (90.5%) and age (83.0%).

2.5   Lessons learnt and Challenges

This section highlights some of the challenges and lessons learnt before, during and after the planning and implementation of the 2010 PHC in the Upper East region. The lessons learnt cover aspects such as recruitment and training of field personnel, publicity and education, demarcation of enumeration areas, and field challenges.

2.5.1   Boundary Disputes

Disputes relating to district boundaries arose during the demarcation of enumeration areas and also during the actual enumeration of the population. During the delineation of EAs, some community leaders and District Assembly officials confronted the cartographic field personnel for placing their communities in districts other than those they claimed they belonged to. Similar confrontations occurred during the enumeration where some communities initially refused to be enumerated due to district boundary disputes. They claimed that enumerators assigned to their area were from different districts and therefore could not be allowed to enumerate them. In some cases, senior census officials, District Chief Executives and officials of the Upper East Regional Coordinating Council had to intervene before the aggrieved communities accepted to be enumerated. The assurance given was that their population will be allocated to the district they claimed to belong to. Such disputes affected the timely completion of both exercises.

2.5.2   Large Enumeration Areas

The usual practice is to assign one enumerator to one enumeration area. As such enumeration areas are usually created in such a way that the enumerator is able to complete enumeration within the stipulated time. Unfortunately some enumeration areas in the region were larger and therefore the enumerators of those enumeration areas were unable to complete enumeration within the given time. When this became known, additional enumerators were deployed to assist them to enumerate the remaining areas. This situation led to late completion of work in such enumeration areas, which contributed to the overall delay in the fieldwork in the region.

2.5.3   Shortage of Census Questionnaires

The initial shortage of questionnaires was one of the major setbacks in the 2010 PHC. As a result, some enumerators resorted to the use of exercise books to record information of households. Enumerators who did this were asked to transfer such information to the questionnaire when the situation improved. This was done with the guidance of supervisors.

2.5.4   Supervision

Although conscious effort was made to select knowledgeable, experienced and committed people as supervisors, some of them could not perform as expected in the field. Such people did not have the necessary skills to supervise and monitor the work of others. In some cases, there were problems with supervision because some teachers were selected as supervisors over their superiors at work. This affected working relationships. In future, the selection of supervisors should be done with more care than was the case in some of the areas.

2.5.5   Logistics

During the mapping exercise, an inadequate number and frequent breakdown of vehicles was a challenge. Another challenge GSS faced by the Regional Census office was the late

delivery of bags/satchels that were to be used for packaging of the census questionnaires. Due to the late delivery of the bags/satchels, cartons were used to package and transport the census materials from the districts to the Census Secretariat in Accra.

2.6   Summary and Recommendations

2.6.1   Summary

Methodologies adopted for the 2010 census were derived from the recommendations from the United Nations Principles and Recommendations for the countries taking part in the 2010 round of population and housing census as well as experience from previous censuses in Ghana.

Topics covered in the census were: demographic and social characteristics, such as, age, sex, marital status, ethnicity, religion, literacy, education, economic characteristics, ICT, disability, fertility, mortality, agricultural activity and housing.

In the area of census mapping, both manual and digital mapping techniques were used. In previous censuses, only manual mapping techniques were used to produce census enumeration area maps.

The 2010 Population and Housing Census was widely publicized in every community in the region. The involvement of many stakeholders such as Ministry of Information, Information Service Department, and the National Commission for Civic Education, MMDAs and the private media contributed to the success of the census publicity campaign in the region. Training of field personnel was done at the district level.

Some of the major challenges were encountered in the areas of census mapping, field data collection and supervision. However, staff of GSS in the Upper East region, and members of the Regional and District Census Implementation Committees were able to find solutions to these challenges.

2.6.2   Recommendations

The institutions responsible for the creation of districts, constituencies and electoral areas and enumeration areas should build consensus in the creation of these units to avoid conflicts in the conduct of national exercises such as elections and censuses.

In the future, every effort should be made to maintain the ten-year periodicity as well as conduct the census in March as has been the practice. This calls for timely release of funds for the conduct of the census exercise.

The field operations group should collaborate with the cartography section in the creation of enumeration areas (EAs). This would help in minimizing cases where some EAs are exceptionally large. Field officers should also be requested to report cases of large EAs at the end of house listing to avoid the situation where some portions of EAs are left un-attended to.

The Census Coordinator should ensure that all the census materials, especially the census questionnaires, are procured in good time and in sufficient quantities and sent to the regions ahead of training of field personnel. This will avoid delays in census activities and shortages of census materials.

Management should recognize the importance of supervision and monitoring and budget adequately for them in future censuses.

2.7   Concepts and Definitions

Introduction

The 2010 Population and Housing Census of Ghana followed the essential concepts and definitions of a modern Population and Housing Census as recommended by the United Nations (UN). It is important that the concepts, definitions and recommendations are adhered to since they form the basis upon which Ghana could compare her data with those of other countries.

The concepts and definitions in this report cover all sections of the 2010 Population and Housing Census questionnaires (PHC1A and PHC1B). The sections were: geographical location of the population, Household and Non-household population, Literacy and Education, Emigration, Demographic and Economic Characteristics, Disability, Information and Communication Technology (ICT), Fertility, Mortality, Agricultural Activity and Housing Conditions.

The concepts and definitions are provided to facilitate understanding and use of the data presented in this report. Users are therefore advised to use the results of the census within the context of these concepts and definitions.

Region

There were ten (10) administrative regions in Ghana during the 2010 Population and Housing Census as they were in 1984 and 2000.

District

In 1988, Ghana changed from the local authority system of administration to the district assembly system. In that year, the then existing 140 local authorities were demarcated into 110 districts. In 2004, 28 new districts were created; this increased the number of districts in the country to 138. In 2008, 32 additional districts were created bringing the total number of districts to 170. The 2010 Population and Housing Census was conducted in these 170 administrative districts (these are made-up of 164 districts/municipals and 6 metropolitan areas). The six metropolitan areas in all have 33 sub-metros which the Statistical Service considered as districts for the purpose of the exercise. Thus, the total number of statistical districts was 197.

Locality

A locality was defined as a distinct population cluster (also designated as inhabited place, populated centre, settlement) which has a NAME or LOCALLY RECOGNISED STATUS. It included fishing hamlets, mining camps, ranches, farms, market towns, villages, towns, cities and many other types of population clusters, which meet the above criteria.   There were two main types of localities, rural and urban. As in previous censuses, the classification of localities into 'urban' and 'rural' was based on population size. Localities with 5,000 or more persons were classified as urban while localities with less than 5,000 persons were classified as rural.

Population

The 2010 Census was a "de facto" count and each person present in Ghana, irrespective of nationality, was enumerated at the place where he/she spent the midnight of 26th September, 2010.

Household

A household was defined as a person or a group of persons, who lived together in the same house or compound and shared the same house-keeping arrangements. In general, a household consisted of a man, his wife, children and some other relatives or a house help who may be living with them. However, it is important to remember that members of a household are not necessarily related (by blood or marriage) because non-relatives (e.g. house helps) may form part of a household.

Head of Household

The household head was defined as a male or female member of the household recognised as such by the other household members. The head of household is generally the person who has economic and social responsibility for the household. All relationships are defined with reference to the head.

Household and Non-household Population

Household population comprised of all persons who spent the census night in a household setting. All persons who did not spend the census night in a household setting (except otherwise stated) were classified as non-household population. Persons who spent census night in any of the under listed institutions and locations were classified as non-household population:

      (a) Educational Institutions

      (b) Children's and Old People's Homes

      (c) Hospitals and Healing Centres

      (d) Hotels

      (e) Prisons

      (f) Service Barracks

      (g) Soldiers on field exercise

      (h) Floating Population: The following are examples of persons in this category:

        i.   All persons who slept in lorry parks, markets, in front of stores and offices, public bathrooms, petrol filling stations, railway stations, verandas, pavements, and all such places which are not houses or compounds.

        ii.   Hunting and fishing camps.

       iii. Beggars and vagrants (mentally sick or otherwise).

Age

The age of every person was recorded in completed years disregarding fractions of days and months. For those persons who did not know their birthdays, the enumerator estimated their ages using a list of district, regional and national historical events.

Nationality

Nationality is defined as the country to which a person belongs. A distinction is made between Ghanaians and other nationals. Ghanaian nationals are grouped into Ghanaian by birth, Ghanaian with dual nationality and Ghanaian by naturalization. Other nationals are grouped into ECOWAS nationals, Africans other than ECOWAS nationals, and non-Africans.

Ethnicity

Ethnicity refers to the ethnic group that a person belonged to. This information is collected only from Ghanaians by birth and Ghanaians with dual nationality. The classification of ethnic groups in Ghana is that officially provided by the Bureau of Ghana Languages and which has been in use since the 1960 census.

Birthplace

The birthplace of a person refers to the locality of usual residence of the mother at the time of birth. If after delivery a mother stayed outside her locality of usual residence for six months or more or had the intention of staying in the new place for six or more months, then the actual town/village of physical birth becomes the birthplace of the child.

Duration of Residence

Duration of residence refers to the number of years a person has lived in a particular place. This question is only asked of persons not born in the place where enumeration took place. Breaks in duration of residence lasting less than 12 months are disregarded. The duration of residence of persons who made multiple movements of one (1) year or more is assumed to be the number of years lived in the locality (town or village) since the last movement.

Religion

Religion refers to the individual's religious affiliation as reported by the respondent, irrespective of the religion of the household head or the head's spouse or the name of the person. No attempt was made to find out if respondents actually practiced the faith they professed.

Marital Status

Marital status refers to the respondent's marital status as at Census Night. The question on marital status was asked only of persons 12 years and older. The selection of the age limit of 12 years was based on the average age at menarche and also on the practice in some parts of the country where girls as young as 12 years old could be given in marriage.

Literacy

The question on literacy referred to the respondent's ability to read and write in any language. A person was considered literate if he/she could read and write a simple statement with understanding. The question on literacy was asked only of persons 11 years and older.

Education

School Attendance

Data was collected on school attendance for all persons three (3) years and older. School attendance refers to whether a person has ever attended, was currently attending or has never attended school. In the census, school meant an educational institution where a person received at least four hours of formal education.

Although the lower age limit of formal education is six years for primary one, eligibility for the school attendance question was lowered to three years because pre-school education has become an important phenomenon in the country.

Level of Education

Level of education refers to the highest level of formal school that a person ever attended or was attending. This information was obtained for persons 3 years and older.

Activity Status

Activity status refers to economic or non-economic activity of respondents during the 7 days preceding census night. Information on type of activity was collected on persons 5 years and older. A person was regarded as economically active if they:

 a. Worked for pay or profit or family gain for at least 1 hour within the 7 days preceding Census Night. This included persons who were in paid employment or self-employment or contributing family workers.

 b. Did not work, but had jobs to return to.

 c. Were unemployed.

The economically not active were persons who did not work and were not seeking for work. They were classified by reasons for not being economically active. Economically not active persons included homemakers, students, retired persons, the disabled and persons who were unable to work due to their age or ill-health.

Occupation

This referred to the type of work the person was engaged in at the establishment where he/she worked. This was asked only of persons 5 years and older who worked 7 days before the census night, and those who did not work but had a job to return to as well as those unemployed who had worked before. All persons who worked during the 7 days before the census night were classified by the kind of work they were engaged in. The emphasis was on the work the person did during the reference period and not what he/she was trained to do. For those who did not work but had a job to return to, their occupation was the job they would go back to after the period of absence. Also, for persons who had worked before and were seeking for work and available for work, their occupation was on the last work they did

before becoming unemployed. If a person was engaged in more than one occupation, only the main one was considered.

Industry

Industry referred to the type of product produced or service rendered at the respondent's work place. Information was collected only on the main product produced or service rendered in the establishment during the reference period.

Employment Status

Employment status refers to the status of a person in the establishment where he/she currently works or previously worked. Eight employment status categories were provided: employee, self-employed without employees, self-employed with employees, casual worker, contributing family worker, apprentice, domestic employee (house help). Persons who could not be classified under any of the above categories were classified as "other".

Employment Sector

This refers to the sector in which a person worked. The employment sectors covered in the census were public, private formal, private informal, semi-public/parastatal, NGOs and international organizations.

Disability

Persons with disability were defined as those who were unable to or were restricted in the performance of specific tasks/activities due to loss of function of some part of the body as a result of impairment or malformation. Information was collected on persons with visual/sight impairment, hearing impairment, mental retardation, emotional or behavioural disorders and other physical challenges.

Information Communication Technology (ICT)

ICT questions were asked for both individuals and households. Persons having mobile phones refer to respondents 12 years and older who owned mobile phones (irrespective of the number of mobile phones owned by each person). Persons using internet facility refers to those who had access to internet facility at home, internet cafe, on mobile phone or other mobile device. Internet access is assumed to be not only via computer, but also by mobile phones, PDA, game machine and digital television.

Households having Personal Computers/Laptops refer to households who own desktops/laptop computers. The fixed telephone line refers to a telephone line connecting a customer's terminal equipment (e.g. telephone set, facsimile machine) to the public switch telephone network.

Fertility

Two types of fertility data were collected: lifetime fertility and current fertility. Lifetime fertility refers to the total number of live births that females 12 years and older had ever had during their life time. Current fertility refers to the number of live births that females 12-54 years old had in the 12 months preceding the Census Night.

Mortality

Mortality refers to all deaths that occurred in the household during the 12 months preceding the Census Night. The report presents information on deaths due to accidents, violence, homicide and suicide. In addition, data were collected on pregnancy-related deaths of females 12-54 years.

Agriculture

The census sought information on household members who are engaged in agricultural activities, including the cultivation of crops or tree planting, rearing of livestock or breeding of fish for sale or family consumption. Information was also collected on their farms, types of crops and number and type of livestock.

Housing Conditions and Facilities

The UN recommended definition of a house as "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'' was adopted. The definition, therefore, covered any type of shelter used as living quarters, such as separate houses, semi-detached houses, flats/apartments, compound houses, huts, tents, kiosks and containers.

Living quarters or dwelling units refer to a specific area or space occupied by a particular household and therefore need not necessarily be the same as the house of which the dwelling unit may be a part.

Information collected on housing conditions included the type of dwelling unit, main construction materials for walls, floor and roof, holding/tenure arrangement, ownership type, type of lighting, source of water supply and toilet facilities. Data was also collected on method of disposal of solid and liquid waste.

CHAPTER THREE

POPULATION SIZE, COMPOSITION AND
AGE-SEX STRUCTURE

3.1   Introduction

The Region's population in terms of its numbers, age structure and sex distribution reflects on indicators such as growth rate, doubling time, labour force and dependency ratio. Changes in any population are brought about through the dynamics of fertility, mortality and migration.

The 2010 Population and Housing Census, as all the previous post independence censuses was a "defacto" count of all the persons present in the country (and consequently in the Upper East Region) on the reference date, 26th September 2010.

The objective of this chapter embraces the analysis of:

- The size or number of persons in the Region;
- The distribution or arrangement of this number geographically into Districts, communities and urban and rural localities;
- The distribution of this number according to age and sex (age/sex structure); and
- The "growth" (increase or decline) of the total population or one of its structural units between census periods.

The main source of data is the 2010 Population and Housing Census. Where the information is available and relevant, the size and age/sex structure of the Region, from previous censuses, (1960, 1970, 1984 and 2000) have been provided.

3.2   Population Size and Growth

Regional Population

The population of the Region rose from 920,089 in 2000 to 1,046,545 in 2010, an increase of 13.7 percent. The 2010 Regional figure, however, is lower than one twentieth (4.2 %) of the national population (Table 3.1).

The Region's inter-censal growth rate of 1.2 percent per annum is slightly below one-half the national growth rate of 2.5 percent and is the second lowest growth rate recorded for the Region over the years. It is also the lowest inter-censal growth rate for the period 2000 to 2010 compared to all the other Regions.

Table 3.1: Regional Population Indices 1960-2010

	1960	1970	1984	2000	2010
Total Population	468,638	542,858	772,744	920,089	1,046,545
% Share of Total Population	6.9	6.3	6.3	4.9	4.2
Population density per					
Person sq. km	53.0	61.4	87.4	104.1	118.4
Annual Population growth rate		1.5	2.3	1.1	1.2
Population Urban	3.9	7.3	13.9	15.7	21.0

Source: Compiled from various tables, Ghana Statistical Service, 2012. National Report Chapter 3

In addition to recording the lowest Regional inter-censal growth rate, the Region's share of the total national population continues to decline from its highest proportionate share of 6.9 percent in 1960 to the 2010 level of 4.2 percent.

In terms of density, the Region's population density rose from 104.1 persons per square kilometre in 2000 to 118.4 in 2010. It is higher than the national density of 103.4 persons per square kilometre and ranks fifth on the country's Regional density ladder. Given that Upper East is largely rural, the Region presents the highest rural density in the country.

District Populations

The Region's population of 1,046,545 is not evenly distributed among the nine Districts. Table 3.2 shows that five Districts have populations of 100,000 or more (ranging from 109,944 for the Kassena Nankana East District to 217,791 for the Bawku Municipal Distrtict). Kasena Nankana West District has the smallest share of the Region's population (6.8%) followed by Bongo District (8.1%)

Table 3.2: Population by district

District	Population	Proportion Share of Regional Population
Builsa	92,991	8.9
Kasena Nankana West	70,667	6.8
Kasena Nankana East	109,944	10.5
Bolgatanga Municipality	131.550	12.6
Talensi Nabdam	115,020	11.0
Bongo	84,545	8.1
Bawku West	94,034	9.0
Garu Tempane	130,003	12.4
Bawku Municipality	217,791	20.8
Upper East Region	**1,046,545**	**100.0**

Source: Ghana Statistical Service, 2010 Population and Housing Census

Inter-censal growth rates and changes in population sizes from 1960 to 2010 are not available for the Districts because since the change from the Local Authority system of administration to the District Assembly system in 1988, new Districts continue to be established and only the Regional boundaries have remained unchanged.

For example, the six existing Districts at the time of the 2000 census were increased by three to nine, and subsequently, as a result of the 2010 census, the nine have been increased to thirteen in 2012.

Urban and Rural Distribution

The Urban status of a community is based on population size only. Localities with persons 5,000 or more are classified as urban. On the basis of this definition, the population is primarily rural (79.0%). At the national level, the proportion of urban population increased from 23.0 percent in 1960 to 28.9 percent in 1970, 32.0 percent in 1984, 43.8 percent in 2000 and 50.9 percent in 2010. Thus, for the first time in the history of the country, more than half (50.9%) of the population live in urban areas. In terms of Regional analysis, there were increases in population of urban communities in all the Regions.

In the Upper East Region, the proportion of the population urban increased steadily from 3.9 percent in 1960 to7.3 percent in 1970. Over the forty years period from 1970 to 2010, the urban population increased three-fold to embrace one out of every five persons in the Region (21.0%). Despite this growth in the urban population, the Region is one of the two with an urban population below 30 percent.

Three of the Districts (Bolgatanga Municipality, Bawku Municipality, and Kasena Nakana East) have urban populations higher than the Regional figure of 21.0 percent (Table 3.3)

Table 3.3: Urban and rural distribution by district

District	Urban	Rural
Builsa	6.4	9.3
Kasena Nankan West	14.0	86.0
Kasena Nankana East	27.3	72.7
Bolgataga Municipality	49.8	50.2
Talensi Nabdam	11.2	88.8
Bongo	6.1	93.9
Bawku West	9.2	90.8
Garu Tempane	4.8	95.2
Bawku Municipality	34.6	65.4
Upper East	**21.0**	**71.9**
Population	**219,646**	**826,899**

Source: Ghana Statistical Service, 2010 Population and Housing Census

3.3   Age and Sex Structure

The two population characteristics that receive most attention in demographic analysis are age and sex. There is little doubt about the importance of age composition. Almost all population characteristics and processes, many types of planning in both the public and private sectors require separate population data for males and females. The balance of the sexes affects social and economic relationships within a community; social roles and cultural patterns may be affected by significant imbalances between the two sexes. In fact, almost all demographic, social and economic activities, statuses and roles are based on age and sex specific entry and exit points.

Age Structure

Table 3.4 shows the age structure of the Region in five year age-groups. The age structure follows the national pattern of a large proportion below 15 years and a small proportion of elderly persons 65 years and above. One of the most important issues in any discussion of the population factor in development in Ghana is the youthful nature of the population and its expected attendant large dependency burden. In the Region children aged less than 5 years constitute 13.9 percent of the total population and those aged less than 15 years (0-14 years) represent 41.5 percent of the population. Youths aged between 15 and 19 years make up an additional 11.1 percent. The elderly population (65 years and older) constitutes only 6.8 percent of the Region's population. The population under 20 years of age recorded in the 2010 census is 52.6 percent.

Table 3.4: Age structure (5 year-age groups) of population

Age Group	Total Country	Upper East Region
Under 5	13.8	13.9
5-9	12.7	14.5
10-14	11.8	13.1
15-19	10.6	11.1
20-24	9.4	7.9
25-29	8.3	6.5
30-34	6.8	5.5
35-39	5.8	4.9
40-44	4.8	4.3
45-49	3.8	3.6
50-54	3.4	3.4
55-59	2.1	2.0
60-64	1.9	2.4
65-69	1.2	1.5
70-74	1.4	2.2
75-79	0.8	1.4
80-84	0.6	0.9
85-89	0.3	0.4
90-94	0.2	0.3
95+	0.1	0.1
Total	100.0	100.0
Number	24,658,823	1,046,545

Source: Ghana Statistical Service, 2010 Population and Housing Census

Since the proportion of the population below 20 years is higher than 50 percent, it implies that the median age for the Region is below 20 years. It is estimated to be 19 years (Table 3.5).

The observed age structure in 2010 does not differ appreciably from that which was obtained in 2000. For example, the population below 15 years was 43.4 percent in 2000 and 41.5 percent in 2010. A peculiar feature of the Region's age structure is that, with respect to the aged population (aged 60 years and older), the Upper East Region is the only Region that recorded increases in the proportion of people in this age category for all the census years from 1960 to 2010.

Age Structure of the Districts

Table 3.5 provides information on the age structure by five year age groups for the Districts. In addition to the absolute numbers in each District, the table provides derived useful information for data users. The table shows that the age-based dependent population is about one-half the total population in each District. The table also provides information on the population eighteen years and older which can serve as a useful at a glance reference on the plausibility of official voters' numbers. In the Region and each District, the population 18 years and older is at least fifty percent of the population

Table 3.5: Age Structure by age group and district

Age group	District									
	Upper East	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga-tanga Muni-cipal	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipal
Total	1,046,545	92,991	70,667	109,944	131,550	115,020	84,545	94,034	130,003	217,791
Less than 1	29,922	2,543	1,641	3,301	4,192	3,734	2,602	2,739	3,360	5,810
1-4	115,391	10,098	6,997	11,822	12,599	12,272	9,209	11,207	16,133	25,054
5-9	152,242	13,026	9,314	14,473	15,896	16,511	12,537	15,344	22,030	33,111
10-14	137,064	11,469	8,865	13,493	15,950	15,023	11,727	13,164	18,398	28,975
15 - 19	115,952	10,513	8,222	12,276	15,146	12,255	9,571	10,024	14,135	23,810
20 - 24	82,512	7,181	6,215	10,755	13,334	8,441	6,049	6,442	7,758	16,337
25 - 29	67,824	6,160	5,039	7,775	10,682	7,152	5,075	5,559	6,609	13,773
30 - 34	57,984	5,454	4,219	6,271	8,682	6,318	4,139	4,738	6,123	12,040
35 - 39	51,323	4,929	3,392	5,252	7,198	5,600	3,835	4,555	5,550	11,012
40 - 44	45,514	4,348	3,095	4,716	6,099	5,383	3,571	3,647	5,288	9,367
45 - 49	37,717	3,317	2,602	3,975	4,857	4,497	3,123	3,243	4,326	7,777
50 - 54	35,251	3,150	2,469	3,765	4,418	4,237	2,998	2,968	4,362	6,884
55 - 59	21,210	2,034	1,528	2,342	2,811	2,549	1,892	1,759	2,370	3,925
60 - 64	25,058	2,316	1,761	2,624	2,703	3,061	2,196	2,143	3,406	4,848
65 - 69	16,020	1,414	1,150	1,658	1,750	1,925	1,372	1,399	2,074	3,278
70 - 74	22,694	2,182	1,857	2,309	2,266	2,480	1,862	2,049	3,004	4,685
75 - 79	14,509	1,388	1,208	1,690	1,507	1,330	1,296	1,319	1,797	2,974
80 - 84	9,563	754	650	813	828	1,202	834	830	1,546	2,106
85 - 89	4,673	403	275	367	343	573	367	486	823	1,036
90 - 94	2,926	220	126	199	200	324	215	293	644	705
95+	1,196	92	42	68	89	153	75	126	267	284
Median	19	20	20	20	21	19	18	17	17	18
Mean	25	25	26	25	25	25	25	24	24	24
Dependent Population (less than 15 & 65+)	506,200	43,589	32,125	50,193	55,620	55,527	42,096	48,956	70,076	108,018
Population(15+)	611,926	55,855	43,850	66,855	82,913	67,480	48,470	51,580	70,082	124,841
Population(18+)	540,452	49,525	38,959	59,435	73,815	59,898	42,501	45,255	61,108	109,956

Source: Ghana Statistical Service, 2010 Population and Housing Census

Age Structure by Sex

The Age Structure for the sexes shows that, in the Region, there are more females (51.6%) than males (48.4%) in 2010; this is similar to the national proportion of 51.2 percent females. The age structure for the sexes, however, varies by age. The percentage of males in the age group 0-14 years (44.3%) is higher than that of females (38.9%) while the percentage of females in the age group 15-64 years (53.5%) is higher than that of males (49.7%). Among the elderly, 65 years and older, the percentage of females (7.5%) is higher than that of males (6.2%). This is in conformity with what pertains almost everywhere in the world; females normally outlive males.

Age Dependency Ratio

The age dependency ratio is conventionally defined as the population aged less than 15 years and 65 years and older divided by the population in the 15-64 years age group multiplied by 100. The bigger this ratio, the larger the economic burden the potential working population has to bear.

The age dependency ratio measures dependency on the basis of age only. It assumes that all persons aged 0-14 years or 65 years and above do not work or cannot work and are therefore dependent on others. It also assumes that all persons aged 15-64 years are working and therefore not dependent on others. This in reality is not the true situation. The age dependency ratio, nationally, has seen a steady decline over the forty-years period from the 1970 figure of 102 to 76 in 2010.

According to the Ghana Statistical Service, the steady decline is a positive occurrence since it means that the number of people working to look after non-working people is increasing in the Ghanaian population" (National Report 2012 Chapter 3).

However, the situation is different in the Upper East Region, where the magnitude of the decline between 2000 and 2010 is smaller. In the Region, the dependency ratio rose from 96.7 in 1984 to 99.2 in 2000 and declined to 93.7 in 2010. Table 3.6 shows that in four of the Districts, (Garu Tempane, Bawku West, Bawku Municipality and Bongo), the dependency ratios are higher than the Regional figure of 93.7.

Table 3.6: Dependent, working population and dependency ratio by districts

District	Below 15 (Dependent)	15-64 (Working)	65+ (Dependent)	Dependency Ratio
Builsa	37,136	49,402	6,453	88.2
Kasena Nankana West	26,817	38,542	5,308	83.4
Kasena Nankana East	43,089	59,751	7,104	84.0
Bolgatange Municipality	48,637	75,930	6,983	73.3
Talensi Nabdam	47,540	59,493	7,987	93.3
Bongo	36,075	42,449	6,021	99.2
Bawku West	42,454	45,078	6,021	108.6
Garu Tempane	59,921	59,927	10,155	116.9
Bawku Municipality	92,950	109,773	15,068	98.4
All Districts	434, 619	540,345	71,581	93.7

Source: Ghana Statistical Service, 2010 Population and Housing Census

Population Pyramid

The Population Pyramid is a graphical presentation of the Region's age structure by sex. The Pyramid shows that there is a high tendency for female ages to be rough like the edges of a chain saw than of males, indicating that, in addition to out-migration, a higher percentage of females than males, may have been shifted into other age groups as a result of age misreporting (Fig 3.1).

The big dent in the age groups 15–19 may be a reflection of the escalating independent migration of teenagers from the north to the south popularly known as the "kayayei phenomenon". The more prominent female dent may also confirm the female dominance in the kayayie phenomenon.

Figure 3.1: Population pyramid
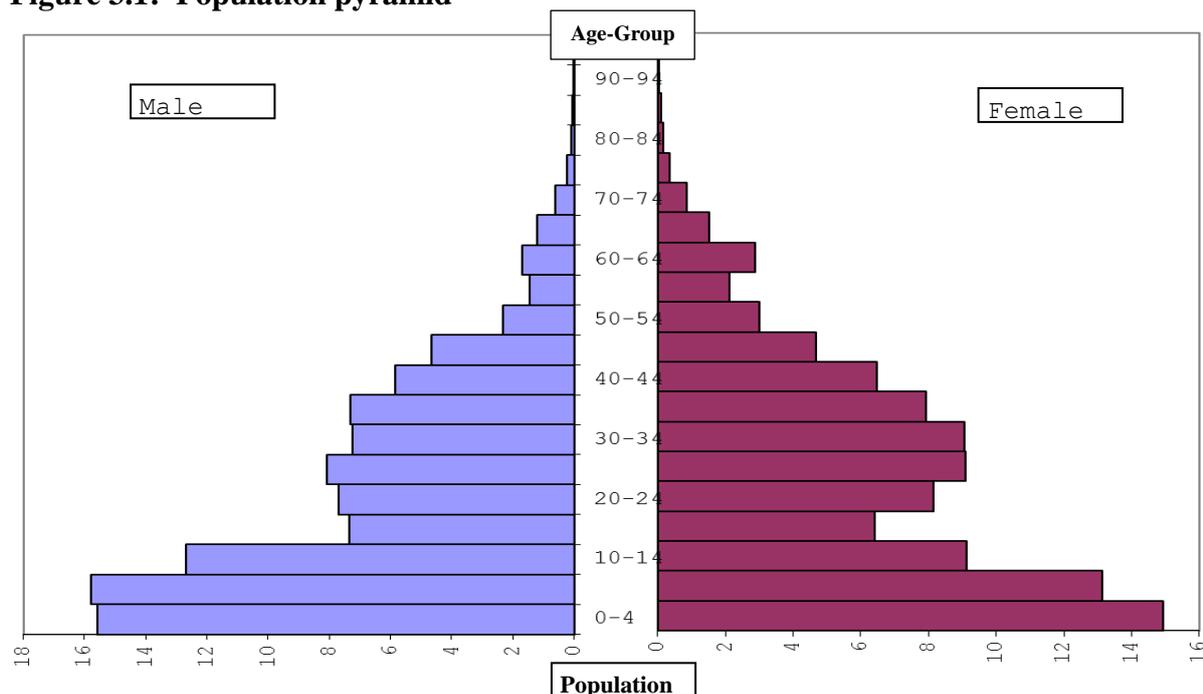
Source: Ghana Statistical Service, 2010 Population and Housing Census

Sex Ratio

The sex ratio is defined as the number of males per 100 females. At the national level, the sex ratio has made gradual but steady declines from 98.5 in 1970 to 97.9 in 2000 and 95.2 in 2010. The opposite trend prevails in the Upper East Region where the sex ratio has made gradual but steady increases from 90.8 males per 100 females in 1970 to 92.6 in 2000 and 93.8 in 2010. Table 3.7 shows that, in 2010, four Districts (Builsa, Kasena Nankana West, Kasena Nankana East and Talensi Nabdam) have sex ratios higher than the Regional figure of 93.8.

Table 3.7: Population by sex and sex ratio

District	Population			Sex ratio(males to 100 females)
	Male	Female	Total	
All Districts	506,405	540,140	1,046,545	93.8
Builsa	45,892	47.099	92,991	97.4
Kasena Nankana West	34,747	35,920	70,667	96.7
Kasena Nankana East	53,676	56,268	109,944	95.4
Bolgatanga Municipality	62,783	68,767	131,550	91.3
Talensi Nabdam	57,702	57,318	115,020	100.7
Bongo	40,084	44,461	84,545	90.2
Bawku West	45,114	48,920	94,034	92.2
Garu Tempane	62,025	67,978	130,003	91.2
Bawku Municipality	104,382	113,409	217,791	92.0

Source: Ghana Statistical Service, 2010 Population and Housing Census

Sex Ratio by Age

In Ghana generally, and in the Upper East Region in particular, it is an accepted fact that male births outnumbers female births. However, the mortality rates for females have a

tendency to be lower than that of males throughout the lifespan, especially at advanced ages. Therefore, the sex ratio (s) of the Region should decline from one age group to the other with advancing age. For the Upper East Region, the sex ratios obtained from the 2010 census do not reflect the expected pattern. For example, Table 3.8 shows that the ratio for the age-group 10-14 (108.9) is higher than that for age-group 5-9 (105.1).

The table also reveals a steep drop in the sex ratio from 108.4 for the age-group 15-19 to 95.1 for the age-group 20-24. This pattern is also observed at the national level and, therefore, is not likely to be the result of only mortality or migration out of the Region. From the age-group 35-39 onwards however, fluctuations are observed

Tables 3.8: Sex ratio by age: total country

Age Group	Total Country	Sex Ratio
0-4	103.5	106.1
5-9	103.3	105.1
10-14	102.7	108.9
15-19	100.9	108.4
20-24	90.0	95.1
25-29	85.2	82.5
30-34	88.9	79.1
35-39	90.9	79.3
40-44	93.3	74.3
45-49	93.4	76.3
50-54	90.0	78.1
55-59	97.5	86.2
60-64	91.3	71.0
65-69	86.4	73.1
70-74	74.1	65.7
75+	68.4	86.4
All Ages	95.2	93.8

Source: Ghana Statistical Service, 2010 Population and Housing Census

3.4   Nationality and Birth Place

Nationality

Nationality is defined as the country to which a person belongs or owns allegiance. Ghanaian nationals are grouped into Ghanaian by birth, Ghanaian with dual citizenship and Ghanaian by naturalization. Table 3.9 shows that Ghanaians by birth or parenthood constitute 93.0 percent of the population of the Upper East Region. A little less than three percent (2.9%) are Ghanaians of dual citizenship (Ghanaian and other nationality) and Ghanaians by naturalization constitute 1.1 percent. The three categories of Ghanaians constitute 97.0 percent of the population. Foreign nationals make up only three percent.

At the District level, Bawku Municipality and Garu Tempane (which comprise the former Bawku East District) contain the largest concentration of non-Ghanaians as well as the largest proportion of Ghanaians by naturalization and dual nationality. This is not unusual since the two Districts share boundaries with the Republic of Togo and Burkina Faso. Ghanaians by birth constitute more than ninety percent of the population in all the Districts except Bawku Municipality.

Table 3.9: Population by nationality and district

Nationality	Total	Builsa	Kasena Nankana West	Kasenan Nankana East	Bolga-tanga Muni-cipal	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipalilty
Ghanaian	97	97.9	97.9	98	97.2	98	98.3	97.5	96.8	94.8
Ghanaian by birth	93	95.1	95.5	95.5	93.5	95.9	96.1	94	92.6	86.7
Dual Nationality (Ghanaian &Other)	2.9	2.1	1.7	1.9	2.7	1.6	1.6	2.5	3	5.7
Ghanaian by Naturalization	1.1	0.7	0.7	0.6	1	0.6	0.6	1	1.2	2.4
Non-Ghanaian	3	2.1	2.1	2	2.8	2	1.7	2.5	3.2	5.2
Nigerian	0.8	0.2	0.1	0.1	0.8	0.1	0	0.5	0.8	2.4
Burkinabe	0.2	0.1	0.4	0.2	0.2	0.4	0.2	0.2	0.2	0.2
All other ECOWAS National	1.1	0.9	0.6	0.8	0.9	0.5	0.5	0.7	1.3	1.9
African, other than ECOWAS	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.5
Asian	0.4	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.3	0.2
All other Foreign Nationals	0	0	0	0	0	0	0	0	0	0
All Nationalities	1,046,545	92,991	70,667	109,944	131,550	115,020	84,545	94,034	130,003	217,791

Source: Ghana Statistical Service, 2010 Population and Housing Census

Birth Place

The 2010 census sought information on place of birth in relation to locality of enumeration. Three categories of locality of birth versus locality of enumeration can be identified namely;

- The locality of birth being the same as the locality of enumeration. This implies either no migration since birth or a return migration.
- Locality of birth being different from the locality of enumeration, but in the Upper East Region. This implies a definite migration movement into the locality of enumeration
- Locality of birth being different from the locality of enumeration and in a different region, other than Upper East or outside Ghana. This also implies at least one migratory move from the locality of birth to the locality of enumeration.

Table 3.10 shows that for 88.0 percent of the population, the place of birth is the same as the locality of enumeration. Only 5.6 percent were born in a different locality in Upper East Region.

In other words, 93.6 percent of the population are indigenes of the Region. Another 5.8 percent were born in same other Region of Ghana and less than one-half of percent (0.4%) were born outside Ghana.

The data show that a total of 920,498 were enumerated in their locality of birth and 58,901 were born in another locality but within the Region.

Out of the population of 67,146 who do not hail from the Upper East Region, 38.4 percent came from Ashanti Region; 16.3 percent from the Northern Region, and 8.6 percent from the Brong Ahafo Region. The Upper West Region contributed 6.9 percent and Western Region 5.1 percent. The Eastern, Volta and Central Regions are the Regions of birth of 3.8 percent, 2.7 percent and 2.0 percent respectively.

Table 3.10: Population by place of birth and place of enumeration by district

Birth Place	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga- tanga Muni- cipal	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni- cipal
Same as Locality of enumeration	88.0	89.6	83.9	83.2	78.8	82.4	86.7	89.6	94.8	94.1
Different locality:										
in Upper East	5.6	5.2	7.5	7.0	9.1	12.1	7.5	4.3	1.8	1.1
Another Region in Ghana	5.8	4.8	4.7	9.4	11.3	5.2	5.1	5.5	2.9	4.3
Outside Ghana	0.4	0.2	0.8	0.5	0.7	0.3	0.7	0.7	0.5	0.5
Number	1,046,545	92,991	70,667	109,944	131,550	115,020	84,545	94,034	130,003	217,791

Source: Ghana Statistical Service, 2010 Population and Housing Census

Note: some proportions do not add up to 100.0 due to rounding up

3.5   Ethnicity

The question on ethnicity was administered only to Ghanaians by birth. The main ethnic groups that are indigenous to the Region are the Mole-Dagbon, Grusi, Mande-Busanga and Gurma. Among the Mole-Dagbon, the Nabdam, Kusasi Tallensi, Nankani/Gurense and Builsa are significant. The significant other sub-groups are the Kassena among the Grusi, the Busanga among the Made-Busanga and the Bimoba among the Gurma.

Table 3.11 shows, however, that this Regional picture varies depending on the concentration or dominance of an ethnic group within specific Districts. For example, the Mole-Dagbon make up three out of every four (74.7%) of the population in the whole Region. However, they comprise ninety-eight percent of the population in the Bongo and the Talensi Nabdam Districts, 90 percent in the Builsa District and 86.3 percent in the Bolgatanga Municipal District.

Table 3.11: Major ethnic groups by district

Ethnic Group	All Districts	Builsa	Kassena Nankana East	Kassena Nankana West	Bolga- tanga Muni- cipal	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni- cipal
Akan	2.3	6.3	0.5	1.9	2.2	0.6	0.3	0.6	0.4	5.2
Ga-Dangme	0.1	0.0	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0
Ewe	0.3	0.5	0.0	0.3	0.9	0.1	0.0	0.0	0.0	0.2
Garu	0.3	0.0	0.9	0.2	0.7	0.0	0.0	0.1	0.1	0.3
Gurma	4.7	1.1	0.9	2.2	3.9	0.1	1.3	0.3	26.5	1.9
Mole-Dagbon	74.7	90.2	33.3	63.1	86.3	98.8	98.1	88.5	56.3	62.9
Grusi	8.6	0.8	63.6	31.2	3.0	0.3	0.1	1.6	0.8	0.9
Mande	5.6	0.2	0.1	0.4	0.6	0.0	0.1	6.7	12.0	16.9
Total Population	1,003,945	90,417	68,722	107,058	126,620	112,066	82,611	90,811	124,372	201,268

Source: Ghana Statistical Service, 2010 Population and Housing Census

Two ethnic groups are dominant in the Kassena Nankana West District (Grusi, 63.6% and Mole-Dagbon 33.3%). In the Kassena Nankana East District, the two dominant ethnic groups are Mole-Dagbon (63.1%) and Grusi (31.2%).

In the Bawku Municipal District, the two dominant ethnic groups are Mole-Dagbon (62.9%) and Mande (16.9%). Garu Tempane District has three dominant ethnic groups, namely Mole-Dagbon (56.3%), Garu (26.5%) and Mande (12.0%)

3.6 Religious Affiliation

The following three religious groupings are found in the Region. These are traditionalists (27.9%), lslam (27.1%) and Christianity (41.7%), (Table 3.12). Within the Christian religion the Catholics are in the majority (19.9%) followed by the Pentecostal/Charismatic (11.8%) and Protestants (7.1%) other Christians are 2.9 percent.

Table 3.12: Percentage distribution of religious affiliation by district

Religion/Sex	Total	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga-tanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipalty
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No religion	2.8	1.8	4.1	4.3	2.7	5.3	3.3	1.9	2.4	1.2
Catholic	19.9	14.5	28	33.3	35.2	21	32.3	5	11.8	9.6
Protestants	7.1	9	6.8	6.3	5.3	6.4	4.6	6.2	14.9	4.8
Pentecostal/Charismatic	11.8	14.9	13.3	11.3	13.8	15.7	6.6	22.5	10.9	5.1
Other Christian	2.9	4.8	4.5	5.1	3.3	1.3	1.6	1.5	2.1	2.4
Islam	27.1	9.8	12.3	14.5	17.1	3.0	7.2	18.3	41.1	67.4
Traditionalist	27.9	44	30.5	24.2	22.3	46.8	44	43.9	16	9.3
Other	0.6	1.3	0.6	1.1	0.3	0.5	0.4	0.6	0.9	0.2

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 3.12 indicates that at the District level the proportion who are traditionalists is higher than the Regional figure in five Districts, namely Builsa (44.0%), Talensi Nabdam (46.8%), Bongo (44.0%), Bawku West (43.9%) and Kassena Nankana West (30.5%). lslam is dominant in two Districts namely Bawku Municipality (60.7%) and Garu Tempane (40.1%). Catholics make up about a third of the population in three Districts; Kanssena Nankana East (33.3%), Bolgatanga Municipality (35.2%) and Bongo District (32.3%).

CHAPTER FOUR

HOUSEHOLD SIZE, STRUCTURE AND COMPOSITION

4.1   Introduction

This chapter provides comprehensive and detailed social and cultural characteristics of the various Districts in the Region. The chapter discusses household composition, structure and size.

In the 2010 Census, the household was defined as consisting of a person or group of persons who live together in the same house or compound, share housekeeping arrangements and are cared for as one unit. Members of a household are not necessarily related by blood, since non-relatives may form part of a household.

The composition of the Ghanaian household is a reflection of the social structure of the country. The household composition is therefore defined in terms of the relationship of members of the household to the one person they accept and recognize as the head and who is responsible for the management and upkeep of the house and the household members.

4.2   Household Headship

The head of household is generally the person identified by the members of the household as the one responsible for the upkeep and maintenance of the household, including the exercise of authority over household resources.

The proportion of the household members who are male heads of household in the Region is 72.3 percent compared to 27.7 percent for female heads of households (see Table 4.1). There is a relatively higher proportion of male heads than female heads among all the age groups. The highest proportion of male heads in the Region is recorded by the 95+ year's age group (84.9%) and the lowest is by the 70-74 years age group (65.8%). On the other hand, the highest proportion of female heads is recorded by the 70-74 years age group (34.2%) while the age group 95+ years recorded the lowest (15.1%).

Table 4.1 further shows that the urban proportion of male heads of household is a little lower than the national average (68.2%) and that of female heads of household a little higher (31.8%). The reverse is true at the rural level, where the proportion of male heads of household is 73.6 percent compared to female heads of household which is 26.4 percent.

Among the age groups, there are higher proportions of male heads of household than female heads of household in both urban and rural areas. The phenomenon of female household heads may be explained partly by the emerging modern trend of women delaying marriage or staying as single parents.

Table 4.1: Household headship by five year age group, type of locality and sex of head

	Total			Urban			Rural		
	All Heads	Male head	Female head	Total	Male head	Female head	Total	Male head	Female head
All ages	177,631	72.3	27.7	41,941	68.2	31.8	135,690	73.6	26.4
15 - 19 years	1,897	69.1	30.9	481	55.3	44.7	1,416	73.7	26.3
20 - 24 years	6,900	70.7	29.3	2,373	61.6	38.4	4,527	75.4	24.6
25 - 29 years	13,765	75.7	24.3	4,480	69.5	30.5	9,285	78.6	21.4
30 - 34 years	18,362	77.4	22.6	5,331	73.4	26.6	13,031	79.0	21.0
35 - 39 years	20,488	75.8	24.2	5,460	74.0	26.0	15,028	76.4	23.6
40 - 44 years	20,375	72.1	27.9	5,113	70.0	30.0	15,262	72.8	27.2
45 - 49 years	18,906	70.9	29.1	4,352	67.1	32.9	14,554	72.1	27.9
50 - 54 years	18,405	70.2	29.8	4,010	66.6	33.4	14,395	71.2	28.8
55 - 59 years	11,688	71.7	28.3	2,583	69.4	30.6	9,105	72.3	27.7
60 - 64 years	12,558	68.6	31.4	2,316	65.7	34.3	10,242	69.2	30.8
65 - 69 years	7,873	69.2	30.8	1,397	63.6	36.4	6,476	70.4	29.6
70 - 74 years	10,805	65.8	34.2	1,705	55.0	45.0	9,100	67.9	32.1
75 - 79 years	7,296	69.5	30.5	1,203	59.9	40.1	6,093	71.5	28.5
80 - 84 years	4,414	75.3	24.7	632	68.2	31.8	3,782	76.5	23.5
85 - 89 years	2,117	79.0	21.0	280	71.1	28.9	1,837	80.2	19.8
90 - 94 years	1,267	81.9	18.1	156	69.2	30.8	1,111	83.7	16.3
95+ years	515	84.9	15.1	69	76.8	23.2	446	86.1	13.9

Source: Ghana Statistical Service, 2010 Population and Housing Census

4.3   Household Size

There are 177,631 households in the Upper East Region, consisting of 41,941 in the urban areas and 135,690 in the rural areas. Table 4.2 presents the number of households and average household size in each of the Districts.

The average household size for the Region is 5.9 while that of the urban is 5.2 and the rural is 6.1. Among the Districts, Bolgatanga Municipality has the smallest household size of 4.9 while Garu Tempane has the largest of 7.4, followed by Bawku Municipality with 6.8 persons. The six remaining Districts have an average household size of 5.6 which is smaller than the Regional average of 5.9 persons.

In the Districts, the average household size for the urban ranges from 4.3 persons in Builsa to 6.4 persons in Bawku Municipality, while for the rural it ranges from 5.3 persons in Talensi Nabdam to 7.5 persons in Garu Tempane.

Comparatively, there are larger household sizes in the rural than the urban areas except in Talensi Nabdam (5.3 persons) where the figures are the same for both the urban and the rural.

Table 4.2: Population, number of households, average household size by district and type of locality

District	Population			No. of Households			Average Household size		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
All districts	1,046,545	219,646	826,899	177,631	41,941	135,690	5.9	5.2	6.1
Builsa	92,991	5,955	87,036	16,915	1,400	15,515	5.5	4.3	5.6
Kasena Nankana West	70,667	9,875	60,792	12,813	1,968	10,845	5.5	5.0	5.6
Kasena Nankana East	109,944	29,993	79,951	19,790	5,690	14,100	5.6	5.3	5.7
Bolgatanga Municipality	131,550	65,549	66,001	26,706	14,801	11,905	4.9	4.4	5.5
Talensi Nabdam	115,020	12,918	102,102	21,716	2,442	19,274	5.3	5.3	5.3
Bongo	84,545	5,169	79,376	15,188	1,145	14,043	5.6	4.5	5.7
Bawku West	94,034	8,628	85,406	15,169	1,724	13,445	6.2	5.0	6.4
Garu Tempane	130,003	6,265	123,738	17,520	1,096	16,424	7.4	5.7	7.5
Bawku Municipality	217,791	75,294	142,497	31,814	11,675	20,139	6.8	6.4	7.1

Source: Ghana Statistical Service, 2010 Population and Housing Census

For the purpose of analysis, the households are classified into five categories, namely Single (1person), Small (2 persons), (3-5 persons), Large (6-8 persons) and Very large (9 persons or more).

Table 4.3 shows that Garu Tempane has the highest proportion of very large households (32.3%), followed by Bawku Municipality (27.2%). The lowest proportion of very large households was recorded by Bolgatanga Municipality (10.5%). With the exception of Garu Tempane (28.7%), in all Districts, the largest proportion of households (32.1%–41.6 %) are of the medium size.

Talensi Nabdam (32.3%) recorded the highest proportion of large households (6-8 persons) with Bolgatanga Municipality (25.2%) recording the lowest proportion of large households.

In small households (2 persons) the proportion ranges from 4.6 percent in Garu Tempane to 11.2 percent in Bolgatanga Municipality. Single person households in the Districts also range from 2.9 percent in Garu Tempane to 11.6 percent in Bolgatanga Municipality.

Table 4.3: Distribution of household size by district

				Household size		
District	Total	Single (1 person)	Small (2 persons)	Medium (3 - 5 persons)	Large (6 - 8 persons)	Very Large (9 persons or more)
All districts	177,631	6.72	7.95	37.3	30	18
Builsa	16,915	7.10	8.60	39.5	30.1	14.6
Kasena Nankana West	12,813	6.52	8.40	39.4	31.8	13.8
Kasena Nankana East	19,790	8.86	9.30	38.8	28.2	14.9
Bolgatanga Municipality	26,706	11.60	11.18	41.6	25.2	10.5
Talensi Nabdam	21,716	6.58	8.85	41.1	32.3	11.1
Bongo	15,188	6.00	7.42	40.9	31.7	14
Bawku West	15,169	5.36	7.36	36.1	30.6	20.6
Garu Tempane	17,520	2.67	4.62	28.7	31.7	32.3
Bawku Municipality	31,814	4.49	5.63	32.1	30.5	27.2

Source: Ghana Statistical Service, 2010 Population and Housing Census

4.4 Household Structure

Table 4.4 presents the household structure of the Region by age groups 0-14, 15-64 and 65 or more years. The table shows that a slight majority of the household members are in the age group 15-64 years, the economically active age group. Children below 15 years constitute 41.7 percent of the population. In terms of household headship, an overwhelming percentage of the heads of households (80.7%) were recorded for ages between 15-64 years and only 19.3 percent were in the age group 65 or more. The indications are that most household heads are still quite active economically.

Of persons who were recorded as child (son/daughter), 66.1 percent fell in the age group 0-14 years and 33.8 percent fell in the age group 15-64 years. On the other hand, of those recorded as spouse (wife/husband), 93.2 percent were in the age group 15-64 years and 6.8 percent were in

the age group 65 or more years. All Sons/ Daughters in-law (100 .0%) were in the age group 15-64 years. Regarding other relatives, a majority (58.5%) were in the age group 15-64 years, followed by the age group 0-14 years that constituted 31.9 percent. Similarly, a large majority of non-relatives (69.7%) were in the age group 15-64 years and another 23.1 percent in the 0-14 years age group.

Table 4.4: Household structure by age group

	Total	0-14	15-64	65+
All relationships	1,034,704	41.7	51.5	6.9
Head	177,631	-	80.7	19.3
Spouse (wife/husband)	105,953	-	93.2	6.8
Child (son/daughter)	486,516	66.1	33.8	0.1
Parent/Parent in-law	28,246	-	34.5	65.5
Son/Daughter in-law	15,802	-	100.0	-
Grandchild	69,733	84.4	15.6	-
Brother/Sister	40,818	25.7	70.8	3.5
Step child	12,321	68.2	31.8	-
Adopted/Foster child	3,088	67.7	32.3	-
Other relative	86,849	31.9	58.5	9.6
Non-relative	7,747	23.1	69.7	7.2

Source: Ghana Statistical Service, 2010 Population and Housing Census

The composition of the Ghanaian household is a reflection of the social and cultural structure of the country. The household composition is therefore defined in terms of the relationship of members of the household to the one person they recognize and accept as the head.

Table 4.5 shows that households with head, spouse(s), biological/adopted children and relatives of the head only has the highest proportion (30.5%), followed by households with head, spouse(s) and biological/adopted children only(23.7%) in the Region as a whole. The lowest proportion of household composition in the Region was recorded by households with head biological/adopted children relatives and non-relatives of the head (0.5%). The pattern is not different in the urban and rural areas. The rest of the household composition proportions range from 0.8 percent (household with head spouse biological/adopted children relatives and non-relatives of the head) to 12.6 percent (household with head and biological/adopted children only). In the Region, households with head and a spouse only constitute 2.0 percent while that of households with head only constitute 6.7 percent. The nature of household composition observed in the Region underscores the prevalence of the extended family system in the country as a whole.

Table 4.5: Household composition by District and type of locality

District	Total	House-hold with head and a spouse only	Household with head spouse(s) and biological/ adopted children only	House-hold with head spouse(s) biological /adopted children and relatives of the head only	Household with head spouse(s) biological/ adopted children relatives and non-relatives of the head	Household with head spouse(s) and other composition	Head only	Household with head and biological/ adopted children only	House-hold with head biological/ adopted children and relatives of the head only	Household with head biological/ adopted children relatives and non-relatives of the head	House-hold with head and other compositi on but no spouse
All Districts	177,631	2.0	23.7	30.5	0.8	2.7	6.7	12.6	12.5	0.5	8.1
Builsa	16,915	2.1	26.4	27.6	0.5	2.4	7.1	12.7	12.7	0.5	8.0
Kasena Nankana West	12,813	2.1	26.4	26.2	0.6	2.3	6.5	14.9	13.1	0.3	7.6
Kasena Nankana East	19,790	1.8	21.7	26.1	0.7	2.3	8.9	13.8	14.9	0.5	9.4
Bolgatanga Municipalit	26,706	2.7	21.8	21.1	0.6	2.7	11.6	14.1	14.5	0.6	10.2
Talensi Nabdam	21,716	2.3	24.5	27.1	0.5	2.8	6.6	14.5	13.5	0.4	7.9
Bongo	15,188	1.1	17.8	24.8	0.8	2.4	6	17.3	19.6	0.7	9.6
Bawku West	15,169	2.4	25.8	35.1	1.0	3.2	5.4	10.8	8.8	0.3	7.2
Garu Tempane	17,520	1.4	23.0	45.2	1.7	3.2	2.7	8.0	7.7	0.5	6.6
Bawku Municipality	31,814	1.7	25.7	39.0	1.0	2.6	4.5	9.5	9.3	0.4	6.3

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 4.5: Household composition by District and type of locality (Contd)

District	Total	House-hold with head and a spouse only	Household with head spouse(s) and biological/ adopted children only	Household with head spouse(s) biological /adopted children and relatives of the head only	House-hold with head spouse(s) biological/ adopted children relatives and non-relatives of the head	Household with head spouse(s) and other com-position	Head only	Household with head and biological/ adopted children only	Household with head biological/ adopted children and relatives of the head only	Household with head biological/a dopted chilren relatives and non-relatives of the head	House-hold with head and other com-position but no spouse
URBAN											
All Districts	41,941	2.8	22.9	23.3	0.9	2.5	12.0	12.6	12.2	0.7	10.0
Builsa	4,175	2.9	15.7	13.4	2.2	2.3	19.4	13.0	16.8	1.8	12.6
Kasena Nankana West	1,968	3.3	23.9	24.1	0.8	2.5	10.9	13.2	13.8	0.4	7.2
Kasena Nankana East	5,690	2.8	19.6	23.3	0.8	1.6	15.2	11.7	12.7	0.7	11.6
Bolgatanga Municipality	14,801	3.7	21.9	16.8	0.7	2.7	15.8	13.5	12.4	0.8	11.9
Talensi Nabdam	2,442	1.6	24.9	24.5	0.2	1.9	6.1	20.4	14.4	0.4	5.7
Bongo	1,145	1.8	12.8	15.9	1.7	2.4	15.6	14.2	19.0	1.4	15.1
Bawku West	1,724	4.0	24.4	20.6	0.8	3.2	13.1	12.5	9.9	0.9	10.6
Garu Tempane	1,096	2.4	20.2	27.6	1.2	4.1	8.4	12.8	13.0	1.4	9.1
Bawku Municipality	11,675	1.9	27.2	33.2	1.0	2.7	6.0	10.1	10.2	0.4	7.2
RURAL											
All Districts	135,690	1.7	23.9	32.7	0.8	2.7	5.1	12.6	12.6	0.4	7.5
Builsa	15,515	2.0	27.4	28.9	0.4	2.4	6	12.6	12.4	0.4	7.5
Kasena Nankana West	10,845	1.9	26.8	26.6	0.5	2.3	5.7	15.2	12.9	0.3	7.7
Kasena Nankana East	14,100	1.5	22.5	27.2	0.7	2.5	6.3	14.6	15.8	0.4	8.5
Bolgatanga Municipality	11,905	1.5	21.7	26.5	0.5	2.8	6.4	14.9	17.2	0.4	8
Talensi Nabdam	19,274	2.4	24.4	27.5	0.5	2.9	6.6	13.8	13.4	0.4	8.2
Bongo	14,043	1.0	18.2	25.5	0.8	2.4	5.2	17.5	19.6	0.7	9.1
Bawku West	13,445	2.2	26.0	37	1.0	3.2	4.4	10.6	8.6	0.3	6.8
Garu Tempane	16,424	1.3	23.2	46.4	1.8	3.2	2.3	7.7	7.3	0.4	6.4
Bawku Municipality	20,139	1.6	24.8	42.3	1	2.5	3.6	9.2	8.8	0.4	5.8

Source: Ghana Statistical Service, 2010 Population and Housing Census

CHAPTER FIVE

MARITAL CHARACTERISTICS

5.1   Introduction

Marriage is a highly valued institution in Ghana. It is one of the determinants of an individual's social status and is also an indicator of social responsibility, trust and achievement. Every adult, unless afflicted by serious illness or deformity is expected to marry. Voluntary celibacy was frowned upon in traditional Ghana. Most adults would therefore wish to get married at one time or the other and this is more so with females.

In the 2010 Population and Housing Census, the question on "marital status" is applicable to persons 12 years or older. The eligibility for this question is "based on the average age of menarche and also on the practice in some parts of the country where girls as young as 12 years old could be given in marriage" (Ghana Statistical Service, 2002).

5.2   Marital Status

The 2010 Population and Housing Census collected information on current marital status for all respondents aged 12 years and older by asking the question "What is your marital status?" Six response categories were used and each eligible respondent fell into one exclusive category namely:

a) Never married
b) Informal/consensual union/ living together
c) Married
d) Separated
e) Divorced
f) Widowed

The 2010 census results show that in the Region as a whole, 39.3 percent of the population (aged 12 years or older) were reported as never married compared to 60.7 percent as ever married (Table 5.1). About 49.2 percent of the population is currently married, less than two percent is reported separated (1.1%) and only 1.2 percent is reported to be divorced. About 8.6 percent of the population is reported as widowed.

Marital Status by Sex

Table 5.1 also shows that more females than males have ever married (68.7% females compared to 51.7% of males). The proportion of males who have ever married reflects the fact that men are more likely to postpone marriage since traditional practices expect the man to initiate the marriage by preparing the bride price and the responsibility for family maintenance, both actions require careful and thorough preparation.

There are more females (51.4%) who are currently married than males (46.7%). Also, slightly more females (1.2%) than males (1.0%) are reported as separated. The proportion of females reported as widowed is six and half times that of the males (14.3% versus 2.2%).

Table 5.1: Distribution of Population 12 years and older by martial status and sex by district

Districts	Total		Never married	Informal/ Consensual union/ Living together	Married	Separated	Divorced	Widowed
	N	%						
Both sexes								
Total	690,901	100.0	39.3	0.6	49.2	1.1	1.2	8.6
Builsa	62,547	100.0	37.0	0.5	49.8	1.7	2.2	8.8
Kasena Nankana West	48,907	100.0	40.4	0.4	46.4	2.4	1.7	8.7
Kasena Nankana East	74,561	100.0	41.6	0.5	44.8	2.0	1.6	9.4
Bolgatanga Municipality	92,293	100.0	43.6	0.8	45.3	0.9	0.9	8.4
Talensi Nabdam	76,185	100.0	35.9	0.4	51.9	0.6	0.7	10.5
Bongo	55,311	100.0	40.2	0.4	45.8	1.1	1.0	11.6
Bawku West	59,164	100.0	36.0	0.2	52.2	1.0	1.5	9.2
Garu Tempane	80,527	100.0	37.5	0.2	53.6	0.6	0.8	7.3
Bawku Municipality	141,406	100.0	39.6	1.1	50.9	0.7	1.1	6.5
Male								
Total	323,110	100.0	48.3	0.5	46.7	1.0	1.3	2.2
Builsa	30,023	100.0	45.0	0.4	47.8	1.7	2.8	2.3
Kasena Nankana West	23,445	100.0	49.4	0.3	44.2	2.3	1.7	2.1
Kasena Nankana East	35,682	100.0	51.7	0.4	42.4	1.7	1.5	2.3
Bolgatanga Municipality	42,775	100.0	51.1	0.7	44.9	0.8	0.8	1.7
Talensi Nabdam	37,631	100.0	43.4	0.3	50.9	0.6	0.8	3.9
Bongo	25,089	100.0	47.9	0.3	45.5	1.0	1.1	4.2
Bawku West	27,087	100.0	46.8	0.2	48.5	0.8	1.9	1.9
Garu Tempane	36,330	100.0	48.1	0.2	48.7	0.5	0.9	1.6
Bawku Municipality	65,048	100.0	49.7	0.9	46.8	0.5	0.9	1.1
Female								
Total	367,791	100.0	31.3	0.6	51.4	1.2	1.2	14.3
Builsa	32,524	100.0	29.6	0.6	51.7	1.7	1.6	14.8
Kasena Nankana West	25,462	100.0	32.1	0.4	48.4	2.5	1.7	14.9
Kasena Nankana East	38,879	100.0	32.4	0.6	47.1	2.3	1.7	15.9
Bolgatanga Municipality	49,518	100.0	37.1	0.8	45.7	1.1	1.0	14.3
Talensi Nabdam	38,554	100.0	28.7	0.4	52.8	0.6	0.7	16.9
Bongo	30,222	100.0	33.8	0.4	46.1	1.1	0.9	17.7
Bawku West	32,077	100.0	26.8	0.2	55.3	1.1	1.2	15.4
Garu Tempane	44,197	100.0	28.9	0.2	57.6	0.6	0.7	12.0
Bawku Municipality	76,358	100.0	31.0	1.3	54.5	0.9	1.3	11.1

Source: Ghana Statistical Service, 2010 Population and Housing Census

The reason for this substantial imbalance may be that one woman dying results in only one male widowed in a monogamous marriage or no widow at all if the man is in a polygamous union. On the other hand, one man dying will result in more than one widowed female in a polygamous marriage. "Polygamy is widely practiced in the Region (36%). Furthermore, the relatively lower proportion of widowed men as compared to women reflects the higher level of mortality among men and also suggests that men are more likely than women to remarry upon the death of

a spouse" (Ghana Statistical Service, October 1999). Men also generally marry relatively younger women and therefore tend to die off early, leaving much younger widows who, for traditional or cultural reasons, may never remarry or much later, if at all.

On the whole, the data reveal differences in marital status categories between males and females. The percentage of females who have ever been married is higher than that for males. The percentage of females who are either widowed or divorced is higher than the percentage of males in these two martial status categories.

At the District level, Table 5.1 reveals that the proportion of the population (aged 12 years or older) who are never married ranges from 35.9 percent in Talensi Nabdam to 43.6 percent in Bolgatanga Municipality. The proportion of males who are never married ranges from 43.4 percent in Talensi Nabdam to as high as 51.7 percent in Kasena Nankana East. On the other hand, the proportion of females who are never married ranges from 26.8 percent in Bawku West to 57.1 percent in Bolgatanga Municipality.

Talensi Nabdam has the highest proportion of ever married persons (64.1%) followed by Bawku West (64.0%), with the lowest (56.4%) in Bolgatanga Municipality. The proportion of ever married females is higher than that for males in each District. In the Districts, the highest proportion of currently married is 53.6 percent in Garu Tempane and the lowest is 44.8 percent in Kasena Nankana East. Among the male population, the proportion ranges from 48.3 percent in Kasena Nankana East to 56.6 percent in Talensi Nabdam, while for the female population, the proportion currently married ranges from 62.9 percent in Bolgatanga Municipality to 73.2 in Bawku West. The proportion who are divorced ranges from 0.7 percent in Talensi Nabdam to 2.2 percent in Builsa District. The proportion widowed ranges from 6.5 percent in Bawku Municipal to 11.6 percent in Bongo.

Distribution of Population by Martial Status and locality of Residence

Table 5.2 shows the percentage distribution of the population aged 12 years or older by martial status and urban-rural residence. In 2010, 43.3 percent of urban dwellers and 38.1 percent of rural dwellers have never been married. The data also show that the proportion of rural dwellers that are married (50.0%) is higher than that of their urban counterparts (46.6%). Less than one percent of rural dwellers (0.5%) and urban dwellers (0.7%) are in consensual unions.

The proportion that is separated (1.1%) is the same in both urban and rural areas; and the proportion divorced is also about the same in urban (1.3%) and rural (1.2%) areas. The widowed constitute 6.9 percent and 9.1 percent of the urban and rural populations respectively. This may be a reflection of differential mortality between the urban and rural areas of the Region. There is also the practice of older widowed women to retire to the village when the husband dies.

In the Districts, Table 5.2 shows that the proportion of the urban population never married ranges from 37.1 percent in Talensi Nabdam to 46.7 percent in Builsa, while the rural proportions range from 35.6 percent in Bawku West to 41.3 percent in Bolgatanga Municipal.

Table 5.2: Distribution of population 12 years and older by martial status and locality of residence: districts

District	Total N	Total %	Never married	Informal/Consensual union/Living together	Married	Separated	Divorced	Widowed
All localities	690,901	100.0	39.3	0.6	49.2	1.1	1.2	8.6
Builsa	62,547	100.0	37.0	0.5	49.8	1.7	2.2	8.8
Kasena Nankana West	48,907	100.0	40.4	0.4	46.4	2.4	1.7	8.7
Kasena Nankana East	74,561	100.0	41.6	0.5	44.8	2.0	1.6	9.4
Bolgatanga Municipality	92,293	100.0	43.6	0.8	45.3	0.9	0.9	8.4
Talensi Nabdam	76,185	100.0	35.9	0.4	51.9	0.6	0.7	10.5
Bongo	55,311	100.0	40.2	0.4	45.8	1.1	1.0	11.6
Bawku West	59,164	100.0	36.0	0.2	52.2	1.0	1.5	9.2
Garu Tempane	80,527	100.0	37.5	0.2	53.6	0.6	0.8	7.3
Bawku Municipality	141,406	100.0	39.6	1.1	50.9	0.7	1.1	6.5
Urban								
Total	152,928	100.0	43.3	0.7	46.6	1.2	1.3	6.9
Builsa	4,409	100.0	46.7	1.5	39.4	1.6	2.0	8.8
Kasena Nankana West	7,011	100.0	38.7	0.5	47.9	2.8	2.2	7.9
Kasena Nankana East	20,712	100.0	43.2	1.0	45.2	1.9	1.8	6.9
Bolgatanga Municipality	47,301	100.0	45.8	1.0	44.6	0.9	1.1	6.7
Talensi Nabdam	8,626	100.0	37.1	0.4	52.9	0.5	0.6	8.6
Bongo	3,615	100.0	46.5	0.7	38.2	1.5	1.4	11.7
Bawku West	5,810	100.0	39.2	0.9	48.6	1.7	2.0	7.8
Garu Tempane	4,133	100.0	42.5	0.2	47.2	1.4	1.2	7.5
Bawku Municipality	51,311	100.0	42.7	0.4	48.8	0.9	1.2	5.9
Rural								
Total	537,973	100.0	38.1	0.5	50.0	1.1	1.2	9.1
Builsa	58,138	100.0	36.2	0.4	50.6	1.7	2.2	8.8
Kasena Nankana West	41,896	100.0	40.7	0.3	46.2	2.3	1.6	8.9
Kasena Nankana East	53,849	100.0	41.0	0.4	44.7	2.1	1.5	10.3
Bolgatanga Municipality	44,992	100.0	41.3	0.6	46.1	1.0	0.8	10.2
Talensi Nabdam	67,559	100.0	35.8	0.3	51.8	0.6	0.8	10.7
Bongo	51,696	100.0	.8	0.3	46.4	1.0	0.9	11.6
Bawku West	53,354	100.0	35.6	0.2	52.6	0.9	1.4	9.3
Garu Tempane	76,394	100.0	37.3	0.2	53.9	0.5	0.8	7.3
Bawku Municipality	90,095	100.0	37.8	1.5	52.1	0.6	1.1	6.9

Source: Ghana Statistical Service, 2010 Population and Housing Census

The proportion ever married is higher in the rural (61.9%) than in the urban (56.7%) areas. The pattern is repeated in all the Districts. Talensi Nabdam has the highest proportion of ever married persons (62.9%) among the urban population with the lowest (53.3%) in Builsa. Whilst in the rural areas, the highest proportion ever married is in Bawku West (64.4%) and the lowest is in Bolgatanga Municipality (58.7%). Among the Districts, the urban proportion of the population currently married ranges from 38.2 percent in Bongo to 52.9 percent in Talensi Nabdam, while for the rural it ranges from 44.7 percent in the Kasena Nankana East to 53.9 percent in Garu Tempane.

Distribution of Population aged 12 years or older by Marital Status and Age

Table 5.3 shows that in the Region, the proportion never married is very high at the lower ages and decreases with increasing age. The opposite is the case with the currently married-low at the lower ages and increases with age. Among those aged 12-14 years about one in twenty (4.9%) indicated that they were married and a small fraction (0.1) in consensual unions. The proportion currently married rose to less than ten percent of those aged 15-19 (9.3%) increasing rapidly with age such that by age 35-39 the proportion of the currently married was as high as 83.6 percent.

The percentage of the population who are widowed increases with age to the extent that by age 70 years and over, two out of every five are widowed (41.0%).

Table 5.3(a): Distribution of population by marital status and age

Age group	Population	%	Never Married	Informal/ Consensual union	Married	Separated	Divorced	Widowed
				Both sexes				
Total	690,901	100.0	39.3	0.6	49.2	1.1	1.2	8.6
12-14	78,975	100.0	95.0	0.1	4.9	0.0	0.0	0.0
15-19	115,952	100.0	89.9	0.4	9.3	0.2	0.1	0.2
20-24	82,512	100.0	62.2	1.1	34.9	0.8	0.6	0.4
25-29	67,824	100.0	32.1	1.3	63.0	1.6	1.1	1.0
30-34	57,984	100.0	13.6	0.9	79.2	2.0	1.8	2.6
35-39	51,323	100.0	7.0	0.7	83.6	2.1	2.1	4.5
40-44	45,514	100.0	4.4	0.5	82.0	2.1	2.4	8.6
45-49	37,717	100.0	3.3	0.5	79.9	1.9	2.4	12.1
50-54	35,251	100.0	2.6	0.3	75.3	1.7	2.3	17.8
55-59	21,210	100.0	2.3	0.3	72.2	1.4	2.4	21.4
60-64	25,058	100.0	2.5	0.3	65.5	1.2	2.2	28.3
65-69	16,020	100.0	3.1	0.2	61.0	1.1	1.8	32.8
70+	55,561	100.0	2.9	0.2	53.5	0.8	1.6	41.0

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 5.3(b) and 5.3(c) show that there are substantial variations between males and females. For example by age 25-29 years, only 17.8 percent of females have never married compared to almost fifty percent of males (49.4%). The pace of moving out of the never married category is faster for females than for males. The proportion of females aged 15-19 years who are never married declines from 85.3 to 44.7 and 17.8 percent among the 20-24 and 25-29 year-olds respectively. For males, exiting from the never married category is more gradual with the proportion never married declining from 94.1 percent in the age group 15-19 years to 80.6 percent in the age group 20-24 years and further to 49.4 percent in the age group 25-29 years.

By age 35-44 years, more than ninety percent of males and females are ever married. The data further show that from age 40, the proportion of females who are married begins to decrease while the proportion widowed begins to increase.

In contrast, the proportion of males who are married continues to increase with age to 55-59 years and then declines only slightly. In fact by age 70 years and above, about eight in ten (79.9%) males are married whereas for females it is only one out of three (33.0%). The data further show that about the same proportion of males (0.5%) as females (0.6%) are in consensual unions. The percentage of males and females who are divorced increases with age. However, at every age the proportions divorced are higher among males than females. The proportion separated is highest in the age groups 30-34 years and 35-39 years for both males and females. However, unlike divorce, the proportions for the various age groups are not consistently higher for males. The data also show that there is a positive association between age and widowhood, but with proportions higher for females than males. For example, by age 70 years and over, sixty percent of females are widowed while only 13 percent males are reported as widowers.

Table 5.3(b): Distribution of population by marital status and age

Age group	Total Population	%	Never Married	Informal/ Consensual union	Married	Separated	Divorced	Widowed
Total	323,110	100.0	48.3	0.5	46.7	1.0	1.3	2.2
12-14	40968	100.0	95.1	0.1	4.8	-	-	-
15-19	60310	100.0	94.1	0.2	5.5	0.1	0.0	0.1
20-24	40214	100.0	80.6	0.7	17.6	0.5	0.4	0.2
25-29	30651	100.0	49.4	1.2	46.8	1.2	1.0	0.4
30-34	25615	100.0	22.3	1.0	72.5	1.7	1.9	0.6
35-39	22693	100.0	11.3	0.7	82.6	2.0	2.5	0.9
40-44	19402	100.0	7.1	0.7	85.5	2.1	2.9	1.7
45-49	16564	100.0	4.9	0.5	87.5	2.0	2.7	2.5
50-54	15459	100.0	3.7	0.4	87.3	2.0	2.7	3.9
55-59	9821	100.0	3.0	0.4	87.3	1.6	2.7	5.0
60-64	10407	100.0	3.5	0.3	84.4	1.6	2.8	7.9
65-69	6765	100.0	4.5	0.3	82.7	1.5	2.0	9.0
70+	24241	100.0	3.7	0.2	79.9	1.1	1.9	13.2

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 5.3(c): Distribution of population by marital status and age

Age group	Total Population	%	Females Never Married	Informal/ Consensual union	Married	Separated	Divorced	Widowed
Total	367,791	100.0	31.3	0.6	51.4	1.2	1.2	14.3
12-14	38,007	100.0	95.0	0.1	4.9	-	-	-
15-19	55,642	100.0	85.3	0.6	13.3	0.3	0.2	0.3
20-24	42,298	100.0	44.7	1.5	51.3	1.2	0.7	0.6
25-29	37,173	100.0	17.8	1.3	76.3	1.8	1.2	1.6
30-34	32,369	100.0	6.7	0.9	84.4	2.2	1.7	4.1
35-39	28,630	100.0	3.6	0.6	84.4	2.2	1.8	7.3
40-44	26,112	100.0	2.4	0.4	79.4	2.1	2.0	13.8
45-49	21,153	100.0	2.0	0.5	74.0	1.9	2.1	19.6
50-54	19,792	100.0	1.2	0.3	65.9	1.4	2.0	28.6
55-59	11,389	100.0	1.7	0.2	59.2	1.3	2.0	35.6
60-64	14,651	100.0	1.8	0.3	52.3	1.0	1.8	42.9
65-69	9,255	100.0	2.2	0.1	45.1	0.7	1.6	50.2
70+	31,320	100.0	2.3	0.2	33.0	0.6	1.3	62.6

Source: Ghana Statistical Service, 2010 Population and Housing Census

Marital status by Religious Affiliation

All religions regulate the rules or norms that govern the institution of marriage. That is, when to marry, from which group to marry, number of spouses, separation, divorce and remarriage. Table 5.4 therefore examines marital status according to religious affiliation. The data show that the traditionalists have the lowest proportion of never married (24.6%), the highest proportion of currently married (60.5%) and the highest proportion of ever married, including informal unions (75.4%). Perhaps the traditionalists epitomize the traditional practice of universal marriage in the Region and other parts of Ghana. The Moslems (Islam and Ahmadi) have about 42.0 percent of the never married and the Christian groups have proportions never married ranging from 45.9 percent for "other Christians" to 49.4 percent for Catholics.   The main Christian groups (Catholic, Protestants and Pentecostal/Charismatic) do not exhibit significant differences between one another in any of the marital status categories. The various religious denominations have regulations governing separation and or divorce. The data show that separation and divorce is lowest among the adherents of Islam and highest among traditionalists, and those with no religion.

Table 5.4: Distribution of population 12 and older by martial status and religious affiliation

Religious affiliation	Total	Never married	Informal/ consensual union	Married	Separated	Divorced	Widowed
Total	690,901	39.3	0.6	49.2	1.1	1.2	8.6
No religion	18,058	37.4	1.2	43.9	1.5	2.1	13.9
Catholic	138,452	49.4	0.7	39.7	1.3	1.0	7.8
Protestants	46,737	47.0	0.7	42.3	1.2	1.2	7.9
Pentecostal /Charismatic	77,284	48.8	0.7	40.2	1.2	1.1	8.1
Other Christian	18,962	45.9	1.8	40.2	1.4	1.7	9.1
Islam	174,955	41.8	0.5	50.8	0.8	0.9	5.2
Ahmadi	3,900	42.2	0.8	49.3	1.0	1.2	5.5
Traditionalist	208,693	24.6	0.3	60.5	1.2	1.5	11.9
Other	3,680	39.7	0.4	48.4	0.9	1.5	9.2

Source: Ghana Statistical Service, 2010 Population and Housing Census

Marital status by Level of Education

Table 5.5 shows that the proportion never married generally decreases with increasing education; whereas with the married, the proportion declines from 67 percent of never attended to 27.3 percent of those with secondary education and then rises to nearly 50 percent among those with post-secondary education. The proportion divorced exhibits some differences by education. The proportion divorced generally declines with increasing level of education such that the proportion divorced among those with higher level of education is about one-third that for their counterparts with no formal education. This pattern is repeated for widowhood. Almost fifteen percent of those with no formal education are widowed (14.6%) compared to only 2.3 percent of those with primary education. The proportion widowed among those with higher education is about 14 times lower than for their counter parts with no education. The data thus, demonstrate the effects of differential mortality by level of education.

Table 5.5: Distribution of population 12 and older by martial status and level of education

Level of Education	Population	Never married	Informal/ consensual union	Married	Separated	Divorced	Widowed
Never Attended	371,557	15.0	0.4	67.0	1.4	1.6	14.6
Primary	130,320	69.4	0.4	26.5	0.7	0.7	2.3
JSS/JHS Middle	110,501	70.2	1.0	25.7	0.9	0.9	1.3
Secondary SSS/SHS	486,33	69.6	1.0	27.3	0.8	0.7	0.6
Vocational/Tech./Com	5,910	45.9	1.3	47.3	2.1	1.7	1.7
Post middle/ Sec. Cert.	7,498	41.8	1.4	51.0	1.3	1.2	3.3
Post secondary/Diploma	9,512	46.3	1.4	49.1	0.9	0.9	1.3
Higher	6,970	47.6	1.1	48.9	0.8	0.6	1.0
Total	69,0901	39.3	0.6	49.2	1.1	1.2	1.0

Source: Ghana Statistical Service, 2010 Population and Housing Census

Marital Status by Activity Status

Evidence of ability to support a spouse financially or mere perception of ability to support a spouse, financially is a key determinant in a man's decision to get married and married whether he is allowed or not. Table 5.6 shows marital status by economic activity status of the population aged 12 years and older. Generally, the data support the statement that ability to support a spouse financially is a key determinant in the initiation of and continuation of marriage. The proportion currently married is highest for the employed (62.2%). About two out of every five (46.5%) of the unemployed are married and only one of five (21.0%) of those not economically active is married.

An opposite trend is depicted for the never married. The majority of the not economically active (67.0%) has never married. About one-half of the unemployed (44.6%) have also never married and only about one-quarter of the employed have never married.

Table 5.6: Distribution of population aged 12 years and older by martial status and activity status

Activity Status	Total	Never married	Informal/ consensual union	Married	Separated	Divorced	Widowed
Total	690,901	39.3	0.6	49.2	1.1	1.2	8.6
Employed	465,643	26.5	0.6	62.2	1.3	1.4	8.0
Unemployed	12,954	44.6	1.3	46.5	1.9	1.8	4.0
Not active	212,304	67.0	0.4	21.0	0.6	0.7	10.3

Source: Ghana Statistical Service, 2010 Population and Housing Census

CHAPTER SIX

INFORMATION COMMUNICATION TECHNOLOGY (ICT)

6.1   Introduction

The world is now linked together with Information Communication Technology (ICT). Mobile phones, the internet and computers have become important tools for communication with enormous time saving applications in the pursuit of inter-personal and corporate transactions. The days of telegrams and gong-gong to carry information are gone.

In 2000, the Region as a whole was poorly served with telephone facilities for over 80 percent of households in the Districts; the nearest telephone facility was five kilometers away. (Ghana Statistical Service Upper East Report 2005)

The Objective of this chapter is to analyze the extent of individual ownership of mobile phones, and the use of the internet among the population aged 12 years and older and the ownership of desktop/laptop computers by a member of the household. These are analyzed in relation to the characteristics of the individual and head of household.

6.2   Individual Ownership of Mobile Phones 12 years and Older

In general, the proportions of people 12years and older, having mobile phones are low across the entire Region. Out of the total population of 690,901 aged 12years and older in the Upper East Region, only 167,421 (24.2%) have mobile phones.

Table 6.1 shows that the highest proportion of people aged 12 years and older having mobile phones was recorded in the Bolgatanga Municipal District (24.2%), followed by Bawku Municipal District (23.1%). The lowest proportion was recorded in Bongo District (5.5%) and Kasena Nankana East District (5.7%).

When males and females are compared, the table shows that Bolgatanga Municipal District recorded the highest proportion (27.7%) of people aged 12 years and above for females while Bawku Municipal District (23.5%) recorded the highest for males. There is a relatively lower levels of people aged 12 years and older having mobile phones among the Districts for both sexes (male and female).

Table 6.1: Distribution of population 12 years and older having mobile phones by district and sex

Districts	Total		Male		Female	
	Number	Percent	Number	Percent	Number	Percent
All districts	167,421	100.0	98,288	100	69,133	100
Builsa	11,722	7.0	6,644	6.8	5,078	7.3
Kasena Nankana West	9,484	5.7	5,658	5.8	3,826	5.5
Kasena Nankana East	21,029	12.6	12,433	12.6	8,596	12.4
Bolgatanga Municipality	40,457	24.2	21,277	21.6	19,180	27.7
Talensi Nabdam	14,688	8.8	8,903	9.1	5,785	8.4
Bongo	9,172	5.5	5,320	5.4	3,852	5.6
Bawku West	10,384	6.2	6,652	6.8	3,732	5.4
Garu Tempane	11,866	7.1	8,281	8.4	3,585	5.2
Bawku Municipality	38,619	23.1	23,120	23.5	15,499	22.4

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 6.2 brings out the rates of mobile phones ownership by District in the Upper East Region. The table shows that among the Districts, Bolgatanga Municipal District has the highest recorded proportion (43.8%), followed by Kasena Nankana East District (28.2%). The lowest percentage owning mobile phones among the Districts are Garu Tempane District (14.7%) and Bongo District (16.6%).

It is to be noted that Bolgatanga Municipal District has the highest proportion owning mobile phones for both males (49.7%) and females (36.7%). On the other hand, Bongo District has the lowest proportion (21.2%) for males while Garu Tempane District has the lowest proportion (8.1%) for females. Generally a higher proportion of males than females, have mobile phones in the Upper East Region.

Table 6.2: Population 12 years and older having mobile phones

	Total			Males			Females		
	Total Population	Number with mobile phones	Percent	Total Population	Number with mobile phones	Percent	Total Population	Number with mobile phones	Percent
All Districts	690,901	167,421	24.2	323,110	98,288	30.4	367,791	69,133	18.8
Builsa	62,547	11,722	18.7	30,023	6,644	22.1	32,524	5,078	15.6
Kasena Nankana West	48,907	9,484	19.4	23,445	5,658	24.1	25,462	3,826	15.0
Kasena Nankana East	74,561	21,029	28.2	35,682	12,433	34.8	38,879	8,596	22.1
Bolgatanga Municipality	92,293	40,457	43.8	42,775	21,277	49.7	49,518	19,180	38.7
Talensi Nabdam	76,185	14,688	19.3	37,631	85,903	23.7	38,554	5,785	15.0
Bongo	55,311	9,172	16.6	25,089	5,320	21.2	30,222	3,852	12.7
Bawku West	59,164	10,384	17.6	27,087	6,652	24.6	32,077	3,732	11.6
Garu Tempane	80,527	11,866	14.7	36,330	8,281	22.8	44,197	3,585	8.1
Bawku Municipality	141,406	38,619	27.3	65,048	23,120	35.5	76,358	15,499	20.3

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 6.3 presents data on population 12 years and older having mobile phone by District and type of locality of residence. The data show that there is a relatively higher proportion of people having mobile phone in the urban areas than in the rural areas. In the Region, mobile phone ownership is almost 50 percent in the urban areas and is about three times higher compared to the rural areas (18.1%)

At the District level, Bolgatanga Municipality has the highest proportion of people with mobile phones in the urban areas (57.3%), followed closely by Builsa District (56.0%) and Kassena Nankana East (44.2%). Mobile phone ownership in the urban areas of all the other Districts is about 40 percent except in the Talensi Namdam District where it is below 20 percent. Bolgatanga Municipal District again leads as the District that has the highest proportion of persons aged 12years and older with mobile phones in the rural areas (29.7%), followed by Kassena Nankana East District (22.0%) and Talensi Nabdam (19.5%). The proportion of persons aged 12years and older having mobile phones is higher in the urban areas than in the rural areas in all the Districts except Talensi Namdam where the reverse is true. Mobile phone ownership in the rural areas is very low indeed. Apart from Bolgatanga Municipality and Kassena Nankana East Districts which have proportions higher than 20 percent (29.7 and 22.0 respectively), all the other Districts have proportions below 20 percent. The Urban-rural difference in mobile phone ownership may be attributed to availability or accessibility of services in the rural areas.

Table 6.3: Population 12 years and older having mobile phones by district and type of locality of residence,

	Urban			Rural		
	Total Population	Number with mobile phones	Percent	Total Population	Number with mobile phones	Percent
All Districts	152,928	70,216	45.9	537,973	97,205	18.1
Builsa	4,409	2,468	56	58,138	9,254	15.9
Kasena Nankana West	7,011	2,831	40.4	41,986	6,653	15.9
Kasena Nankana East	20,712	9,164	44.2	53,849	11,865	22.0
Bolgatanga Municipality	47,301	27,099	57.3	44,992	13,358	29.7
Talensi Nabdam	8,626	1,509	17.5	67,559	13,179	19.5
Bongo	3,615	1,510	41.8	51,696	7,662	14.8
Bawku West	5,810	2,357	40.6	53,354	8,027	15.0
Garu Tempane	4,133	1,732	41.9	76,394	10,134	13.3
Bawku Municipality	51,311	21,546	42.0	90,095	17,073	18.9

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 6.4 shows that a greater proportion of males aged 12years and older have mobile phones than females (30.4% versus 18.8%). When ownership by age is considered, the pattern of mobile phone ownership is almost a normal curve. The proportion increases with advancing age and gets to a peak at age group 25-29 (43.1%) and decreases again to 8.4 percent at the oldest age group (70+). This confirms the observation that modern technologies like mobile phones are mainly the preserve of young adults. The proportion of ownership of 2.3percent among children 12-14 years is the smallest. This is understandable because mobile phones come with a cost which many children cannot afford on their own. In all the age groups, males' ownership of mobile phones is higher than that of their female counterparts. Interestingly, the differences are smallest among the teenage groups 12-14 and 15-19.

The 2010 census also sought information on mobile phone ownership according to the educational levels and sex of the owners. The data indicate that there is a positive relationship between levels of education and people having mobile phones. Table 6.5 shows that the proportion of mobile phone ownership increases as educational level increases. Ownership is almost universal (96.1%) among persons aged 12years and older with tertiary education. Ownership is generally higher for males than females up to secondary level.

Table 6.4: Percentage distribution of population 12 years and older having mobile phones by age group and sex

Age groups	Total			Male			Female		
	Population	Number with mobile phones	Percent	Population	Number with mobile phones	Percent	Population	Number with mobile phones	Percent
All Ages	690,901	167,421	24.2	323,110	98,288	30.4	367,791	69,133	18.8
12-14	78,975	1,707	2.2	40,968	946	2.3	38,007	761	2.0
15-19	115,952	16,399	14.1	60,310	9,327	15.5	55,642	7,072	12.7
20-24	82,512	35,350	39.2	40,214	18,056	44.9	42,298	14,294	33.8
25-29	67,824	29,212	43.1	30,651	16,529	53.9	37,173	12,683	34.1
30-34	57,984	22,653	39.1	25,615	13,362	52.2	32,369	9,291	28.7
35-39	51,323	18,333	35.7	22,693	11,180	49.3	28,630	7,153	25.0
40-44	45,514	13,385	29.4	19,402	8,022	41.3	26,112	5,363	20.5
45-49	37,717	10,146	26.9	16,564	6,167	37.2	21,153	3,979	18.8
50-54	35,251	8,137	23.1	15,459	5,044	32.6	19,792	3,093	15.6
55-59	21,210	4,894	23.1	9,821	3,188	32.5	11,389	1,706	15.0
60-64	25,058	3,543	14.1	10,407	2,324	22.3	14,651	1,219	8.3
65-69	16,020	1,987	12.4	6,765	1,288	19.0	9,255	699	7.6
70+	55,561	4,675	8.4	24,241	2,855	11.8	31,320	1,820	5.8

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 6.5: Population 12 years and older having mobile phone by education levels and sex

Educational level	Total			Male			Female		
	Total	Own mobile phone	%	Total	Own mobile phone	%	Total	Own mobile phone	%
Total	690,901	167,421	24.2	323,110	98,288	30.4	367,791	69,133	18.8
Never attended	371,557	61,250	16.5	147,791	33,723	22.8	223,766	27,527	12.3
Primary/Middle/JSS/JHS	240,821	52,476	21.8	127,635	31,101	24.4	113,186	21,375	18.9
Secondary/SSS/SHS	48,633	27,686	56.9	28,332	16,608	58.6	20,301	11,078	54.6
Vocational/Technical/Commercial	5,910	4,407	74.6	3,156	2,335	74.0	2,754	2,072	75.2
Post middle/secondary certificate/ Post-secondary diploma	17,010	14,906	87.6	10,613	9,158	86.3	6,397	5,748	89.9
University/Tertiary	6,970	6,696	96.1	5,583	5,363	96.1	1,387	1,333	96.1

Source: Ghana Statistical Service, 2010 Population and Housing Census

Use of the internet

In the country as a whole, 7.8 percent of the population aged 12 years and older use internet facility compared to only 15,777 or 2.3 percent in the Upper East Region. Table 6.6 brings out the proportion of internet use by District in the Upper East Region.

The table shows that among the Districts, Bolgatanga Municipal District has the highest recorded proportion (39.8%) out of the 15,777 internet users, followed by Kasena Nankana East District (22.2%) and Bawku Municpal District comes third (13.7%). The lowest proportion using internet facility among the Districts is in Garu Tempane District (2.9%) and Bongo District (3.4%).

It is significant to note that Bolgatanga Municipal District has the highest proportion using the internet facility among both males (37.2%) and females (45.5%). On the other hand, Garu Tempane (2.7%) has the lowest proportion for males while Bongo District (3.1%) has the lowest proportion of females. Generally a higher proportion of males than females use the internet facility in the Upper East Region.

Table 6.6: Distribution of population 12 years and older using internet facilities by district and sex

	Total		Male		Female	
Using internet facilities	Number with internet usage	Percent	Number with internet usage	Percent	Number with internet usage	Percent
All Districts	15,777	100.0	10,943	100.0	4,834	100.0
Builsa	767	4.9	530	4.8	237	4.9
Kasena Nankana West	574	3.6	411	3.8	163	3.4
Kasena Nankana East	3,496	22.2	2,671	24.4	825	17.1
Bolgatanga Municipality	6,272	39.8	4,071	37.2	2,201	45.5
Talensi Nabdam	955	6.1	651	5.9	304	6.3
Bongo	535	3.4	386	3.5	149	3.1
Bawku West	552	3.5	383	3.5	169	3.5
Garu Tempane	460	2.9	292	2.7	168	3.5
Bawku Municipality	2,166	13.7	1,548	14.1	618	12.8

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 6.7 presents data on population 12 years and older using the internet by District and type of locality of residence. The data show that there is a relatively higher proportion of people using the internet in the urban areas than in the rural areas. In the Region, the internet usage is almost 6.0 percent in the urban areas and is about four times higher compared to that of the rural areas (1.3%).

At the District level, Bolgatanga Municipality has the highest proportion of persons using the internet in the urban areas (10.0%), followed closely by Kassena Nankana East District (9.8%) and Builsa District (8.0%). Internet usage in the urban areas of the other Districts ranges from 1.2 percent in the Talensi Nabdam District to 5.6 percent in the Bongo District. Bolgatanga Municipal District again leads as the District that has the highest proportion of persons 12 years and older using internet in the rural areas (3.4%), followed by Kassena Nankana East District

(2.7%) and Talensi Nabdam (1.3%). Internet usage in the rural areas is very low indeed. Apart from Bolgatanga Municipality and Kassena Nankana East District which have proportions higher than 2 percent (3.4% and 2.7%) respectively, all the other Districts have proportions below 2%. The Urban-rural difference in mobile phone ownership may be attributed to availability or accessibility of services in the rural areas.

Table 6.7: Distribution of population 12 years and older using internet by district and type of locality

	Urban			Rural		
	Total	Number using		Total	Number using	
Type of locality	Population	Internet	Percent	Population	Internet	Percent
All Districts	152,928	9,029	5.9	537,973	6,748	1.3
Builsa	4,409	354	8.0	58,138	413	0.7
Kasena Nankana West	7,011	111	1.6	41,896	463	1.1
Kasena Nankana East	20,712	2,020	9.8	53,849	1,476	2.7
Bolgatanga Municipality	47,301	4,738	10.0	44,992	1,534	3.4
Talensi Nabdam	8,626	102	1.2	67,559	853	1.3
Bongo	3,615	204	5.6	51,696	331	0.6
Bawku West	5,810	216	3.7	53,354	336	0.6
Garu Tempane	4,133	99	2.4	76,394	361	0.5
Bawku Municipality	51,311	1,185	2.3	90,095	981	1.1

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 6.8 shows that a higher proportion of females 12 years and older than that of the males use the internet (3.4% versus 1.3%). When internet usage by age is considered, the pattern of internet usage is almost a normal curve. The proportion increases with advancing age and gets to a peak at age group 20-24 (5.5%) and decreases again to 0.2 percent at the oldest age group (70+). This confirms the observation that modern technologies, like internet usage, are mainly the preserve of young adults. The proportion of internet usage of less than 1 percent among children 12-14 years is the smallest except for the age group 65years and older. This is understandable because internet usage come with a cost which many children cannot afford on their own. In all the age groups male usage of the internet facility is higher than that of the females. Interestingly, the differences are at least twice as large in all the age groups.

Table.6.9 indicates there is a positive relationship between levels of education and persons using the internet. The table shows that the proportion of internet users increases as education level increases. Internet usage is higher for males than for females at every educational level. Usage is also higher than 20 percent for post secondary and tertiary level households and below 10 percent for all the other levels of education.

Table 6.8: Distribution of population 12 years and older using internet by age group and sex

Educational level	Total			Male			Female		
	Total	Use internet	%	Total	Use internet	%	Total	Use internet	%
Total	690,901	15,777	2.3	323,110	10,943	3.4	367,791	4,834	1.3
Never attended	371,557	977	0.3	147,791	505	0.3	223,766	472	0.2
Primary/Middle/JSS/JHS	240,821	2,230	0.9	127,635	1,430	1.1	113,186	800	0.7
Secondary/SSS/SHS	48,633	3,629	7.5	28,332	2,452	8.7	20,301	1,177	5.8
Vocational/Technical/Commercial	5,910	459	7.8	3,156	281	8.9	2,754	178	6.5
Post middle/secondary certificate/Post-secondary diploma	17,010	4,290	25.2	10,613	2,799	26.4	6,397	1,491	23.3
University/Tertiary	6,970	4,192	60.1	5,583	3,476	62.3	1,387	716	51.6

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 6.9: Distribution of population 12 years and older using internet by level of education and sex

Level of education	Total			Male			Female		
	Total Population	Number using Internet	Percent	Total Population	Number using Internet	Percent	Total Population	Number using Internet	Percent
All levels	690,901	15,777	2.3	323,110	10,943	3.4	367,791	4,834	0.3
No education	371,557	977	0.3	14,791	505	0.3	223,766	472	0.2
Primary	130,320	605	0.5	69,411	372	0.5	60,909	233	0.4
Middle/JHS	110,501	625	1.5	58,224	1,058	1.8	52,277	567	1.1
Secondary	48,633	3,629	7.5	28,332	2,452	8.7	30,301	1,177	5.8
Voc/Tech/Comm	5,910	459	7.8	3,156	281	8.9	2,754	178	6.5
Post Secondary	1,010	4,290	25.2	10,613	2,799	26.4	6,397	1,491	23.3
Tertiary	6,970	4,192	60.1	5,583	3,476	62.3	1,387	716	51.6

Source: Ghana Statistical Service, 2010 Population and Housing Census

The 2010 PHC data indicate that across the Region, households in which a member owns a desktop/laptop computer is very small indeed. Just about 3.1 percent of the households of the Region own a desktop or laptop computer. The distribution by District is shown in Table 6.10. The table indicates that among the Districts, desktop/laptop computer ownership is low and skewed towards the three more urbanized Districts. Bolgatanga Municipal District recorded the highest proportion (9.4%) followed by Kassena Nankana East District (5.0%) and Bawku Municipal District (2.4%). The other Districts range from 0.9 percent in the Garu Tempane District to 1.6 percent in the Builsa District.

Table 6.10: Proportion of households having desktop/laptop computer by district

Households having desktop/laptop computer	Total Households	Household having desktop/ laptop	% household having desktop/ laptop
All levels	117,631	5,490	3.1
Builsa	16,915	278	1.6
Kasena Nankana West	12,813	169	1.3
Kasena Nankana East	19,790	981	5.0
Bolgatanga Municipality	26,706	2,517	9.4
Talensi Nabdam	21,716	213	1.0
Bongo	15,188	191	1.3
Bawku West	15,169	203	1.3
Garu Tempane	17,520	165	0.9
Bawku Municipality	31,814	773	2.4

Source: Ghana Statistical Service, 2010 Population and Housing Census

CHAPTER SEVEN

EDUCATION AND LITERACY

7.1   Introduction

Ever since the appearance of words, literacy has been an important trait in the history of mankind. The ability to read and write a simple sentence with understanding opens the door to a world of new possibilities which no other skills can provide. Therefore, it can easily be seen why literacy is a crucial factor to the development of our world into what it is.

 Much information is transmitted in written form and therefore the ability to read and write a simple sentence with understanding is very essential. The 2010 Census collected information on literacy from persons, 11 years and older. Literacy in French Language was also introduced in the 2010 census because Ghana is bordered by French speaking countries and therefore there is the need to know how many of the population are literate in French.

The 2010 census defines literacy to mean the persons' ability to read and write a simple statement with understanding. Literacy therefore is more than the ability to write or distinguish between the various letters of the alphabet and counting numbers. While literacy can be acquired through informal channels, the formal system of education remains the best process for improving access to information and shapes the world view of the individual.

Education simply stated, is the process of gaining knowledge, learning forms of proper conduct and acquiring technical competency in a specific field. It involves cultivating the mind and instilling values that enable an individual to distinguish between the right and the wrong. Education in the census is, however, referred to full time education in an educational institution such as, Nursery, Kindergarten (Pre-school), Primary, Junior Secondary, Junior High School, Middle, Senior Secondary, Senior High School, Secondary, Vocational, Commercial or Technical, Teacher Training College, University or similar type of school where a person spends or has spent at least four (4) hours a day receiving general education in which the emphasis is not on trade training. The definition excludes night schools, trade schools such as Catering school, Floral school and on-the-job training by establishments. Formal education is divided into phases in Ghana starting from pre-school, continuing to the post graduate level. Investment in human resource development starts with education and it is expected that the census data will assist in planning for the improvements in access to education.

This chapter looks at the literacy and educational levels in Upper East. For the analysis on literacy, the concentration is on population aged 11 years and above, however, occasionally tables of population aged15 years and above are discussed to serve as reference to the 2000 Census. In relation to education, population aged 6 years and older is examined in greater detail though the data were collected on population 3 years and older. This is because the actual education starts from primary school where the person could have attained age 6 years.

7.2 Literacy

7.2.1 Literacy Levels in the Region

Population 11 years and above

In the country as a whole the majority (74.1%) of the population aged 11years and above is literate. A large proportion (67.1%) of the population can read and write in English. About one-fifth (20.1%) can read and write in the English language only while 53.7 percent of the population can read and write in at least one Ghanaian language.(Ghana Statistical Service May,2012).

The situation in the Upper East Region is significantly different. As indicated in Figure 7.1, less than fifty percent (47.5%) of the population 11 years and above are literate. About one in three (32.0%) is literate in English only and 14.0 percent is literate in English and a Ghanaian language and only 1.0 percent is literate in a Ghanaian language only. Though the Region shares a boundary with two French speaking countries (Burkina Faso and the Republic of Togo), only 0.2 percent of the population aged 11 years and above are literate in French.

A major problem is the relatively high proportion of persons literate in English only compared to Ghanaian language only or literate in English or French and a Ghanaian language. The reason for the high proportion is not far fetched. About fifty percent of the populations are illiterate. The Ghana Statistical Service: Ghana population Data Analysis Report Vol. 2 (2005) suggests that:

In the Northern Regions (including the Upper East Region) the proportion who had the opportunity of schooling may have studied under teachers who were not literate in the Northern languages which mean 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. 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.

Figure 7.1: Literacy level of population 11 years and older
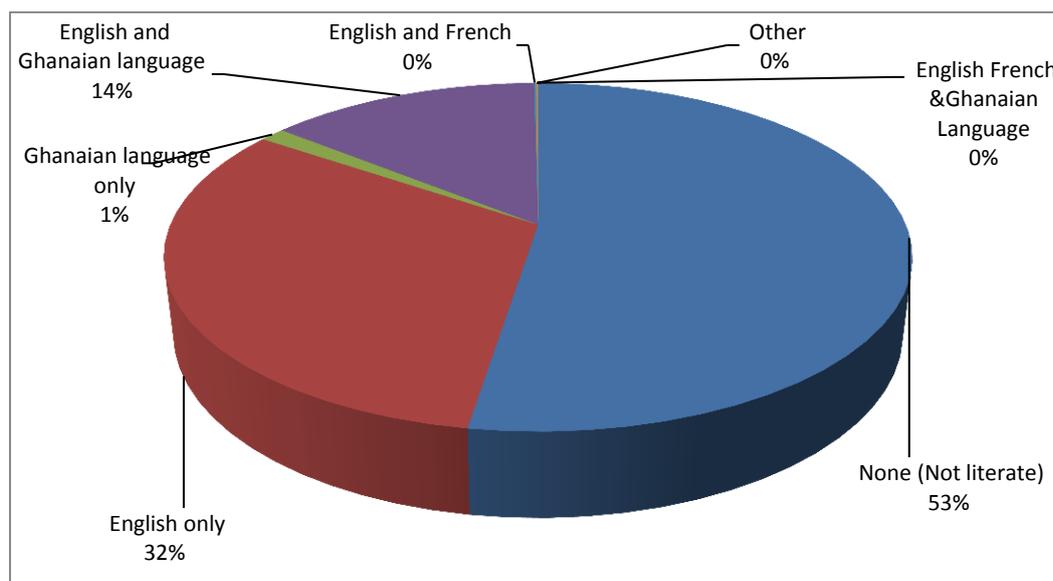
Source: Ghana Statistical Service, 2010 Population and Housing Census

Literacy Levels by Districts

Table 7.1 shows that, at the District level, five Districts have the proportions of their population who are illiterate above the Regional average of 52.5 percent. The Districts are; Bawku West (61.0%), followed by Garu Tempane with 60.4 percent, Talensi/Nabdam (58.1%), Bawku Municipal (56.5%) and Builsa (55.8%).

The Districts with the highest proportion of literate population are Bolgatanga Municipal District (54.6%), followed by Kasena Nankana East District (56.3%) and Kasena Nankana West District (50.2%).

In terms of language of literacy, three broad categories have been used in this section. Since mass communication is in English and since instructions in schools are in both English and Ghanaian languages, literacy is classified into;

  i.   literate in English only
  ii. literate in English and Ghanaian language
  iii. literate in Ghanaian language only
  iv. all others

On the basis of this classification, table 7.1 indicates that in the Region as a whole, about one in three of the population 11years and above (32.0%) are literate in English only and 14.0 percent is literate in English and Ghanaian language. Less than two percent (1.3%) falls into the category literate in Ghanaian language only. The all others category (literate in English and French, and literate in English, French and Ghanaian language) make up only 0.2%.

At the District level, literacy in English only is above the Regional average of 32.0 percent in the Regional capital District (Bolgatanga Municipal District) where almost one in two (49.6%) is literate in English only, followed by Talensi/Nabdam District (35.1%). Literacy in English and Ghanaian language is twice the Regional average of 14.0 percent in the Kasena Nankana West and Kasena Nankana East Districts (28.1% and 26.4% respectively).

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Table 7.1: Language of literacy by district for population 11 years and older

	Total (N)	%	None (Not literate)	English only	Ghanaian language only	English and Ghanaian language	English and French	English French &Ghanaian Language	Other
UPPER EAST	714,096	100.0	52.5	32.0	1.3	14.0	0.1	0.1	0.0
Builsa	64,379	100.0	55.8	30.8	1.6	11.6	0.1	0.1	-
Kasena Nankana West	50,553	100.0	49.8	19.5	2.3	28.1	0.1	0.1	-
Kasena Nankana East	76,975	100.0	43.7	27.7	1.8	26.4	0.1	0.3	-
Bolgatanga Municipality	95,107	100.0	35.4	49.6	1.0	13.5	0.3	0.2	-
Talensi Nabdam	78,615	100.0	58.1	35.1	0.5	6.1	0.1	0.1	-
Bongo	57,232	100.0	52.3	28.7	1.6	17.3	0.1	0.1	-
Bawku West	61,374	100.0	61.0	31.3	0.9	6.6	0.1	0.0	-
Garu Tempane	83,524	100.0	60.4	24.5	1.7	13.3	0.0	0.0	-
Bawku Municipality	146,337	100.0	56.5	32.1	1.0	10.3	0.1	0.1	0.0

Source: Ghana Statistical Service, 2010 Population and Housing Census

7.2.2 Literacy Levels by Age

Population 11 years and older

The population 11 years and older by literacy status and language in which literate and by age are presented in table 7.2. The table shows that the proportion "not literate" increases with age, reaching about two out of every three for the age group 30-39 and over eighty percent for ages 50 years and older.

Those who can read and write are concentrated in the younger age groups 11-19, 20-29 and 30-39 years. This is to be expected since they are more likely to have access to the schools and other policies introduced by successive governments aimed at reducing illiteracy among the population to the barest minimum.

The proportion literate in English only is twice the Regional average of 32.0 percent for the younger age group 11-19 (61.8%). It is about the same as the Regional proportion for the age group 20-29 (34.6%). The proportions then fell below the Regional average consistently with advancing age from the age group 30-39. All the other language of literacy categories follow the pattern indicated in literate in English only.

Table 7.2: Population 11 years and older by age and Language of literacy

Population 11years and over	Total	None (Not literate)	English only	Ghanaian language only	English and Ghanaian language	English and French	English French and Ghanaian Language	Other
All ages	100.0	52.5	32.0	1.3	14.0	0.1	0.1	0.0
11-19 years	100.0	16.4	61.8	2.8	19.5	0.1	0.1	0.0
20-29 years	100.0	43.6	34.6	1.4	20.0	0.1	0.2	--
30-39 years	100.0	68.5	18.8	1.2	11.3	0.1	0.1	--
40-49 years	100.0	78.7	12.4	0.9	7.8	0.1	0.1	--
50-59 years	100.0	80.1	10.4	0.8	8.6	0.0	0.1	--
60-69 years	100.0	87.7	6.8	0.4	5.0	0.0	0.1	--
70-79 years	100.0	92.8	4.4	0.3	2.5	0.0	0.0	--
80-89 years	100.0	92.8	4.7	0.3	2.2	0.0	0.0	--
90- and over	100.0	93.7	4.8	0.0	1.5	--	--	--

Source: Ghana Statistical Service, 2010 Population and Housing Census

7.2.3   Literacy Levels by Sex

Population 11 years and older

In terms of sex, table 7.3 shows that in the Region, 55.4 percent of the male population aged 11 years and older is literate compared to only two out of every five of the females (40.6 percent). The female illiteracy rate of 59.4 percent is higher than the Regional rate of 52.5 percent.

The Regional proportions are low compared to the country as a whole where 80.2 percent of males and 68.5 percent of females are literate. However in both the country and in the Region, literacy is higher among males.

Table 7.3 also shows that 36.1 percent of the male population is literate in English only while 17.5 percent is literate in both English and Ghanaian Language. On the other hand, 28.4 and 10.9 percent of the female population is literate in English only and literate in English and Ghanaian Language respectively.

Table 7.3: Population aged 11 years and older by sex, literacy status, and language in which literate

	Numbers			Percent		
	Total	Male	Female	Total	Male	Female
Total	714,096	335,398	378,698	100.0	100.0	100.0
None (Not literate)	374,677	149,593	225,084	52.5	44.6	59.4
English only	228,779	121,044	107,735	32.0	36.1	28.4
Ghanaian language only	9,165	5,060	4,105	1.3	1.5	1.1
English and Ghanaian language	99,837	58,612	41,225	14.0	17.5	10.9
English and French	777	473	304	0.1	0.1	0.1
English French and Ghanaian Language	857	613	244	0.1	0.2	0.1
Other	4	3	1	0.0	0.0	0.0

Source: Ghana Statistical Service, 2010 Population and Housing Census

7.2.4   Literacy Levels by Type of Locality of Residence

Population 11 years and older

Table 7.4 describes literacy status in urban and rural areas and language in which literate. The data indicate that among the population aged 11 years and older in the Region, the urban dwellers are more likely to be literate than their rural folks. About sixty two percent (61.9%) of the urban dwellers are literate in one language or the other.

In relation to literacy status and language in which literate, the urban proportions are higher than the Regional figures. Also, in all the language in which literate categories, except Ghanaian language only, the urban proportions are higher than those of the rural areas. For the category Ghanaian language only, the proportion literate in the rural areas is almost twice that in the urban areas (1.4% vrs 0.8%).

Table 7.4: Population 11years and older by locality type, literacy status and, language in which literate

Locality Type	Total	None (Not literate)	English only	Ghanaian language only	English and Ghanaian language	English and French	English French and Ghanaian Language	Other
Total	714,096	374,677	228,779	9,165	99,837	777	857	4
	(100.0)	(52.5)	(32.0)	(1.3)	(14.0)	(0.1)	(0.1)	(0.0)
Urban	157,402	59,974	69,776	1213	25,645	387	406	1
	(100.0)	(38.1)	(44.3)	(0.8)	(16.3)	(0.2)	(0.3)	(0.0)
Rural	556,964	314,703	159,003	7952	74192	390	451	3
	(100.0)	(56.5)	(28.5)	(1.4)	(13.3)	(0.1)	(0.1)	(0.0)

Source: Ghana Statistical Service, 2010 Population and Housing Census

Age-specific literate rates of household heads

The head of household is generally the person who has economic and social responsibility for the household. Literacy of the head therefore is an added advantage in the execution of these responsibilities. Although in the country as a whole, only 21.9 percent of heads of households are literate (31.7% male and 12.9% female) that proportion is three times higher than what pertains in the Upper East Region.

Table 7.5 shows that there is a substantial level of illiteracy among the heads of households in the Region. Less than one in ten heads of households is literate (7.3%). Literacy also varies greatly with age of the head. The highest literacy rate of (13.9%) is found among heads in the age groups 30-39 and 50-59 followed by the age group 40-49 (12.8%). The lowest literacy rate among heads of households falls in the youngest age group 11-19 followed by the oldest age group 70-99 years.

There is a wide variation between the male and female heads in the Region in terms of literacy at all the ages. Following the general pattern of higher male literacy rates, 12.1 percent of the male heads of households are literate compared with only 3.0 percent of the female heads. Literacy rates by age for males and females follow the Regional pattern. The highest rates for males and females occur among age groups 30-39, 40-49, and 50-59 years.

Table 7.5: Age specific literacy rates of household heads

Age group	Population 11 years +			Literate heads			Age specific literacy rates		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	714,096	335,398	378,698	51,948	40,596	11,352	7.3	12.1	3.0
11-19	218,122	113,566	104,556	1,328	906	422	0.6	0.8	0.4
20 – 29	150,336	70,865	79,471	11,793	8,594	3,199	7.8	12.1	4.0
30 – 39	109,307	48,308	60,999	15,203	12,431	2,772	13.9	25.7	4.5
40 – 49	83,231	35,966	47,265	10,649	8,290	2,359	12.8	23.0	5.0
50 – 59	56,461	25,280	31,181	7,851	6,212	1,639	13.9	24.6	5.3
60 – 69	41,078	17,172	23,906	3,309	2,751	558	8.1	16.0	2.3
70 – 99	55,561	24,241	31,320	1,815	1,412	403	3.3	5.8	1.3

Source: Ghana Statistical Service, 2010 Population and Housing Census

7.3 School Attendance

Education has been identified as the foundation of development of the country as a whole. In the 2010 census, full time education is defined as attendance at a regular educational institution where at least four hours of tuition is offered a day. It excludes night schools, trade schools and training on the job. Three interrelated questions were asked on education (i) Ever school attendance which solicits the responses never, now or past, (ii) highest level of schooling attended or attending now, and (iii) highest educational grade completed.

Questions on school attendance apply only to persons aged three years and above. Although the age limit of formal education is six years for primary one, the eligibility for questions on school attendance is lowered to three years because pre-school education has become an important policy initiative in the country. In this report, however, analysis focuses on the school attendance of persons aged 6 years and older.

Ever Attendance School by Sex

Nationally, the 2000 Population and Housing Census revealed that the proportion of the population aged 6 years and above that have ever attended school is 60.4 percent (66.2% of males and 54.8% of females). From the 2010 census data the proportion increased to 76.5 percent (81.7% of males and 71.7% of females.

There is also an improvement in the Upper East Region. However, the gap in ever school attendance between the country and the Region remains very wide. Education and literacy programmes were introduced late in the Northern sector of the country (comprising Northern, Upper East and Upper West Regions) as a result of deliberate colonial era policy. According to R.B. Bening (1990), Governor Guggisberg in 1925 promulgated the policy that in the North, education should be limited to Primary six for the general population and only the best should reach standard seven. This policy was followed through out by successive Governors. The colonial office in London supported the policy adding that it was inexpedient for Northerners to attend secondary school. The various Christian Missions, who founded schools in other parts of the country, were prevented from establishing schools in the North. The first secondary school in the North was opened in Tamale in 1951.

As a consequence of this colonial policy, and other social, cultural and economic factors, school attendance has generally been low in the Region.

From 2000 census data only 28.2 percent of the population aged 6 years and older, have ever attended school (33.2 % of males and 23.6 % of females).

Table 7.6 (a) and 7.6 (b) describe the school attendance status of the population aged 6 years and older by sex and type of locality in the Upper East Region.

From the 2010 Population and Housing Census data, the proportion increased about two-fold to 54.2 percent (60.9 % for males and 48.1 % for females). On the whole, more males have attended school in the past and are attending school now than females (Table 7.6 a).

Table 7.6a: School Attendance status of the population 6 years and older by sex

	Total	Never	Now	Past
All localities	870,294	398,708	330,851	140,735
	100.0	45.8	38.0	16.2
Male	415,806	162,686	175,923	77,197
	100.0	39.1	42.3	18.6
Female	454,488	236,022	154,928	63,538
	100.0	51.9	34.1	14.0

Source: Ghana Statistical Service, 2010 Population and Housing Census

Ever Attendance School by Sex and Locality Type

From the analysis of the data the following significant findings emerged.

i. A substantial proportion of the population aged 6 years and older have never attended school (45.8%) as indicated in table 7.6 (a).

ii. At least twice as many are currently attending school (38.0%) compared to those who attended in the past (16.2%) as indicated in table 7.6 (a).

iii. From Table 7.6 b, it is clear that increased current school attendance compared to past school attendance is evident in both urban and rural areas, and also for both males and females.

iv. On the whole, School attendance in the past (27.3%) and current (39.1 %) is higher in the urban areas than in the rural areas (13.2% and 37.7%).

v. However, there is a very significant growth in current school attendance in the rural areas. The gap between past (27.3%) and current (39.1 %) school attendance in the urban areas is not as large as the gap in the rural areas (13.2% for past and 37.7% for current).

vi. The disadvantaged position of females in relation to school attendance is also clear.

- More females (51.9%) than that of the males (39.1%) have never attended school. This is true in both urban and rural areas.

- Lower proportion of females than males have attended school in the past or are currently attending school in both urban and rural areas.

- Lower proportion of females (14.0%) than males (18.6%) have attended school in the past, and fewer females (34.1%) than males (42.3%) are currently in school.

Table 7.6b: School attendance status of the population 6 years and older by sex and locality type

	Total	Never	Now	Past
Urban	185,541	62,319	72,546	50,676
	100.0	33.6	39.1	27.3
Male	87,674	22,993	37,608	27,073
	100.0	26.2	42.9	30.9
Female	97,867	39,326	34,938	23,603
	100.0	40.2	35.7	24.1
Rural	684,753	336,389	258,305	90,059
	100.0	49.1	37.7	13.2
Male	328,132	139,693	138,315	50,124
	100.0	42.6	42.2	15.3
Female	356,621	196,696	119,990	39,935
	100.0	55.2	33.6	11.2

Source: Ghana Statistical Service, 2010 Population and Housing Census

7.3.1   Past School Attendance by Sex

Highest Level of Schooling Attended

In the Region, for those who attended school in the past, table 7.7 shows that the highest level of schooling attended by two-thirds (69.3%) is basic education comprising Primary (38.0%), J.S.S./J.H.S. (22.2%) and Middle (9.1%).

This proportion is similar to the total country proportion for basic education (71.3%). However twice as many ended at the primary level in the Upper East Region (38.0%) than in the country as a whole (17.6%). Also, for those who have attended school in the past, 53.7 percent of them have the upper level for basic education (Middle or J.S.S./J.H.S.) as their highest level of schooling compared to a smaller proportion (31.3%) in the Upper East Region. This clearly affirms Primary education as the highest level of schooling attended in the Region by most of the population.

In relation to the distribution by sex, in the Upper East Region, there is relatively higher proportion of females (73.9%) than that of the males (65.3%) with Primary, Middle or JSS/JHS as the highest level of schooling. This suggests that, in the past, females were more likely than males to terminate schooling after the basic school level. That is lower proportion of females (26.1%) than males (34.7%) progress to SSS/SHS, Secondary and other higher levels.

At each of these post-basic levels (SSS/SHS, Secondary, Vocational/Technical/Commercial, Post Middle/Post Secondary Certificate, Post-Secondary Diploma, Bachelor Degree, and Post Graduate). Table 7.7 shows that the proportion for males is consistently higher than that for females.

Table 7.7: Population 6 years and above who attended school in the past by sex, and highest level of schooling attended

Level of Education	Total Country			Upper East Region		
	Total	Males	Females	Total	Males	Females
Primary	17.6	13.8	21.4	38.0	35.0	41.5
JSS/JHS	31.3	29.9	33.6	22.2	19.8	25.1
Middle	22.4	23.7	21.0	9.1	10.5	7.3
SSS/SHS	12.1	13.5	10.8	14.7	15.5	13.8
Secondary	3.4	4.2	2.5	2.3	2.8	1.6
Vocational/Technical/Commercial	3.9	4.0	3.8	3.0	3.1	3.0
Post middle/secondary certificate	2.3	2.4	2.1	3.8	4.2	3.3
Post-secondary diploma	4.0	5.0	2.9	4.3	5.3	3.1
Bachelor degree	2.5	3.3	1.5	2.1	3.1	1.1
Post graduate (Cert. Diploma Masters PHD etc.)	0.6	1.0	0.3	0.5	0.7	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
N	8,393,922	4,285,155	4,108,767	140,735	77,197	63,538

Source: Ghana Statistical Service, 2010 Population and Housing Census

7.3.2   Past School Attendance by District

Highest Level of Schooling Attended

In the Region, primary education is the highest level of schooling attended by those who attended school in the past, followed by JSS/JHS, SSS/SHS and Middle. Table 7.8 shows that this pattern is repeated in each of the Districts although with varying degrees of the proportions. Four Districts that have proportions with primary education higher than the Regional figure of 32.0 percent are Garu/Tempane which has the highest proportion (53%) of the population which attained primary education followed by Bawku West (50.4%) and Talensi/Nabdam (47%). Kasena Nankana West has the highest proportion (25.8%) of the population which attained JHS education, followed by Bongo District (23.6%) and Bawku Municipality (21.1%). The SHS is highest (17.1%) in Bolgatanga Municipality, followed by Builsa District (15.6%).

Table 7.8: Population 6 years and older who attended school in the past by highest level of schooling attended by district

Level of Education	Total	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga Muni-cipal	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipal
Primary	38.0	40.9	37.2	34.4	28.1	47	45.1	50.4	53	35.3
JSS/JHS	20.4	18.5	25.8	20.4	19.8	19.9	23.6	17.5	16.2	21.1
Middle	10.9	9.5	10.3	12.1	11.9	9.8	6.5	7.4	8.0	14.2
SSS/SHS	14.0	15.6	14.5	14.5	17.1	11.3	13.6	12.5	9.3	12.4
Secondary	3.0	2.4	2.8	2.7	3.5	2.8	1.5	2.1	3.2	3.9
Voc./Tech./Comm.	3.0	2.9	1.8	3.7	4.4	2.4	1.7	2.0	2.0	2.9
Post middle/secondary certificate	3.8	3.8	3.2	4.3	3.8	2.8	3.4	3.6	3.6	4.4
Post-sec/diploma	4.3	4.3	2.8	4.2	7.0	2.4	2.9	3.1	3.3	4.0
Bachelor degree	2.2	1.9	1.4	3.1	3.5	1.4	1.5	1.3	1.0	1.5
Post graduate (Cert. Diploma Masters PHD etc.)	0.5	0.3	0.3	0.7	1.0	0.1	0.1	0.2	0.4	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	140,735	12,279	10,516	19,833	32,306	13,199	10,234	8,479	8,857	25,032

Source: Ghana Statistical Service, 2010 Population and Housing Census

7.3.3 Current School Attendance

Highest Level of School Attending

Analysis of the data on the school attendance status of the population aged 6 years and older reveal that more people are currently in school (38.0%) than attended school in the past (16.2%).

Table 7.9 shows that of those currently attending school, 7.1 percent are in Nursery and Kindergarten and another 62 percent are in primary school while about one in five are in JSS/JHS. Less than ten percent are in SSS/SHS. Current school attendance at all the other categories, make up only 3.2 percent.

When males are compared with females, there is not much difference at the basic school level up to JSS/JHS. There is also not much difference in the proportions at the Vocational/ Technical/Commercial, Post Middle/Post Secondary Certificate and Post Secondary Diploma levels. At the Bachelor Degree and Post Graduate levels, however, male dominance emerges.

Table 7.9: Population 6 years and older currently in school by sex, and level of education

Level of Education	Total country			Upper East Region		
	Total	Male	Female	Total	Male	Female
Nursery	1.2	1.2	1.2	2.2	2.1	2.3
Kindergarten	5.9	5.8	5.9	4.2	4.1	4.3
Primary	55.4	53.3	55.6	62.4	61.6	63.2
JSS/JHS	21.8	21.9	21.7	20.6	20.3	20.9
SSS/SHS	10.9	11.3	10.5	7.5	8.1	6.8
Vocational/Technical/Commercial	0.6	0.6	0.6	0.5	0.5	0.6
Post Middle/Post Secondary Certificate	0.7	0.6	0.9	0.7	0.7	0.6
Post Secondary Diploma	2.0	2.3	1.7	1.0	1.2	0.9
Bachelor Degree	2.3	2.7	1.8	0.9	1.4	0.4
Post Graduate	0.2	0.3	0.1	0.1	0.1	0.0
N	7,370,462	3,854,081	3,516,381	330,851	175,923	154,928

Source: Ghana Statistical Service, 2010 Population and Housing Census

A comparison with the country as a whole reveals that the proportion currently in primary school is slightly higher in the Region (62.4%) than in the country as a whole (54.4%). The Region is almost at par with the country at the JSS/JHS and SSS/SHS levels. The proportion at these two levels in the country is 32.7 percent compared to 28.1 percent in the Region. Pre-school (Nursery and Kindergarten) attendance has also caught up in the Region, enrolling 6.6 percent of the population currently at school compared to 7.1 percent in the country as a whole. At the Vocational/Technical/Commercial and Post Middle levels also, the Region (1.2%) compares favourably with the country (1.3%) However, twice as many are currently at the Post Secondary, Bachelor degree and Post Graduate levels in the country (4.3%) than in the Region (2.1%).

7.3.4   School Attendance (Past and Current)

Highest Level of Schooling Attended/Attending

Table 7.10 merges school attendance (past and current) showing the highest level of schooling attended or attending now. The table shows that in the Region 45.8 percent of the population aged 6 years and older has never attended school. In terms of the highest level of schooling attended or attending the table shows that the highest level of Education for about three out of every ten of the population is primary school. JSS/JHS takes a very distant second position (11.4%), followed by SSS/SHS (5.2%). All the other categories involving higher levels (post middle/secondary certificate, post secondary diploma, Bachelor degree and post graduate certificate) account for only 2.8 percent of the highest level of schooling.

In terms of distribution by sex, the total picture ranking of the highest level of schooling attended or attending is maintained for both males and females. The magnitude of the proportions, however, differs between males and females. There is a very marked difference between males (39.1%) and females (51.9%) who have never attended school. At the Primary, JSS/JHS/SSS/SHS levels, the combined proportions for males (50.5%) are higher than that for females (42.1%). Also at all of the higher levels (post middle, post secondary, Bachelor degree, and post graduate), the combined proportions for males (4.0%) are twice that for females (1.7%).

The table also shows that at the District level, the Districts replicate what pertains in the Region as a whole but with varying sizes of the proportions. The proportion that have never attended school is higher than the Regional figure of 45.8 percent in five out of the nine Districts, namely Bawku West (53.3%), Garu Tempane (51.5%), Talensi/Nabdam (50.1%), Bawku Municipality (49.8%) and Builsa (49.0%). The proportion is below forty percent in only two Districts, namely the Regional capital District, Bolgatanga Municipality (31.2%) and Kasena Nankana East District (38.5%).

In each District, for most of the population, the highest level of schooling attended or currently attending is Primary School level. The proportions range between 28.1% in Builsa District to 33.2 percent in the Bong District. JSS/JHS takes a distant second position with proportions ranging from 7.6 percent in the Bawku West District to 14.8 percent in the Bolgatanga Municipal District. Four Districts have proportions larger than the Regional figure of 11.4 percent. These are Kasena Nankana West, Kasena Nankana East, Bolgatanga Municipality and Bongo Districts.

In all the Districts, SSS/SHS comes third. The proportion that has attended or is attending SSS/SHS is highest in the Bawku Municipal District (9.4%). In the other Districts, the proportions range from 2.8 percent in the Garu/Tempane District to 6.2 percent in the Kansena Nankana East District. The proportions of those who attended or are attending school at higher levels (post middle/secondary certificate, post secondary diploma, Bachelor degree and post graduate) range from 0.9 percent in the Garu/Tempane District to 6.9 percent in the Bolgatanga Municipal District.

Table 7.10: Percentage distribution of the population 6 years and older by highest level of school attended or attending by sex

Highest Level of Education	Total	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga-tanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipality
Both Sexes										
Never	45.8	49.0	43.4	38.5	31.2	50.1	44.4	53.6	51.5	49.8
Nursery	0.8	1.0	0.7	0.9	0.8	1.4	1.0	0.7	0.8	0.5
Kindergarten	1.6	1.5	1.4	1.3	1.3	1.7	1.3	2.4	2.2	1.4
Primary	29.9	28.1	30.1	30.0	29.4	29.8	33.2	30.1	31.4	28.4
JSS/JHS	11.4	10.2	13.6	13.0	14.8	9.8	12.6	7.6	9.1	1.3
Middle	1.5	1.5	1.8	2.6	3.5	1.4	0.9	0.8	0.7	2.0
SSS/SHS	5.2	5.6	6.0	6.2	9.4	3.7	4.5	3.4	2.8	4.5
Secondary	0.4	0.4	0.5	0.6	1.0	0.4	0.2	0.2	0.3	0.5
Voc/Tech/Com	0.7	0.7	0.4	1.0	1.8	0.5	0.4	0.3	0.3	0.6
Post middle/sec. certificate	0.9	0.7	0.8	1.4	1.7	0.5	0.6	0.5	0.4	0.9
Post-secondary diploma	1.1	0.9	0.8	1.3	3.4	0.5	0.6	0.5	0.4	0.8
Bachelor degree	0.7	0.4	0.4	3.0	1.4	0.2	0.3	0.2	0.1	0.3
Post graduate (Cert. Diploma Masters PHD etc.)	0.1	0.1	0.1	0.2	0.4	0.0	0.0	0.0	0.0	0.0
N	870,294	77,687	60,101	91,914	11,572	95,562	70,194	77,006	106,022	180,236
Males										
Never	39.1	46.4	37.0	31.9	24.0	46.1	37.7	46.1	42.5	41.5
Nursery	0.9	1.1	0.8	0.9	0.8	1.4	1.1	0.7	0.9	0.6
Kindergarten	1.7	1.7	1.6	1.6	1.4	1.7	1.4	2.6	2.5	1.6
Primary	32.6	29.6	32.6	31.9	31.7	31.2	36.4	33.6	35.7	31.8
JSS/JHS	11.8	9.5	14.2	13.3	15.4	10.1	13.1	8.5	10.9	11.6
Middle	2.4	1.9	2.4	3.0	4.5	1.9	1.5	1.2	1.2	2.7
SSS/SHS	6.1	5.8	7.3	7.0	10.4	4.6	5.7	4.6	4.0	5.6
Secondary	0.7	0.5	0.7	0.8	1.5	0.6	0.4	0.3	0.4	0.9
Voc/Tech/Com	0.8	0.8	0.5	1.0	1.7	0.6	0.4	0.4	0.3	0.8
Post middle/sec. certificate	1.1	0.8	1.0	1.5	1.7	0.7	0.9	0.7	0.7	1.2
Post-secondary diploma	1.5	1.2	1.2	1.8	4.3	0.7	0.9	0.8	0.7	1.3
Bachelor degree	1.2	0.7	0.6	5.3	2.0	0.4	0.5	0.4	0.2	0.5
Post graduate (Cert. Diploma Masters PHD etc.)	0.2	0.1	0.1	0.3	0.6	0.1	0.0	0.1	0.1	0.1
N	415,806	37,847	29,355	44,502	52,574	47,543	3,262	36,406	49,726	85,291

					District					
Highest Level of Education	Total	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga-tanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipal
Females										
Never	51.9	51.4	49.6	44.8	37.6	54.1	50.3	59.7	59.4	57.2
Nursery	0.8	0.9	0.7	0.8	0.7	1.4	0.9	0.7	0.7	0.4
Kindergarten	1.5	1.4	1.3	1.2	1.2	1.7	1.1	2.1	2.0	1.3
Primary	27.4	26.7	27.7	28.3	27.4	28.4	30.4	26.9	27.6	25.3
JSS/JHS	10.5	10.8	13.3	12.8	14.3	9.4	12.2	6.7	7.5	9.1
Middle	1.2	1.1	1.3	2.2	2.6	0.8	0.5	0.4	0.2	1.3
SSS/SHS	4.2	5.3	4.7	5.5	8.5	2.9	3.4	2.3	1.7	3.4
Secondary	0.3	0.3	0.3	0.3	0.6	0.2	0.1	0.1	0.1	0.3
Voc/Tech/Comm.	0.6	0.5	0.4	0.9	1.8	0.4	0.3	0.3	0.2	0.4
Post middle/secondary certificate	0.7	0.7	0.5	1.3	1.6	0.3	0.4	0.3	0.2	0.6
Post-secondary diploma	0.7	0.6	0.4	0.9	2.8	0.2	0.3	0.2	0.2	0.5
Bachelor degree	0.3	0.2	0.1	0.9	0.8	0.1	0.1	0.1	0.0	0.1
Post graduate (Cert. Diploma Masters PHD etc.)	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0
N	454488	39840	30746	47412	58998	48019	37632	40600	56296	94945

Source: Ghana Statistical Service, 2010 Population and Housing Census

The distribution by sex shows that in each District, more females have never attended school than males. Also in each District more males than females have attended or attending primary level. There are more males than females who have attended or are attending JSS as their highest level in the entire District except Builsa District where the proportion of females 10.8 percent is slightly higher than that for males (9.5%).

Again in each District, the combined proportion of those who attended or are currently attending post middle/secondary certificate, post secondary diploma, Bachelor degree and Post Graduate is higher for males than for females.

It is also interesting to note that at all the three major educational progression levels i.e., Primary to JSS/SHS, JSS/JHS to SSS/SHS, SSS/SHS to Post middle and higher levels, there is a very substantial shrinking in the proportions. The almost 30 percent proportions for Primary school level shrank almost 19 proportion points to a mere 11.4 percent for JSS then shrank 6 proportion points from JSS/JHS to the SSS/SHS and again shrank by about fifty percent to 2.8 percent at the post middle and higher levels.

For all the transition levels, the shrinking is almost of the same magnitude for both males and females. The size of the male proportions shrank 21 proportion points from its peak of 32.6 percent at the primary level to 11.8 percent at the JSS/JHS level and by 6 proportion points between JSS/JHS and SSS/SHS. For the females, the peak proportion of 27.4 percent for the primary level shrank 17 proportion points to 10.5 percent at the JSS/JHS level and also shrank 6 proportion points from the JSS/JHS level to 4.2 percent at the SSS/SHS level. Only about fifty percent of those at SSS/SHS level move on to post middle and higher levels.

The rather large proportion of the population that attended or are attending basic school (44.4%) as the highest level in the Region "is not encouraging since the effects of education do not begin to manifest until beyond the basic level" (GSS 2000 Populations and Housing Census, Summary Report of Final Results, March 2002).

The traditional perception of females being more likely than males to drop out of school after primary school level may no longer hold since the downward reduction equally affects both males and females. The reasons for the downward trend with increasing educational level may be poor academic performance, non-availability of sufficient educational institutions at each higher level after primary school or lack of access to institutions due to distance, poverty or other social factors.

Trends in school Attendance

The census results of 1948 indicated that 96 percent of Ghanaians aged 6years and above had never attended school. This had reduced to 73 percent by 1960 then to 57 percent in 1970 and to 44 percent by 1984. But between 1984 and 2000, the percent fell only slightly to 38.8 percent (Ghana Statistical Service Population Data Analysis Report Volume 2, Pg 210, 2005). From the 2010 PHC, the proportion who have never attended school is 23.5 percent.

In the Upper East Region, which became an autonomous Region in 1983, the proportion that never attended school was 82.3 percent in 1984. It declined to 69.4 percent in 2000. In 2010 the figure, for the first time, fell below fifty percent (45.8%).

There have been differences between males and females. In 1984, 75.8 percent of males compared to 88.1 percent of females have never attended school. Sixteen years on, the proportion dropped to 64.0 percent of males and 74.4 percent of females. In 2000 the proportion of males who have never attended school fell to 39.1 percent and that of females was 51.9 percent.

This shows clearly the remarkable improvement in school attendance over the inter-census periods from 1984 to 2010.

7.4 Educational Attainment of Employed Persons 15 years and Older by Sex and Economic Characteristics

In order to establish if there is any association between educational attainment and economic characteristics, two characteristics (employment status and occupation) were selected for this report.

Employment status

Table 7.11 describes the distribution of the employed population aged 15 years and older in the Region by sex and employment status. The table shows that four categories of employment status predominate in the Region: self-employed without employees (62.1%), contributing family worker (25.1%), and self employed with employees (2.3%). These three categories comprise 89.5 percent of the workers and they are most likely engaged in family based economic activities. The fourth category is employees (7.4%).

Working for someone as an employee within the formal sector (public or private) definitely requires some level of education and literacy. Working as an employee in the informal sector may not necessarily require any level of education and literacy. Thus, employees are more likely to be educated.

Table 7.11: Population 15 years and older by level of education, sex and employment status

Employment status	Total	Never attended	Basic sch.	Sec/SSS	Voc/ Tech/ Comm.	Post middle/ secondary certificate	Post-sec. diploma	Degree or higher
Total	439,559	294,916	101,896	23,550	3,801	5,095	6,235	4,066
Employee	7.4	2.2	6.5	24.1	35.3	75.1	79.5	90.0
Self employed without employee(s)	62.1	70.3	51.5	41.3	42.3	16.3	11.4	4.7
Self employed with employee(s)	2.3	2.0	2.9	3.6	5.0	1.6	2.1	1.5
Casual worker	0.9	0.7	1.3	1.9	2.1	0.9	0.9	0.9
Contributing family worker	25.1	23.1	34.2	27.2	13.2	5.5	5.3	2.4
Apprentice	1.4	0.9	2.8	1.3	1.6	0.3	0.4	0.1
Domestic employee (House help)	0.7	0.8	0.6	0.5	0.5	0.2	0.4	0.2
Other	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.3
Male								
Total	206,437	122,189	56,471	15,091	2,202	3,126	4,210	3,148
Employee	10.5	3.4	8.5	24.9	34.9	70.9	76.5	89.9
Self employed without employee(s)	63.3	76.2	51.4	42.0	43.0	19.9	13.5	5.1
Self employed with employee(s)	2.4	2.1	2.8	3.6	5.0	1.9	2.5	1.5
Casual worker	1.2	0.8	1.6	2.1	2.0	1.0	0.9	0.8
Contributing family worker	20.8	16.1	32.8	25.8	13.1	5.9	5.7	2.2
Apprentice	1.0	0.5	2.1	1.1	1.5	0.2	0.3	0.1
Domestic employee (House help)	0.7	0.8	0.6	0.5	0.3	0.1	0.3	0.2
Other	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2
Female								
Total	233,122	172,727	45,425	8,459	1,599	1,969	2,025	918
Employee	4.6	1.4	4.0	22.6	36.0	81.7	85.6	90.3
Self employed without employee(s)	60.9	66.1	51.7	40.0	41.5	10.6	7.0	3.3
Self employed wit employee(s)	2.2	1.9	3.0	3.5	4.9	1.2	1.1	1.5
Casual worker	0.7	0.6	1.0	1.6	2.1	0.8	0.8	1.0
Contributing family worker	29.0	28.0	36.0	30.0	13.2	4.9	4.5	3.3
Apprentice	1.7	1.2	3.6	1.6	1.7	0.4	0.4	0.0
Domestic employee (House help)	0.7	0.8	0.6	0.6	0.7	0.3	0.4	0.1
Other	0.1	0.2	0.1	0.2	0.0	0.2	0.0	0.5

Source: Ghana Statistical Service, 2010 Population and Housing Census

The table shows that, with reference to employees, there is a concentration of people with higher education. Only 2.2 percent of those who have never attended school are employees, 6.5 percent of those with basic education are employees and as many as 90.0 percent of degree or higher holders are employees.

The opposite trend emerges with the self employed without employees. Among those who have never attended school, 70.3 percent are self employed without employees and only 4.7 percent of those with degree or higher tend to be self-employed without employees. In relation to the status category "contributing family worker" there is also a concentration of people with lower level of education as found for the self employed without employees.

Examining the same data in a dichotomy of never and ever attended school table 7.12 reveal the influence of education on employment status in terms of concentration between the never and ever attended school.

Table 7.12: Population aged15 years and older by school attendance and employment status

Employment status	Total	School attendance	
		Never attended	Ever attended
Employee	32,556	19.9	80.1
Self-employed without employees	272,787	76.0	24.0
Self-employed with employees	10,058	57.9	42.1
Casual worker	4,031	49.9	50.1
Contributing family worker	110,475	61.5	38.5
Apprentice	5,937	45.4	54.6
Domestic employee (househelp)	3,077	74.5	25.5
Other	638	66.8	33.2

Source: Ghana Statistical Service, 2010 Population and Housing Census

In relation to employees, 80.1 percent have attended school, whereas only 24.2 percent of the self-employed without employees have attended school. For domestic employee (House help), a job that is low paying and generally does not have education as an entry requirement, 74.5 percent have never attended school. Further analysis applying chi-square test (Appendix 1) found a strong association between education and employment status (P value <00001)

Occupation

The data on educational level by occupation and sex (Table7.13) reveal that the higher the education level of the population, the less likely they are to engage in agricultural activities which is the main occupation in the Region employing 70.5 percent of the total population aged 15 years and older. The never attended school have the highest proportion of people in agriculture (78.3%) followed by basic education (63.7%). Almost fifty percent (47.4%) of those with Secondary/SSS are also in Agriculture. There is a concentration of people with higher education in the professional class. Less than one half of one percent (0.2%) of the never attended school is professionals. The proportion rose to 9.8 percent of those with Secondary/SSS. Above post middle/secondary through to degree or higher, more than fifty percent are professionals.

This pattern is the same for males and females. The table further indicates that at all the educational levels, males out number females in skilled agriculture, forestry and fisheries in proportionate terms. On the other hand, females have reasonably higher proportions professionals than males. This could be an example of how education can bridge the traditional gap between males and females in many fields of endeavour. Further analysis applying chi-square test (Appendix 2) found a strong association between education and employment status (P value <00001).

Table 7.13: Population aged 15 years and older by level of education, sex and occupation

Occupation	Total	Total	Never attended	Basic sch.	Sec/SSS	Vocational / Technical / Commercial	Post middle/ secondary certificate	Post-secondary diploma	Degree or higher
Total	**439,559**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Managers	4,224	1.0	0.5	1.0	1.7	2.6	3.0	6.1	16.5
Professionals	12,818	2.9	0.2	1.0	9.8	9.5	54.3	52.6	59
Technicians and associate professionals	3,444	0.8	0.2	0.6	3.0	4.1	12	7.8	6.1
Clerical support workers	2,802	0.6	0.1	0.5	2.4	7.8	4.0	10.3	9.1
Service and sales workers	42,725	9.7	8.1	12.8	18.1	17.8	6.3	6.5	2.1
Skilled agricultural forestry and fishery workers	309,726	70.5	78.3	63.7	47.4	27.3	16.5	11.4	5.6
Craft and related trades workers	43,661	9.9	8.9	13.4	10.4	22.4	2.3	3.2	0.8
Plant and machine operators and assemblers	8,711	2	1.5	3.3	3.2	4.2	0.7	1	0.3
Elementary occupations	11,274	2.6	2.1	3.7	3.8	3.8	0.6	0.9	0.4
Other	174	0.0	0.0	0.0	0.3	0.4	0.3	0.3	0.2
Male									
Total	206,437	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Managers	1,948	0.9	0.3	0.7	1.5	2.5	3.4	6.5	17.1
Professionals	8,117	3.9	0.2	1.1	9.4	9.1	52.4	51.1	57.3
Technicians and associate professionals	2,469	1.2	0.4	0.9	3.3	4.8	9.6	8.5	6.7
Clerical support workers	1,737	0.8	0.2	0.7	1.9	3.5	4.3	8.1	9.1
Service and sales workers	11,221	5.4	3.9	6.7	13.2	10.7	4.6	5.3	2.1
Skilled agricultural forestry and fishery workers	152,591	73.9	84.6	69.5	51.6	32.3	21.1	13.9	5.9
Craft and related trades workers	15,532	7.5	5.3	11.7	10.6	26.1	2.6	3.9	0.9
Plant and machine operators and assemblers	6,966	3.4	2.5	5.2	4.7	6.9	1.1	1.4	0.4
Elementary occupations	5,710	2.8	2.5	3.6	3.4	3.5	0.6	1.0	0.2
Other	146	0.1	0.0	0.0	0.4	0.7	0.4	0.3	0.3
Female									
Total	233,122	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Managers	2,276	1.0	0.7	1.3	2.0	2.8	2.4	5.3	14.6
Professionals	4,701	2.0	0.2	1.0	10.5	10.1	57.4	55.8	64.6
Technicians and associate professionals	975	0.4	0.1	0.2	2.5	3.3	15.9	6.3	4.0
Clerical support workers	1,065	0.5	0.0	0.2	3.3	13.8	3.5	14.9	8.7
Service and sales workers	31,504	13.5	11.1	20.5	26.7	27.7	8.9	8.9	2.2
Skilled agricultural forestry and fishery workers	157,135	67.4	73.8	56.5	39.9	20.5	9.2	6	4.4
Craft and related trades workers	28,129	12.1	11.5	15.5	10.1	17.3	2	1.7	0.5
Plant and machine operators and assemblers	1,745	0.7	0.7	0.9	0.5	0.4	0.2	0.2	0.0
Elementary occupations	5,564	2.4	1.9	3.9	4.5	4.1	0.6	0.6	1.0
Other	28	0.0	0.0	0.0	0.1	0.1	0.0	0.3	0.0

Source: Ghana Statistical Service, 2010 Population and Housing Census

CHAPTER EIGHT

FERTILITY, MORTALITY AND MIGRATION

8.1 Introduction

The region's population growth like that of any other Region is the result of the interplay of births, deaths and migration. These three factors are influenced by the socio-economic and cultural environment. In addition, the factors themselves are sometimes reciprocally interrelated. For example, early age at marriage and child birth and the practice of long child bearing periods into the early forties by women increases health risks to the mother and child. At the same time, child death increases the probability of a couple wanting to have another child.

Both internal and international migration constitutes important dynamic aspects of growth, structure and distribution of the Region's population. Since independence in 1957, the Region in particular has seen accelerated voluntary migrations, mainly of an economic character (labour migration) into other parts of the country or out of the country.

The objectives of the chapter are to:

- Examine fertility levels, patterns and differentials

- Mortality levels, patterns and differentials and

- Migration trends, socio-economic characteristics of migrants and urbanization.

8.2 Fertility

Fertility refers to the number of live births that women have during their reproductive life span, usually taken to be 15-49 years. Fertility is determined by a number of factors, including the physiological capacity of the woman to reproduce. These, in turn, are affected by a variety of social, cultural, health, economic and other environmental factors.

Birth registration data constitute the most accurate source of data for the calculation of various fertility indices. Birth registration data, however, is neither complete, nor timely in the Region in particular and the country as a whole.

Three specific questions asked in the 2010 Population and Housing Census provide the information on both current and life time fertility which are used to measure fertility in this chapter.

For life time fertility, females 12 years and older were asked to report on

(i)   The number of children they have ever born alive by sex

(ii)   The number born alive and still surviving

The current fertility question asked females aged 12–54 years to report on

(iii) The number of children born alive in the past 12 months (before the census date) by sex.

Children Ever Born: The average number of children born to a woman at the end of the reproductive period (40-49) years is an indication of the cumulative fertility of the woman and is called completed family size. If fertility remained unchanged for the earlier thirty years or more, completed family size would be equal to total fertility rate. Completed family size, however, is not an indicator of current fertility because the births to these women occurred in the past of varying times in a period extending about 25 years.

Children Born In The Past Twelve Months: The average number of children ever born to women in the 12 months preceding the census according to the age of mother is an indication of the age pattern of fertility (age-specific fertility rate) and also measures current fertility behaviour.

Fertility Measures for the Region and Districts

Current fertility data (births in the last 12 months to women 15-49 years have been used to estimate the following fertility measures (Table 8.1) for the Region and the Districts using the U.S. Bureau of the census PAS: TFR-GFR.XLS VER 4.01.

(i) *Crude Birth Rate (CBR):* The crude birth rate is the number of births per 1,000 populations in a given year ('crude' because it relates to the entire population rather than the section of the population capable of giving birth). The crude birth rate for the Region (using "births in last twelve months" as numerator and the population count in the 2010 Census as denominator) is 22.67 births per 1,000 population. The Region's crude birth rate (22.67) which is lower than the national average of 24.90; also recorded decline from the 2000 figure of 27.4 births per 1,000 population.

At the District level, the crude birth rate varies from 18.79 in the Kasena Nankana West District to 25.69 in the Builsa District, with most of the Districts reporting rates higher than the Regional figure.

Table 8.1: Fertility Indicators by District

District	TFR	GFR	CBR
All Districts	3.43	97.49	22.67
Builsa	3.60	109.2	25.69
Kasena Mankana West	2.49	77.8	18.79
Kasena Mankana East	3.16	97.9	23.53
Bolgatanga Municipality	2.70	88.5	23.80
Talensi Nabdam	3.47	104.6	22.74
Bongo	3.44	101.2	23.87
Bawku West	3.53	106.2	23.97
Garu Tempane	3.66	106.2	22.94
Bawku Municipality	2.99	93.1	21.82
Total Country 2010 Population Census	3.28	96.80	24.90
Total Country 2000 Population Census	4.19	125.6	27.4

Source: Ghana Statistical Service, 2010 Population and Housing Census

(ii) General Fertility Rate (GF*R):* The general fertility rate is the number of births per 1000 women aged 15-49 years in a given year. It differs from CBR in that the denominator relates to women in the reproductive age groups and not the total population. The rate for the Region is 97.49, meaning that in the Region about 97 children are born in a year to a 1000 women in the age group 15-49. This rate is close to the current national figure of 96.80. It is, however lower than the 125.6 obtained from the 2000 census (Table 8.1).

At the District level, the rates follow the same pattern as the CBR with the Builsa District recording the highest rate of 109.2 and Kasena Nankana West District, the lowest rate of 77.8. Again most of the Districts reported rates higher than the Regional figure.

(iii)Total Fertility Rate (TFR): The total fertility rate represents the average number of children that would be born alive to a woman during her lifetime (15-49) if she were to pass through all her child bearing years conforming to the age-specific fertility rated of a given year.

The TFR for the Region is 3.43 births per woman. This rate is almost one child less than the Regional figure of 4.2 births per woman obtained from the 2000 Population and Housing Census, and also only slightly higher than the national average (3.28) obtained from the 2010 census.

8.2.1   Fertility Levels and Patterns

In the Region, all the three fertility measures have declined between 2000 and 2010. The total fertility rate has declined from 4.19 in 2000 to 3.43 in 2010, a decrease of 18.14 percent.

The general fertility rate has declined from 125.6 births per 1000 women aged 15-49 years in 2000 to 97.49 births per 1000 women aged 15-49 years in 2010, while the crude birth rates (CBR) were 27.4 and 22.7 per 1,000 population in 2000 and 2010 respectively.

According to the National Report (2012) - Chapter on Fertility "reported TFRs are low due in part to age misstatement and underreporting of current fertility". Adjusting the reported TFR using Brass relational Gompertz model, the National Report arrived at a "more plausible estimated TFR" for the Region. The adjusted total fertility rates for the Region were 6.47 for 2000 and 5.31 for 2010. The data show that both the reported and adjusted rates show a decline between 2000 and 2010.

Another fertility measure based on retrospective data (children ever born) used to describe fertility levels is the mean number of children ever born. The mean number of children ever born to women aged 45-49 years can be regarded as completed fertility, to the extent that the women providing the information are not different in their fertility behaviour from the original birth cohort that is, provided that death and migration have a minor effect on the estimate and provided that omission of children who have died is not a serious problem. The mean number of children ever born to women aged 45-49 which can be regarded as completed fertility has remained the same (5.5) in 2000 and 2010.

A comparison between the TFR and the MCEB gives an indication of the extent and direction of fertility change. Whereas the TFR for the Region gives some indication of a decline in fertility of about one child per woman between 2000 and 2010, the MCEB provides a picture of a stable but high fertility.

8.2.2   Age Pattern of Fertility

The reported number of children ever borne alive in the past 12 months preceding the census according to the age of the mother (age-specific fertility rate) is an indication of the age pattern of fertility. Age-specific fecundity, that is, the physiological capacity to bear children during the child bearing years is not uniformly distributed. It has been observed that the physiological capacity for child-bearing is low in the younger age groups (15-19 years) reaches its peak at ages between 20 and 29 years and then it tapers off till the age of 50 years when it reaches the zero mark.

Actual reproductive behaviour, however, is influenced by social, cultural, health and other factors that come into play alongside the physiological capacity.

The distribution of fertility by age of women in the reproductive age group (Figure 8.1) shows that in the country and in the Region child bearing peaks at the age 25-29 years. The attainment of maximum fertility in the 25-29 years age group has been consistent in the country over the years (Nyarko, 2005).

Fig. 8.1: Age Specific Fertility Rates, Ghana and Upper East Region, 2010
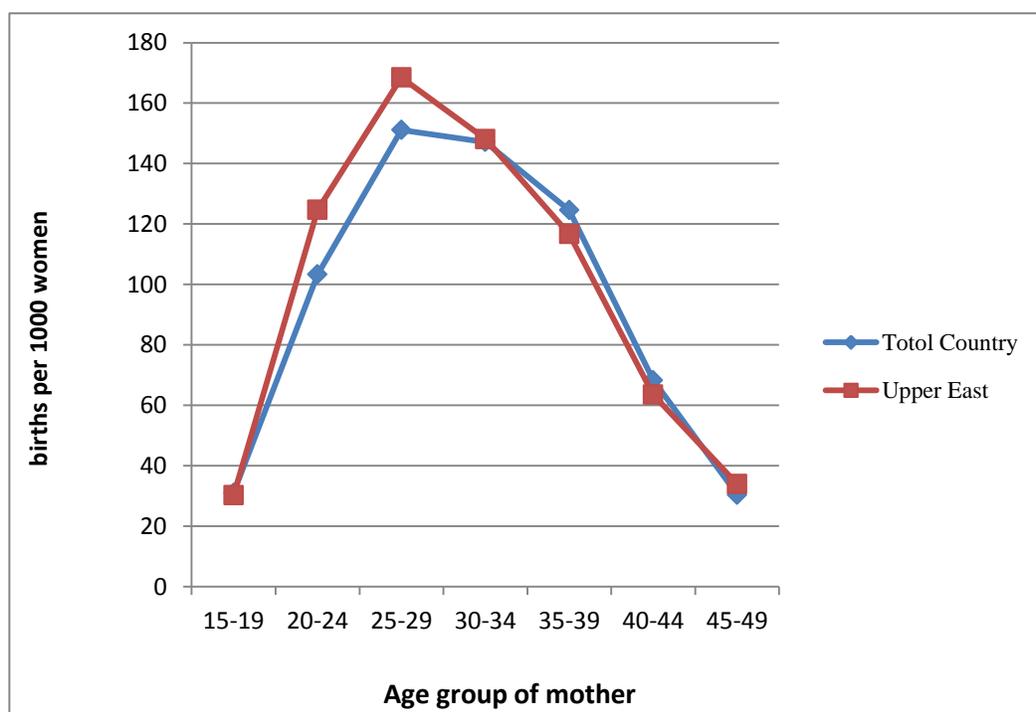
Source: Ghana Statistical Service, 2010 Population and Housing Census

The data for the country show that child bearing still goes on throughout the entire child bearing period (15-49 years) with the rate of 30.4 for 45-49 years age group (end of the child bearing period) being close to the rate 31.0 for 15-19 year age group (the beginning of the child bearing period. In the Region the same pattern prevails, with the specific rate of 30.2 for the beginning group not significantly different from the 33.9 for the ending age group.

Although the age pattern of fertility is the same for the country and the Region the rates for age groups 20-24, 25-29 and 30-34 years are higher in the Region, compared to the county as a whole.

8.2.3 Fertility Differentials

Table 8.2 presents differentials in the mean number of children ever born to women aged 45-49 years by two background characteristics: type of locality i.e. urban-rural residence, and educational attainment of mother.

Locality of Residence

Locality of residence is considered an important influential factor in fertility analysis. Residing in a rural or urban area has some influence on fertility. Living and environmental conditions of the locality and the behavioural patterns of people in the particular locality tend to impact on the level of fertility.

The data show that in the Region, the mean number of children ever born to women aged 45-49 years is about 14 percent higher in the rural areas than in the urban areas (5.62 versus 4.84). For every level of education including the no education category, reported rural fertility is higher than urban fertility.

Educational Level

In terms of educational attainment of the mother, as expected, mother's education is inversely related to the mean number of children ever born to women aged 45-49 years. The fertility of women with primary education is seven percent lower than that of women with no formal education. The fertility of women with middle/JSS education is about 19 percent lower than that of those who have never attended school. Women with Bachelors degree or higher levels of education reported a fertility level that is 33 percent lower than that of their counterparts with no formal education. According to Nyarko (2005), this demonstrates the effect of education beyond the primary level on women's reproductive behaviour, because of the exposure and broadening on the benefits of smaller size and contraception use vis-a-vis opportunities for economic and income generating ventures.

Table 8.2: Mean numbers of children ever born to women 45-49 years by level of education of mother and type of locality

Level of Education	Mean number of Children ever born		
	Total	Urban	Rural
All Categories	4.71	4.84	5.62
Never attended school	5.61	5.17	5.70
Primary	5.22	4.73	5.42
Middle/JSS/JHS	4.56	4.25	4.85
SSS/SHS	3.40	3.31	3.49
Vocational/Tech/Comm.	3.34	3.18	3.41
Post-Middle	3.33	3.26	3.42
Post Secondary Diploma	3.30	3.36	3.18
Bachelor Degree or higher	3.78	2.72	2.93

Source: Ghana Statistical Service, 2010 Population and Housing Census

8.2.4 Childlessness

In Ghana, childlessness is regarded as a tragedy. The great value placed on children is evident in linguistic labels, especially those found in proverbs, names and tales. An example is the saying that "a delinquent child is better than childlessness". As far back as 1950 Fortes stated that among the Ashanti, "prolific childbearing is honoured and a mother of ten boasts of her achievement and is given a public ceremony of congratulations; by contrast, a barren woman is looked upon with pity not unmixed with scorn. Childlessness is felt by both men and women as the greatest of all personal tragedies and humiliations".

For this section, childlessness is measured as "the proportion of females with no child by age 35 years" (G.SS National Report Chapter nine-2012). Childlessness may be assumed to be natural and or voluntary.

The percentage of childless females aged 35 years and older for all the Regions of the country is presented in Table 8.3. The table shows that about seven percent (6.9%) of females in the Region are childless compared to the national figure of 10.1 percent

Table 8.3: Percentage of childless females aged 35 years and older by region, 2010

Region	Number of females	Number of childless females	Percentage
Western	302,746	28,255	9.3
Central	332,604	23,720	7.1
Greater Accra	572,482	72,299	12.6
Volta	345,776	28,221	8.2
Eastern	409,572	30,349	7.4
Ashanti	657,810	55,136	8.4
Brong Ahafo	298,892	19,767	6.6
Northern	280,288	34,518	12.3
Upper East	162,302	11,145	6.9
Upper West	103,005	10,417	10.1
All Regions	3,465,477	313,827	9.1

Source: Ghana Statistical Service, 2010 Population and Housing Census

8.3 Mortality

8.3.1 Introduction

The quality of life in the Region rests ultimately on the basic conditions which influence health, morbidity and mortality in the population. These factors include the biological make-up of individuals, prevalence and severity of specific diseases, social, economic and environmental conditions as well as the availability, accessibility, affordability and utilization of health care facilities.

Mortality levels, patterns, trends and differentials are very important indicators of the health status of the population. They provide information about the major causes of illness, disability and death in the Region. They also provide indications on variations in these causes of illness and death between sub-groups of the population, locality type, Districts and changes in the different causes of mortality over time. This information plays a vital role in development planning in general, and the planning, monitoring and evaluation of the expansion of and efficiency of healthcare delivery in particular.

The conventional measurement of mortality requires information on the number of deaths, the socio-economic characteristics of the dead, and on the population at risk of dying. Data used in measuring mortality rates in this section were collected from the fertility and mortality section of the 2010 Population and Housing Census questionnaire. Data were obtained from responses to questions on "births and deaths in the last 12 months" and those obtained from responses relating to children surviving. Data on maternal deaths were obtained from responses to the question whether any deaths among females 12-54 years old occurred "whilst pregnant, during delivery, or within 6 weeks after the end of a pregnancy or child birth".

Concepts and Definitions

This section is largely taken from National Report: Chapter 10 on Mortality

(a) Crude Death Rate (CDR*)*: The crude death rate refers to the number of deaths per 1000 population in a given year ("crude" because, although deaths occur in the entire population the rate of occurrence is not uniform or evenly distributed among all ages).

(b) Age-Sex Specific Mortality (ASDR*)*: The age specific death rate is computed as a ratio of deaths of people in a specific age group, for example 15-19 years, to the population in that age group (15-19 years) multiplied by 1,000. The rate is often computed for males and females separately.

(c) Infant Mortality Rate (IMR*)*: The infant mortality rate is an age-specific rate relating the number of deaths less than one year, in the past 12 months, to the total number of births in the same period. It measures the probability of dying between birth and age one year. The infant rate is expressed per 1,000 live births.

(d) Child Mortality Rate (CMR): This is the probability of dying between age one and five.

(e) Under Five Mortality Rate (U5MR): The Under five mortality rate is also an age specific death rate. It is a combination of infant and child mortality rates and is defined as the probability of dying between birth and exact age five. The under five mortality rate is expressed per 1000 children.

(f) Maternal Mortality Ratio and Maternal Mortality Rate (MMR): The maternal mortality ratio is defined as the number of deaths due to pregnancy related causes per 100,000 live births, while the maternal mortality rate relates the number of deaths due to pregnancy related causes to the number of women in the child bearing ages.

(g) Survival Rates of Children Ever Born*:* The survival rate is the percentage of all children ever born who are still alive at the time of the census, irrespective of the current age of the child.

Methods of Analysis

The analysis of crude death rate, child survival rate and age specific mortality rates used direct procedures to measure the rates based on the 2010 Population and Housing Census data. The Brass indirect estimation technique, taking data on children ever born (CEB) and children surviving (CS) by age of mother was used to derive estimates of childhood mortality. The results reported are those provided from the National Report Chapter 10 on Mortality.

8.3.2 Patterns of Mortality

Survival rate of children ever born

The number of children surviving out of the number ever borne alive is a measure of the overall force of mortality. However, unlike information from death registration data, it cannot measure the age pattern of death, which is crucial for the study of age-related morbidity and mortality. The survival rate is the percentage of all children ever born who are still alive at the time of the census, irrespective of the current age of the child. Table 8.4 shows that the experience of deaths of children is widespread in the Region. About 15 percent of children born alive had died at the time of the census.

Table 8.4: Survival Rates of Children ever born and current age of mother

Current Age of Mother	Survival rate and Sex of Child		
	Total	Male	Female
12-14	80.8	84.6	76.9
15-19	88.1	85.9	90.3
20-24	88.9	86.8	91.2
25-29	89.7	88.3	91.0
30-34	88.8	88.1	89.4
35-39	87.0	86.5	87.5
40-44	83.8	83.5	84.1
45-49	81.6	81.2	82.0
50-54	78.4	77.9	78.8
All Ages	84.8	84.2	85.5

Source: Ghana Statistical Service, 2010 Population and Housing Census

The survival rates are lowest among children of the maternal age group 12-14 years. This is most likely due to both the small number of children ever born and the elevated risk of death among the children of very young mothers. The survival rates are also low among children of women who are currently fifty years and older. This is likely due to the longer duration of exposure to the risk of dying the children of these women and poorer health and economic conditions in the past. Although more boys are known to be born than girls, at every specific maternal age, except the 12-14 age group, Table 8.4 shows that more female children survive.

Crude Death Rate

The computed crude death rate for the Region is 10.8 deaths per 1,000 population, using the reported deaths in the year preceding the census as numerator and the total population of the Region as denominator. The rate is far higher than the national death rate of 6.6 per 1,000 population.

Infant and under-five Mortality

It has been noted that in the developing countries, children under five make up 14 percent of the total population but account for up to 80 percent of all deaths annually. In the developed countries, children make up eight percent of the population but account for only three percent of deaths (Population Information Programme, 1984). Over the past three decades, there have been considerable declines in infant and child morality as evident from the five Ghana Demographic and Health Surveys (GDHS surveys) conducted in 1988, 1993, 2003 and 2008 (Ghana Statistical Service, 2009). However, despite the declines, under-five mortality takes away a sizeable proportion of the Region's potential physical, social and human capital.

In the Region, children under five make up about 14 percent of the total population but account for one out of every four deaths (26.9%). Males aged less than five make up 14.8 percent of the total population but suffer almost one out of every three of the deaths (30.4%). Similarly, females aged below five years make up 13.1 percent of the total population but account for about one out of every five of the deaths (22.1%). The infant and Under 5 mortality rates by District are presented in Table 8.5.

As shown in the table, in the five years preceding the 2010 census, infant mortality across the Districts ranged between 64 deaths per 1000 live births in the Bawku Municipal District to 87 deaths per 1000 live births in the Talensi/Nabdam District. Five Districts including the Regional capital District (Bolgatanga Municipality) have rates higher than the Regional figure of 74 deaths per 1000 live births.

During the same period, under-five mortality rate across the Districts ranged from 100 deaths per 1000 children in the Bawku Municipal District to 140 deaths in the Talensi/Nabdam District. Disparities in the distribution of health and medical facilities and other factors such as education of females and differential levels of social and economic development between Districts have often been used to explain variations in levels of infant and under-five mortality rates. The most endowed Districts in terms of health facilities and socio-economic development (Bolgatanga Municipality, Bawku Municipality and Kasena Nankana East) have comparatively lower infant and under-five mortality rates.

Table 8.5: Infant and under 5 mortality rates by district

District	Infant Mortality	Under five mortality	Reference period
All Districts	74	117	2003-2007
Builsa	69	108	2003-2007
Kasena Nankana West	77	123	2003-2007
Kasena Nankana East	71	110	2003-2007
Bolgatanga Municipality	76	120	2003-2007
Talensi Nabdam	87	140	2003-2007
Bongo	83	132	2003-2007
Bawku West	77	123	2003-2007
Garu Tempane	73	114	2003-2007
Bawku Munipality	64	100	2003-2007

Source: Ghana Statistical Service, 2010 Population and Housing Census

It must be remembered that "The data obtained from the 2010 Population and Housing Census were used to estimate mortality for a period of 12 months preceding the census date. Census data are affected by misreporting of age at death, misreporting of age at birth and underreporting of deaths and births. Misreporting of infant deaths is usually more substantial in early infancy and also in cases where deaths took place a long time ago" (G.S.S. National Report, Chapter 10. (2012).

Table 8.6 presents the IMR and Under-Five Mortality for the Region. The table shows that the infant mortality rate by age of mother depicts high infant deaths among teenagers (15-19) with a rate of 131 deaths per 1000 live births, declining by almost fifty percent to its lowest level of 72 for those aged 30-34. It then rises with advancement of age and very rapidly among the older women aged 40-44 and 45-49 years with rates of 85 deaths per 1000 live births and 87 deaths per 1000 live births respectively. A virtually similar age pattern is evident from the Under-five mortality rates. Teenage mothers suffer the highest under-five mortality rate of 222 deaths per 1000 children.

Table 8.6: Infant and under five mortality estimates

Age of mother	Reference period	Infant Mortality 2010	Reference period	Under-five Mortality 2010
15-19	2009.7	131	2009.7	222
20-24	2008.6	92	2008.6	149
25-29	2007.0	74	2007.0	117
30-34	2005.0	72	2005.0	114
35-39	2002.7	76	2002.7	120
40-44	2000.2	85	2000.2	137
45-49	1997.3	87	1997.3	140

Source: Ghana Statistical Service, 2010 Population and Housing Census

Maternal Mortality

Pregnancy and child birth should be events that bring joy to families in the Region. But for many families, pregnancy and child birth have brought only sorrow and heartbreak as a result of maternal deaths (i.e. deaths during pregnancy, delivery or within 42 days after the termination of a pregnancy).

Table 8.7 shows that the maternal mortality ratio for Ghana as a whole is 485 maternal deaths per 100,000 live births. The maternal mortality rate, that is, in terms of exposure to the risk of dying as a result of pregnancy related causes, five women die out of every 1,000 women of child bearing age. The situation is very much more depressing in the Upper East Region. The Region reported 1,806 deaths to women 12-54 years. Out of the number 193 are recorded as pregnancy-related deaths. The maternal mortality ratio for the Region is the highest in the country, (802 per 100,000 live births). In terms of exposure to the risk of dying as a result of pregnancy related causes, six women die out of every 1,000 women.

Table 8.7: Maternal mortality ratios and rates by region

Total country/Region	Maternal Mortality Ratio (per 100,000 live births)	Maternal Mortality Rate (per 1000 women)
Total country	485	5
Western	435	4
Central	520	5
Greater Accra	355	2
Volta	706	6
Eastern	538	5
Ashanti	421	3
Brong Ahafo	421	4
Northern	531	5
Upper East	802	6
Upper West	466	4

Source: Ghana Statistical Service, 2010 Population and Housing Census

Age-Specific Mortality

Death rates by sex are calculated for specific age groups in order to compare mortality at different ages for males and females. Table 8.8(a) shows that the rates are highest (above 20 deaths per 1000 population) among the youngest and the older age groups 60-64, 65-69 and 70 years and above. The rate declines to its lowest level among the population aged 10-14 years and then rises steadily with advancement of age and very rapidly among the older population from 60 years.

Table 8.8a: Age Specific Mortality Rates

Age Group	Population	Number of Deaths	ASDR	Percentage Distribution of Population	Percentage Distribution of Deaths
(Both Sexes)					
Under 5	145,313	3,048	21.0	13.9	26.9
5-9	152,242	414	2.7	14.5	3.7
10-14	137,064	248	1.8	13.1	2.2
15-19	115,952	290	2.5	11.1	2.6
20-24	82,512	392	4.8	7.9	3.5
25-29	67,824	485	7.2	6.5	4.3
30-34	57,984	580	10.0	5.5	5.1
35-39	51,323	526	10.3	4.9	4.6
40-44	45,514	606	13.3	4.3	5.3
45-49	37,717	508	13.4	3.6	4.5
50-54	35,251	582	16.5	3.4	5.1
55-59	21,210	378	17.8	2.0	3.3
60-64	25,058	537	21.4	2.4	4.7
65-69	16,020	397	24.8	1.5	3.5
70+	55,561	2348	42.3	5.3	20.7
All Ages	1,046,545	11,339		100.0	100.0

Source: Ghana Statistical Service, 2010 Population and Housing Census

The data also show that, in addition to the under 5 age group, the percentage share of total deaths is higher than the percentage share of total population from age 40-44 onwards.

Tables 8.8(b) shows that the rates are lower for females than for men in all age groups apart from those aged 10-14, 15-19 and 20-24 which are slightly higher for females. The data support the accepted position that the number of male births outnumbers that of female births. However, the mortality rates for females have a tendency to be lower than that for males throughout the life span, especially at advance ages.

Table 8.8b: Age Specific Mortality Rates Upper East Region (Males and Females)

Age Group	Population Males	Population Females	Number of Deaths Males	Number of Deaths Females	ASDR Males	ASDR Females	Percentage Distribution of Population Males	Percentage Distribution of Population Females	Percentage Distribution of Deaths Males	Percentage Distribution of Deaths Females
Under 5			1,977	1,071	26.4	15.2	14.8	13.1	30.4	22.1
5-9			243	171	3.1	2.3	15.4	13.8	3.7	3.5
10-14			115	133	1.6	2.0	14.1	12.1	1.8	2.8
15-19	60,310	55,642	133	157	2.2	2.8	11.9	10.3	2.0	3.2
20-24	40,214	42,298	187	205	4.7	4.8	7.9	7.8	2.9	4.2
25-29	30,651	37,173	248	237	8.1	6.4	6.0	6.9	3.8	4.9
30-34	25,615	32,369	266	314	10.4	9.7	5.1	6.0	4.1	6.5
35-39	22,693	28,630	272	254	12.0	8.9	4.5	5.3	4.2	5.2
40-44	19,402	26,112	314	292	16.2	11.2	3.8	4.8	4.8	6.0
45-49	16,564	21,153	307	201	18.5	9.5	3.3	3.9	4.7	4.2
50-54	15,459	19,792	325	257	21.0	13.0	3.1	3.7	5.0	5.3
55-59	9,821	11,651	260	118	26.5	10.4	1.9	2.1	4.0	2.4
60-64	10,407	14,651	319	218	30.7	14.9	2.1	2.7	4.9	4.5
65-69	6,765	9,255	233	164	34.4	17.7	1.3	1.7	3.6	3.4
70+	2,4241	31328	1,300	1,048	53.6	33.5	4.8	5.8	20.0	21.7
All Ages	506,405	540,140	6,499	4,840			100.0	100.0	100.0	100.0

Source: Ghana Statistical Service, 2010 Population and Housing Census

However, this assertion deviates from the total country picture where it was found that the rates among females are higher than those of males in the child bearing age brackets (ie, 15-49 years), an indication of relatively high maternal mortality in the country (National Report Chapter 10, Mortality 2012).

8.3.3 Mortality Trends

According to the National Report Chapter on Mortality (GSS2012) Nationally, there has been a steady decline of under-five mortality since the 1940s, falling from 343 deaths per 1000 children in the late 1930s to 274 in the late 1940s and early 1950s and 209 deaths per 1000 children in the mid – 1960s. The down ward trend continued throughout the 1970s and 1980s with the mortality rate dropping to between 126 and 132 in the late 1980s. The tempo of decline slowed down significantly during the 1990s with the estimated under five mortality rate of 112 deaths per 1000 children in the early 1990s more of less stalling towards the end of the 20th century. The downward trend resumed at a very slow pace at the beginning of the 21st century falling to between 88 and 90 deaths per 1000 children during the period 2000- 2007.

Trends in under-five mortality are important because this rate is often used as an indicator of the level of health in a country. Reduction of under-five mortality is the fourth of the United Nations Millennium Development Goals. In relation to the Upper East Region it has been noted that

though the rates have been decreasing, the under-five mortality is still quite high compared with the rates in the other Regions.

Table 8.9: Under-five mortality rate

Reference Period	Rate	Source of Data
1992 – 1996	179	2000 PHC
1997 – 2000	96	DHC 2003
2001 – 2006	146	DHS 2008
2003 – 2007	128	2010 PHC

Source: Ghana Statistical Service, 2010 Population and Housing Census

8.3.4   Differentials in Mortality

Although each and every person is expected to die, the occurrence of death is influenced by two main factors: differential exposure to the risk of death and differential access to health care facilities and technology. These two factors in turn are influenced by a complex interplay of biological, demographic, economic, socio-cultural, environmental and political factors. It has been established that specific factors such as educational attainment, occupation, marital status, locality of residence and the quality of health facilities exert some influence on mortality. In this section the number of children surviving out of the children ever born (a measure of the overall force of mortality) is examined in relation to educational attainment and type of locality of residence.

Locality of Residence

Table 8.10 shows that the proportion of children dead at the time of the census varies by type of locality. Children of rural parents have an elevated probability of dying compared to their urban counterparts; and in both urban and rural areas, the overall risk of death is higher for males than for females.

Table 8.10: Proportion of total children ever born, dead by sex and type of locality

Child loss in Upper East	Child loss in Urban Areas	Child loss in Rural Areas
Total 15.2	Total 14.1	Total 15.2
Male 15.8	Male 15.1	Male 16.0
Female 14.5	Female 13.2	Female 14.8

Source: Ghana Statistical Service, 2010 Population and Housing Census

Educational Attainment

Table 8.11 shows a steady decline in the experience of child loss with increasing level of education of mother in both urban and rural areas. In the Region as a whole, children of mothers with primary education have a 12 percent [1]lower [2]risk of death than that of women who have never gone to school. Women with Middle/JSS education have a 21 percent lower than that of women who have never attended school. Women with Bachelor Degree or higher levels of education reported a child loss proportion that is 28 percent lower than their counter parts with no education.

Table 8.11: Proportion of children ever born, dead by educational attainment of mother

Educational Attainment of mother	Proportion of Children Dead		
	Total	Urban	Rural
Never Attended School	15.6	14.9	15.7
Primary	13.8	13.4	14.0
Middle/JSS/JHS	12.3	12.7	12.0
SSS/SHS	10.0	10.8	11.2
Vocational/Tech/Comm.	10.4	8.9	12.5
Post-Middle	13.3	13.8	12.8
Post Secondary Diploma	10.6	11.6	8.6
Bachelor Degree or Higher	11.2	10.4	13.0
All Categories	15.2	14.1	15.4

Source: 2010 Population and Housing Census, Ghana Statistical Service

8.4 Migration and Urbanization

8.4.1 Introduction-Concepts and Measures

Migration is the third of the component of population change. Migration may be defined as a change in place of abode or place of "usual" residence from one geographic division and taking up life in a new or different place in another geographic division.

Changes in residence that are temporary and do not involve changes in usual residences but are necessary for carrying our daily activities of life such as commuting to and from places of work and travelling for business or for pleasure are generally excluded from migration. However, "these movements are often monitored and analyzed for specific purposes". The duration of stay

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[1] The 12 percent lower risk is the difference between no school and primary divided by no school.

distinguishes the temporary stay from a short stay. However, when such mobility involves a permanent sojourn in the place of destination, it is considered as migration" (National Report, 2012, Chapter Eleven).

This section presents the patterns of migration and urbanization in the Upper East Region. In relation to migration it describes internal migration within the Region and into the Region, using birth place, duration of residence and nationality data. The birthplace of a person refers to the locality of usual residence of the mother at the time of birth. In the 2010 Population and Housing Census, the concept of duration of residence refers to the number of years a person has lived in a particular place. This question was only asked of persons not born in the place where enumeration took place.

Breaks in duration of residence lasting less than 12 months are disregarded. The duration of residence of a person who made multiple movements of one year or more is assumed to be the number of years lived in the locality (town or village) since the last movement. For purposes of this section, two broad types of migration are examined: internal and international migration.

On the basis of the answer to the place of birth question in the 2010, Population and Housing Census, migrants are defined as persons who were enumerated in a place different from where they were born, while non-migrants are persons who were enumerated in the place they were born. International migration refers to movements across international boundaries where immigration is from the point of view of the receiving country and emigration is from the point of view of the country from which the movement occurs.

The 2010 population and Housing Census; for the first time, collected data on emigration. Questions were asked of all former household members 15 years and older who have been living continuously for six months or more outside Ghana or those who intended to emigrate.

8.4.2   Internal Migration

As had been noted by Batse, Z.K.M. 1995, the phenomenon of internal migration has generated many questions to be answered, and many answers to be questioned. First and foremost, what are the forces that give impetus to the various internal migration streams - are they economic, demographic or socio-cultural? Secondly, what are the main causes as well as the "last straw" causes that affect the timing of migration?

It is also instructive to know why it is that in a given area or environment or situation, one person decides to leave an area while another chooses to remain. This differential response to similar conditions calls for an examination of the motives and characteristics of migrants and non-migrants.

Also, the impact of migration on both the "sending" and the "receiving" areas is determined by the number and characteristics of the people who leave. For example, are out-migrants better educated than non-migrants? Do obligations to family or community play an important part in the decision to migrate or not to migrate? Are people with immovable property less likely to migrate? These questions are relevant because of the known selectivity of migration in relation to the characteristics of migrants. However, in a census, complete coverage is achieved by sacrificing more detailed information. Therefore studies on migration, for example are limited to general issues for which information is available in the census questionnaire.

Current Distribution of the Total Regional Population

The 2010 census reported a total population of 1,046,545 for the Region. This population is not evenly distributed among the nine Districts as shown in Figure 8.2. Four Districts have less than ten percent of the total population each. The two Municipal Districts (Bolgatanga Municipality and Bawku Municipality) contain 33.4 percent of the Region's population.

Figure 8.2: Percentage Distribution of current regional population by districts
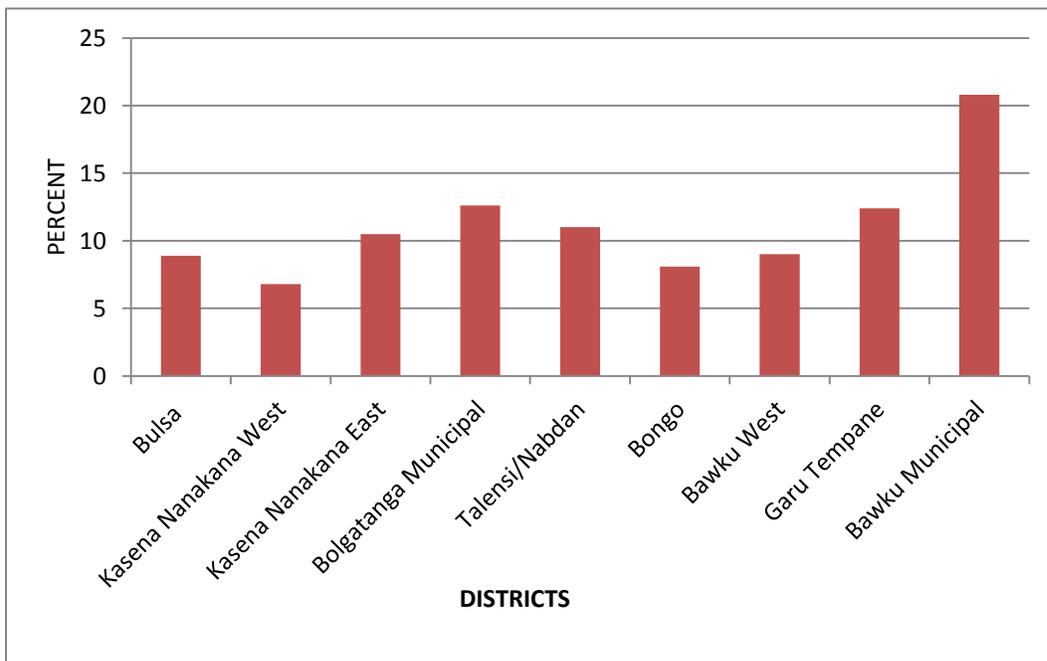
Source: Ghana Statistical Service, 2010 Population and Housing Census

Nationality

Nationality is defined as the country to which a person belongs or owns allegiance. Ghanaian nationals are grouped into Ghanaian by birth, Ghanaian with dual citizenship and Ghanaian by naturalization. Table 8.12 shows that Ghanaians by birth or parenthood constitute 93.0 percent of the population of the Region. A little less than three percent (2.9%) are Ghanaians of dual citizenship (Ghanaian and other) and Ghanaians by naturalization constitute 1.1 percent. The three categories of Ghanaian constitute 97.0 percent of the population. Foreign nationals make up only three percent. An appreciable majority of the total non-Ghanaian population in the Region are nationals from ECOWAS countries (2.1%).

Table 8.12: Population by nationality and district

Country/Region	Population	Ghanaian by Birth	Dual Nationality (Ghanaian & Other)	Ghanaian by naturalisation	Non-Ghanaians
Ghana	24,658,823	93.7	2.9	1.0	2.4
Upper East	1,0046,545	93.0	2.9	1.1	2.9
Builsa	92,991	95.1	2.1	0.7	2.1
Kasena Nankana West	70,667	95.5	1.7	0.7	2.1
Kasena Nankana East	109,944	95.5	1.7	0.6	2.1
Bolgatanga Municipality	131,550	95.5	1.9	1.0	2.0
Talensi Nabdam	115,020	95.9	2.7	0.6	2.8
Bongo	84,545	96.1	1.6	0.6	2.0
Bawku West	94,034	94.0	1.6	1.0	1.6
Garu Tempane	130,003	92.6	2.5	1.2	2.4
Bawku Municipality	217,791	86.7	5.7	2.4	5.2

Source: Ghana Statistical Service, 2010 Population and Housing Census

The table also reveals that most of the non-Ghanaians were counted in the Districts sharing boundaries or close by the adjacent countries of Togo and Burkina Faso. These Districts are Bawku Municipality and Garu Tempane-which shares a boundary with the Republic of Togo, and Kasena Nankana East-which borders Burkina Faso. The Regional Capital District (Bolgatanga Municipality) also contains a sizeable proportion of non-Ghanaians.

Birthplace and migratory pattern

The 2010 census sought information on place of birth in relation to locality of enumeration. Three categories of locality of birth versus locality of enumeration can be identified namely:

(i) The locality of birth is the same as the locality of enumeration. This implies either no migratory movement since birth or a return to the locality of birth at the time of the census and therefore not captured in the census as a migratory movement.

(ii) Locality of birth is a different one from the locality of enumeration but is in the Upper East Region. This implies at least one migratory movement into the locality of enumeration.

(iii) Locality of birth is a different one from locality of enumeration and is one of the other nine Regions of Ghana or is outside Ghana. This implies at least one migratory movement into the country and into the Region (immigration) or at least one migratory movement from the Region of birth into the locality of enumeration.

Comparing locality of birth with locality of enumeration is only a crude measure of migration because a person enumerated in his or her locality of birth may have migrated out for a very long time to work but found himself or herself back at the locality of birth on census night for one

reason or the other. Such a person, for the current analysis purposes, would be considered as never migrated because he or she was counted at the locality of birth. Table 8.13 shows that the majority of the population of the Region (88.0%) were enumerated in their places of birth. The rest (12.0%) were enumerated outside their place of birth and could therefore be classified as migrants. Only 5.6 percent were born in a different locality in Upper East Region.

The volume of migration is, thus, generally low for both migration within the Region and migration from outside the Region. Less than one percent (0.6%) were born outside Ghana. As expected, the urban population have an edge over their rural counterparts. The migrant population of 18.4 percent in the urban areas is almost twice that of the rural areas (10.4%). Significantly, the proportions of migrants in urban areas born elsewhere in other Regions or outside Ghana were also about twice those of the rural areas.

Table 8.14 presents data on Ghanaian migrants born outside the Region by District of enumeration. The table shows that out of the 61,298 migrants from the other Regions of Ghana, almost one out of every four (24.4%) were enumerated in the Regional capital District (Bolgatanga Municipality) followed by the other two socio economically advanced Districts (Kasena Nankana East (16.6%) and Bawku Municipal District (15.2%). The data show that the geographical proximity of the two adjacent Regions (Northern and Upper West) does not appear to be a significant pull factor for migration to the Region.

Table 8.13: Population classified by place of birth and place of enumeration by locality and sex

Place of Birth	Total			Urban			Rural		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Upper East									
Total	1,046,545	506,405	540,140	219,646	105,082	114,564	826,899	401,323	425,576
Born in place of enumeration	920,498	453,688	460,810	179,299	87,249	92,050	741,199	372,439	368,760
Born elsewhere in the Region of enumeration	58,901	13,301	45,600	15,307	5,366	9,941	43,594	7,935	35,659
Born elsewhere in other Regions	61,298	30,798	30,500	23,103	11,399	11,704	38,195	19,399	18,796
Others (outside Ghana)	5,848	2,618	3,230	1,937	1,068	869	3,911	1,550	2,361
Upper East									
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Born in place of enumeration	88.0	90.8	85.3	81.6	83.0	80.3	89.6	92.8	86.6
Born elsewhere in the Region of enumeration	5.6	2.6	8.4	7.0	5.1	8.7	5.3	2.0	8.4
Born elsewhere in other Regions	5.8	6.1	5.6	10.5	10.8	10.2	4.6	4.8	4.4
Others (outside Ghana)	0.6	0.5	0.6	0.9	1.0	0.8	0.5	0.4	0.6

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 8.14: Distribution of population born in Ghana by place of birth and district of enumeration

Place of Birth	Total	Builsa	Kasena Nankana West	Kasena Nankana East	Bolgatanga Municipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Municipality
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Western	5.7	3.9	3.3	5.2	3.9	4.2	4.8	11.2	13.4	5.8
Central	2.2	1.7	3.2	2.1	2.7	3.2	1.2	1.0	1.5	2.3
Greater Accra	9.5	14.0	9.5	9.7	12.2	13.5	10.7	5.4	2.3	4.9
Volta	2.9	2.5	2.1	3.4	4.2	3.2	1.6	1.0	2.2	2.6
Eastern	4.1	4.1	4.9	4.1	4.2	4.7	3.6	3.0	3.7	4.3
Ashanti	42.0	42.0	49.2	33.0	29.0	40.8	51.3	60.8	56.2	50.7
Brong Ahafo	8.1	5.1	9.8	8.6	7.1	3.9	13.1	9.4	11.1	8.8
Northern	17.9	22.4	6.4	22.3	25.1	23.6	10.9	5.3	7.5	14.1
Upper East	-	-	-	-	-	-	-	-	-	-
Upper West	7.6	4.3	11.5	11.6	11.6	2.9	2.8	3.0	2.2	6.5
N	61,298	4534	3293	10,164	14,941	5,917	4290	5033	3799	9327
	100.0	7.4	5.4	16.6	24.4	9.7	7.0	8.2	6.2	15.2

Source: Ghana Statistical Service, 2010 Population and Housing Census

About three-quarters of the migrants are from the southern sector of the country and almost one-half are from the Ashanti Region. The Region is not a favoured destination for migrants from the Central and Volta Regions, attracting less than 3 percent each.

Table 8.13 also describes the distribution of the migrants within the Districts in relation to their Region of birth. Migrants from Ashanti were in the majority in each of the Districts. Those from the Northern Region are concentrated in the Builsa, Kasena Nankana East, Bolgatanga and Talensi/Nankana Districts. Migrants from the Upper West are found concentrated in the Kasena Nankana West, Kasena Nankama East and Bolgatanga Municipal District.

Volume of Migration (in and out migration)

The 2010 census reveals that 61,298 Ghanaians migrated into the Region. However, a significant number of natives of the Region (328,990) were counted in the other nine Regions. The net loss to the Region was thus 267,692 (Table 8.15).

Table 8.15: In-migration, out-migration and net-migration by region of birth

Region of Birth	In-Migration	Out-Migration	Net-Migration
Total	61,298	328,990	(267,692)
Western	3,466	48,172	(44,706)
Central	1,360	8,991	(7,631)
Greater Accra	5,825	40,809	(34,984)
Volta	1,786	1,795	(9)
Eastern	2,519	12,936	(10,417)
Ashanti	25,770	133,302	(107,532)
Brong Ahafo	4,987	61,469	(56,482)
Northern	10,963	17,753	(6,790)
Upper East	0	0	0
Upper West	4,622	3,763	859

Source: Ghana Statistical Service, 2010 Population and Housing Census

With a total population of 1,046,545, the net-migration rate per 1000 population is -257.22 and the migration effectiveness ratio is -68.6. "This implies that the Region is losing population through migration at a fast rate. In fact, the very high negative rate of above 60 percent indicates that migration in the Region is almost a one way traffic-out" (GSS National Report Chapter Eleven 2012).

Duration of Residence of Migrants

The 2010 census collected data on the duration of residence in the place of enumeration. This gives information on the timing of the last moves of lifetime migrants or the recent migratory history of the Region. In the Region, Table 8.16 shows that about 17 percent of lifetime migrants moved to their destinations during the twelve months before the census. Generally for

migrants of all types, movements have been quite recent. About 42 percent of all lifetime migrants moved to their destinations less than five years prior to the census.

Table 8.16: Percentage distribution of migrants by duration of residence at place of enumeration

Place of Birth	Duration of residence at place of enumeration					
	Total Migrants	Less than 1 year	1-4 years	5-9 years	10-19 Years	20+ Years
Born elsewhere in the Region of enumeration	58,901	14.2	19.2	11.4	16.9	38.8
Born in another Region	61,298	20.7	29.7	15.9	16.7	17.0
Others (outside Ghana)	5848	13.0	27.4	16.6	18.1	24.9
Average	126,047	17.3	24.7	13.8	16.9	27.3

Source: Ghana Statistical Service, 2010 Population and Housing Census

Not only is the volume of inter-Regional migration slightly higher than migration within the Region but also there are more very recent (duration, less than 4 years) inter Regional migrants (50.4%) compared to intra-Regional migrants (33.4%). Also, the proportion of international migrants who arrived in the Region in recent times (duration less than 4 years) is higher (40.4%) compared to the intra-Regional migrants within the same period.

8.4.3 International Migration

Immigration

According to the 2010 census, there were 398,585 immigrants in the country at the time of the census, representing 1.6 percent of the population. In the Upper East Region, 30,578 non Ghanaians were counted, but only 5,848 were immigrants (that is born outside Ghana). Table 8.17 shows the distribution of the immigrants within the Region and their countries of origin. A large majority of the immigrants are from Burkina Faso (60.7%) followed by Togo (13.9%). These are both neighbouring countries so it is not surprising. However, more Nigerians (8.2%) were enumerated in the Region than nationals from Cote d'Ivoire (6.6%) which is a neighbouring country.

Table 8.17: Distribution of immigrants by country of origin

Country of Origin	Numbers	Percentages
All countries	**5,848**	**100.0**
Burkina Faso	3,552	60.7
Togo	814	13.9
Nigeria	481	8.2
Cote d'Ivoire	384	6.6
Other ECOWAS States	356	6.1
African, other than ECOWAS	102	1.8
All other countries	159	2.7

Source: Ghana Statistical Service, 2010 Population and Housing Census

Emigration

In the Region, the 2010 census recorded a total of 5,378 household members who were resident outside Ghana at the time of the census. Table 8.18 shows that the main destinations of emigrants from the Region in rank order are Europe (17.0%), Americas North South Caribbean (16.0%), Cote d'Ivoire (15.6%), Burkina Faso (10.9%), Nigeria (10.1%), Africa Other than ECOWAS (8.4%), Togo (7.9%) and all other destinations (14.1%).

There are some striking differences between males and females in the choice of destinations. About twice as many females than males prefer the two adjacent countries of Togo and Burkina Faso. However, more males than females preferred African countries outside ECOWAS. All the other major destinations were more or less the choice of both males and females.

The reported activities abroad were also almost equally distributed for males and females. The majority (53.3%) were employed at their destinations. Thus, in a sense, most citizens of the Region living abroad are labour migrants.

Table 8.18: Percentage Distribution of emigrants by place of destination, activity status and sex

Emigration characteristics	Both sexes	Males	Females
Number of Emigrants	5,378	3,929	1,449
Destination of Emigrants			
Europe	17.0	17.3	16.1
Americas (North South/Caribbean	16.0	16.6	14.6
Cote d'Ivoire	15.6	15.1	17.0
Burkina Faso	10.9	8.2	18.1
Nigeria	10.1	10.4	9.4
Africa, other than ECOWAS	8.4	9.9	4.4
Togo	7.9	6.2	12.6
All other destination	14.1	16.3	7.8
Total	**100.0**	**100.0**	**100.0**
Activity Abroad			
Employed	53.3	53.0	54.2
Unemployed	19.8	20.5	17.7
Student	20.6	21.3	18.7
Other	6.3	5.2	9.3
Total	**100.0**	**100.0**	**100.0**

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 8.19 gives the reported age distribution of the emigrants. Two out of every three were below 40 years (68.4%). Their departure therefore, constituted a loss to the labour force of the Region in particular and the country as a whole.

Table 8.19: Percentage distribution of emigrants by age and activity abroad

Age Group	All Activities	Activity Abroad			
		Employed	Unemployed	Student	Other
15-19	7.8	6.2	8.6	10.3	11.2
20-24	13.6	10.4	20.7	15.6	11.8
25-29	16.5	16.8	14.4	18.3	15.0
30-34	17.5	15.0	19.1	23.4	15.0
35-39	13.0	14.8	8.8	11.0	16.8
40-44	9.9	10.9	9.8	7.5	8.8
45-49	7.7	9.8	5.8	4.2	7.4
50-54	6.3	7.2	4.9	5.0	7.4
55-59	2.6	3.2	2.9	1.2	1.5
60-64	2.4	2.9	1.7	1.7	2.4
65+	2.7	2.8	3.3	1.7	2.9
All Ages	5,378	2,868	1064	1106	340

Source: Ghana Statistical Service, 2010 Population and Housing Census

8.4.4 Urbanization

Levels and trends

Urbanization is the increases in the proportion of people living in communities with the population of 5,000 or more. According to the 2010 census the urban population in Ghana grew from 8.3 million in 2000 to 12.5 million in 2010 showing a growth rate of 4.2 percent per annum during the period. According to Songsore (2009), the driving forces of Ghana's urbanisation include rural-urban migration, natural increase in towns and cities and reclassification of villages as they attain the threshold population of 5,000. However, rural-urban migration has had the most influence on urban growth in the country.

The Region is one of the least urbanized in the country. Whereas 50.9 percent of the country's population live in urban communities, the proportion in the Region is only 21.0 percent. Table 8.20 shows trends in urban growth rates for the Region as compared to the country as a whole.

Table 8.20: Proportion of population urban and annual growth rate

Country/ Region	Urban Population					Annual growth rate					
	1960	1970	1984	2000	2010	1960-1970	1970-1984	1984-2000	2000-2010	1960-2000	1960-2010
Total Country	23.1	28.9	32.1	43.8	50.9	4.7	3.3	4.6	4.2	4.2	4.2
Upper East	3.9	7.3	12.9	15.7	21.0	7.7	6.6	2.3	4.2	5.2	5.0

Source: Ghana Statistical Service, 2010 Population and Housing Census

The table shows that, although the population urban is small, the annual growth rate has been sustained. The region recorded annual growth rates beyond the national average of 4.7 over the period 1960 to 1970. For the period 1970 to 1984 the Region's growth rate of 6.6 percent was twice the national average of 3.3 percent. During the 2000 to 2010 period the Regional growth rate was at par with the national average.

Distribution of urban Population

Table 8.21 shows that urban population is concentrated in Bolgatanga Municipality, Bawku Municipality and Kasena Nankana East Districts with 49.8, 34.6 and 27 percent of their populations residing in the urban areas respectively.

Table 8.21: Urban population by district

District	Total Population	Proportion Urban
All Districts	1,046,545	21.0
Builsa	92,991	6.4
Kasena Nankana West	70,667	14.0
Kasena Nankana East	109,944	27.9
Bolgatanga Municipality	131,550	49.8
Talensi/Nabdam	115,020	11.2
Bongo	84,545	6.1
Bawku West	94,034	9.2
Garu Tempane	130,003	4.8
Bawku Municipality	217,791	34.6

Source: Ghana Statistical Service, 2010 Population and Housing Census

Summary and Conclusion

Three specific questions were asked in the 2010 Population and Housing Census which provided information on both current and life time fertility. The data indicated that fertility is high in the Region and child bearing goes on through-out the entire reproductive period. However, all the three measures of fertility namely total fertility rate, general fertility rate and crude birth rate declined between 2000 and 2010. But the mean number of children ever born to mothers aged 45-49years (completed fertility) has remained the same in 2000 and 2010. The analysis of fertility differentials brought out the important role of education in changing the fertility behaviour of females. The inverse relationship between educational attainment and fertility suggests that education is a catalyst for fertility decline.

In relation to mortality indicators, data on children ever born, children surviving and deaths in households in the 12 months before the census were used for estimating mortality indices. Despite likely under reporting of deaths and children ever born and surviving, the information was considered to be satisfactory for constructing reliable estimates for the various mortality indicators including age patterns of mortality and maternal mortality rate and ratio. Although mortality indicators have shown steady declines in the country and in the Region, the 2010 census data reveal that the Region still experiences high infant, under-five mortality and maternal mortality.

The issue of migratory movements into and out of the Region was also addressed. The main findings are that an overwhelming majority 88.0 percent were enumerated at their locality of

birth. Only 12 percent were migrants, 5.6 percent born elsewhere in the Region, 5.8 percent born in another Region and 0.6 percent born outside Ghana. The 2010 census reveals that 61,298 Ghanaians migrated into the Region. However, a significant number of the natives of the Region (328,990) were counted in the other nine Regions. This implies that the Region is losing population through migration at a fast rate.

Data on emigration show that the main destinations of emigrants from the Region are Europe, the Americas (North/South and Caribean) and Cote d'Ivoire, Burkina Faso and Nigeria. Most citizens of the Region living abroad are labour migrants.

In relation to urbanization, the data reveal that although for the first time the urban population in Ghana reached the fifty percent mark, the Region remains one of the least urbanized with only 21.0 percent living in urban communities.

CHAPTER NINE

ECONOMIC CHARACTERISTICS

9.1   Introduction

Governments all over the globe at certain stage of the development of their countries seek to know how many people are employed and unemployed. It should be noted that the more the working population, the higher the wealth creation leading to improved living conditions and poverty reduction. It is therefore crucial that statistics on labour and labour-related issues such as the rate of employment and unemployment, the dependency ratio, child labour, economically active and economically not active populations must be made available to inform policy decisions.

The 2010 census collected information on economic activities of persons 5 years and older who worked for at least an hour in the 7 days preceding the census night. Information was also collected on those who did not work during the reference period but had jobs to go back to. This chapter seeks to discuss the issue of employed, unemployed, economically active and economically not active population. The analysis however is done with reference to the population 15 years and older. Concerning the employed population, the kind of occupation they engaged in, the kind of industry they found themselves in as well as their employment status and sectors were also dealt with.

9.2   Economic Activity Status

Activity Status refers to economic and non – economic activity of respondents during the seven days preceding the census.

i.   The economically active population is made up of the (a) **Employed -** That is, those who worked for at least one hour within the 7 days preceding the census. Those with a job but not at work, that is, persons who were temporarily not at work during the reference period but had jobs to return to, were also included in the economically active population. (b) **Unemployed -** comprising all persons who during the reference period were:
- Without work and had no fixed jobs;
- Currently available for work;
- Seeking for work by taking specific steps to look for work (by writing applications, visiting job sites, and visiting employment agencies).

ii.   **The economically not active population** is made up of those who during the reference period did not work and were not seeking for work. They are classified by reasons for not being economically active. They include home makers, full-time students, retired persons, and people with disabilities who were unable to work because of their age or disability.

Economic Activity Status of the Population

Region and Type of locality of Residence

Table 9.1 shows the economic activity status of the population 15 years and older in 2010 in the Region as compared to the country as a whole. The data show that the proportion of the population employed was slightly higher in the Region (71.8%) than the national average of 67.4 percent. For the unemployed, the national average of 4.2 percent was almost twice that of the Region (2.5%). The economically not active was a little higher nationally (28.5%) compared to the Region's (25.7%). Nationwide, the data show that persons residing in rural areas were more likely than those in the urban areas to be employed. On the contrary, urban dwellers were more likely than rural dwellers to be economically not active. At the national level, the proportion unemployed in the rural areas was about one-half that in the urban areas.

Generally, the pattern observed nationwide was replicated in the Region. However there were noticeable differences. The proportions unemployed were about the same in the urban areas of the country and the Region. However, unemployment was lower among rural dwellers in the Region (1.8%) than among rural dwellers nationally (2.7%). Additionally, within the Region, unemployment was three times higher among urban dwellers (5.1%) than rural dwellers (1.8%).

Table 9.1: Economic activity status of the population 15 years and older

Region/Type of Locality	Population	Economically Active		Economically Not Active
		Employed	Unemployed	
All Region	15,208,425	67.4	4.2	28.5
Urban	8,222,949	62.3	5.4	32.2
Rural	6,985,476	73.3	2.7	24.1
Upper East				
Total	611,926	71.8	2.5	25.7
Urban	137,856	61.6	5.1	33.3
Rural	474,070	74.8	1.8	23.4

Source: Ghana Statistical Service, 2010 Population and Housing Census

Age and Sex

Table 9.2 provides data on the economic activity status of the population 15 years and older by age and sex. Four broad age groups were used: 15-24 years, 25-34 years, 35-59 years and 60 years and older. The use of broad age groups can hide differences and lead to the loss of significant age specific differentials. The table shows that the proportion employed increased sharply with increasing age such that by age 59 years, which is the threshold age before legal retirement, as much as 90.2 percent were employed. The proportion employed then reduces significantly to 62.1 percent at age 60 and older.

Table 9.2: Percentage distribution of population 15 years and older by economic activity status, sex and age

Age Group	Population	%	Employed	Unemployed	Not Active
Both sexes					
15-24	198,464	100.0	51.4	2.6	46.0
25-34	125,808	100.0	83.7	3.5	12.8
35-59	191,015	100.0	90.2	1.3	8.5
60+	96,639	100.0	62.1	0.8	37.1
All Ages	611,926	100.0	71.8	2.1	26.1
Males	Population	%	Employed	Unemployed	Not active
15-24	100,524	100.0	51.3	2.2	46.5
25-34	56,266	100.0	84.2	3.8	11.9
35-59	83,939	100.0	92.9	1.3	5.7
60+	41,413	100.0	71.1	0.9	28.0
All Ages	282,142	100.0	73.2	2.1	24.8
Females	Population	%	Employed	Unemployed	Not active
15-24	97,940	100.0	51.5	3.0	45.5
25-34	69,542	100.0	83.2	3.2	13.6
35-59	107,076	100.0	88.0	1.3	10.7
60+	55,226	100.0	55.4	0.8	43.9
All Ages	329,784	100.0	70.7	2.1	27.2

Source: Ghana Statistical Service, 2010 Population and Housing Census

An opposite trend is observed for the economically not active. The proportion reduces with increasing age, from the high of 46.0 percent among the age group 15-24 years to a low of 8.5 percent in the age-group 35-59 years. It then rose to 37.1 percent, as expected among the age-group 60 years and older, who are generally, supposed to have retired. The proportion unemployed also reduces, with increases in age, from 3.5 percent among the age group 15-24 years such that by age 35-59 years it was 1.3 percent.

While the Regional pattern is replicated for both males and females, significant differences are observed between them in terms of magnitude. For the age group 35-59 years and also 60 years and older, the proportion of females not economically active was almost twice that of males. Male employment in the age-group 60 years and older is substantially higher than that of female. The proportion unemployed in the various age groups is essentially the same for both males and females.

Economic Activity by District

Table 9.3 shows the distribution of economic activity status in the various Districts. The proportion employed ranges from 64.6 percent in the Bolgatanga Municipal District to 78.0 percent in the Bawku West District. The proportion employed is higher than the Regional figure of 71.8 percent in six Districts. It is less than the Regional average in the Bolgatanga Municipal District. Builsa District and Kassena Nankana East District. In each District, about one in every four of the population is economically not active. The proportions range from 21.0 percent in

the Bawku West District to 31.6 percent in the Bolgatanga Municipal District. The proportion unemployed is noticeably higher in the Bolgatanga Municipal District (3.8%) compared to all the other Districts and the Regional figure of 2.5 percent.

Table 9.3: Percentage distribution of population 15 years and older by economic activity status and by districts

District	Population	%	Economically Employed	Active Unemployed	Economically not Active
All Districts	611,926	100.0	71.8	2.1	26.1
Builsa	55,855	100.0	69.7	2.4	27.9
Kasena Nankana West	43,850	100.0	72.2	1.8	26.0
Kasena Nankana East	66,855	100.0	68.1	2.1	29.8
Bolgatanga Municipality	82,913	100.0	64.6	3.8	31.6
Talensil/Nabdam	67,480	100.0	74.4	1.2	24.4
Bongo	48,470	100.0	73.0	2.1	25.0
Bawku West	51,580	100.0	78.0	1.1	21.0
Garu Tempane	70,082	100.0	76.0	1.2	22.8
Bawku Municipality	124,841	100.0	72.7	2.3	24.9

Source: Ghana Statistical Service, 2010 Population and Housing Census

On the whole, the Regional capital District (Bolgatanga Municipality) recorded the lowest proportion employed and the highest proportion unemployed and the highest proportion not economically active.

9.3. Employed Population

Distribution by Age and Sex

Table 9.4 indicates that the proportion of the employed increases with increasing age and was highest for the 35-59 age group (39.2%). The proportion recorded by the 60 years and older age group (13.7%) was the least. The combined proportions for the youthful age groups 15-24 years and 25-34 years, who are available to work for many more years before reaching retirement age, was 47.1 percent. This indicates that, in term of age composition, the Region has a relatively large workforce that it can continue to harness for development activities. The general pattern of increases in employment with advancing age was replicated for both males and females. There are no significant differences between males and females in the proportion of the employed population in the various age groups.

Table 9.4: Percentage distribution of employed population 15 years and older by age and sex

Age Group	Both sexes	Male	Female
15-25	23.2	25.0	21.6
25-34	23.9	23.0	24.8
35-59	39.2	37.8	40.4
60+	13.7	14.3	13.1
All Ages	100.0	100.0	100.0
N	439,559	206,437	233,122

Source: Ghana Statistical Service, 2010 Population and Housing Census

Distribution by District and Locality Type

There were 439,559 reported employed persons 15 years and older in the Region, 90,798 or 20.7 percent of them were in the Bawku Municipal District, 53,570, (12.2%) were in the Bolgatanga Municipal District and another 53,280 (12.1%) were in the Garu Tempane District. Talensi/Nabdam District recorded 50,198 employed persons (11.4%) and 45,533 or 10.4 percent were recorded in the Kasena Nankana East District. The remaining Districts reported less than ten percent of the employed each including Bawku West (40,215 or 9.1%), Builsa District (38,934 or 8.9%), and Bongo District (35,365 or 8.0%); Kasena Nankana West District had the least number of employed persons (31,666 or 7.2%)

Table 9.5: Employment rate among population 15 years and older by type of locality and district

District	Total		Urban		Rural	
	Total Population 15years and older	Rate	Population 15 years and over	Rate	Population 15 years and older	Rate
All Districts	611,926	71.8	137,856	61.6	474,070	74.8
Builsa	55,855	69.7	3,994	55.2	51,861	70.8
Kasena Nankana West	43,850	72.2	6,361	64.2	37,489	73.6
Kasena Nankana East	66,855	68.1	18,989	61.3	47,866	70.8
Bolgatanga Municipality	82,913	64.6	42,923	59.0	39,990	70.6
Talensi/Nabdam	67,480	74.4	7,658	74.3	59,822	74.4
Bongo	48,470	73.0	3,209	68.0	45,261	73.3
Bawku West	51,580	78.0	5,180	70.4	46,400	78.8
Garu Tempane	70,082	76.0	3,640	59.3	66,442	76.9
Bawku Municipality	124,841	72.7	45,902	61.0	78,939	79.6

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 9.5 shows the employment rate in each District and among the urban and rural dwellers in each District. In the Region, the employment rate is 71.8 percent of the total population 15 years and older. The rate ranges from the low of 64.6 percent in the Bolgatanga Municipal District to 78.0 percent in the Bawku West District.

In each District, the urban employment rate is consistently lower than the rate for the rural areas. The rates for urban areas are generally below seventy percent and range from 55.2 percent in the Builsa District to 74.3 percent in the Talensi/Nabdam District. Rural employment rates are above seventy percent in each District and range from 70.6 percent in the Bolgatanga Municipal District to 79.6 percent in the Bawku Municipal District.

9.4   Unemployed Population

Distribution by Age and Sex

Table 9.6 shows the distribution of the unemployed population 15 years and older by age and sex. The table indicates that the proportion of the unemployed decreases with increasing age. It is highest (39.9%) for the youngest age group 15-24 years and reduces to 34.1 percent for the age group 25-34 years. It again drops to 19.3 percent for the age group 35-59 years. The combined proportion for the age groups 15-24 years and 25-34 years was 73.7 percent indicating that almost three out of every four unemployed are young. In this predominantly peasant labour intensive agricultural economy, if the Regional economy does not diversify and grow rapidly and jobs are not created sufficiently to match the demand for jobs, there will be a constant pool of unemployed labour. The already existing proportion of unemployed may be a factor in current and future social and economic unrest in the Region.

Table 9.6: Percentage distribution of unemployed population 15 years and older by age and sex

Age Group	Both sexes	Male	Female
15-24	39.9	37.8	41.7
25-34	34.1	36.6	32.0
35-59	19.8	19.3	20.2
60+	6.2	6.3	6.2
All Ages	100.0	100.0	100.0
N	12,859	5,863	6,996

Source: Ghana Statistical Service, 2010 Population and Housing Census

The general pattern of reductions in the proportion in unemployment with increasing age was replicated for both males and females. However, there are some noticeable differences between males and females. The proportion of unemployed youth 15-24 years is about the same for both males and females. From age 35 years onwards, the proportions unemployed are slightly higher for females. For the age group 25-34 years, the proportion is higher for males.

Distribution by District and Locality Type

A total of 15,378 unemployed population aged 15 years and older were reported in the Region at the time of the 2010 census. The two municipal Districts in the Region (Bolgatanga Municipality and Bawku Municipality) reported the highest number of unemployed (3,555 or 23.1% and 3,543 or 23.0% respectively). Thus, almost one-half of the total numbers of the unemployed were located in the two Municipal Districts. Kasena Nankana East District with 1,684 unemployed (11.0%), recorded the third largest proportion and Garu/Tempane reported 1162 (7.6%) unemployed. Talensi/Nabdam District had 1,044 (6.8%) unemployed. The remaining Districts Kasena Nankana West and Bawku West reported 904 (5.9%) and 731 (4.7 %) unemployed respectively.

Table 9.7 shows the unemployment rate in each District and among the urban and rural communities in each District. In the Region, the unemployment rate is 2.5 percent of the total population 15 years and older. The rates range from the low of 1.4 percent in Bawku West

District to 4.3 percent in the Bolgatanga Municipal District. The unemployment rate of 5.1 percent in the urban areas is three times higher than the rate of 1.8 percent among rural communities.

In each District, urban unemployment is consistently higher than rural unemployment, and generally, the urban rates are at least twice that of rural areas. Urban unemployment ranges from 1.2 percent in the Talensi/Nabdam District to 7.6 percent in the Garu/Tempane District). A reason for the higher urban unemployment may be the fact that the industrial activities in the urban areas are a little more outside the capacities and capabilities of urban dwellers because they require training and specific skills.

Rural unemployment rates in the Districts are below the Regions average of 2.1 percent in almost all the Districts. The rates range from 1.2 percent in the Garu/Tempane District to 3.8 percent in the Bolgatanga Municipal District.

Table 9.7: Unemployment rate among population 15 years and older by type of locality and district

District	Total		Urban		Rural	
	Total Population 15years and older	Rate	Population 15 years and over	Rate	Population 15 years and older	Rate
All Districts	611,926	2.1	137,856	4.5	474,070	1.4
Builsa	55,855	2.4	3,994	8.0	51,861	2.0
Kasena Nankana West	43,850	1.8	6,361	4.1	37,489	1.3
Kasena Nankana East	66,855	2.1	18,989	2.9	47,866	1.8
Bolgatanga Mnicipality	82,913	3.8	42,923	5.3	39,990	2.2
Talensi/Nabdam	67,480	1.2	7,658	1.2	59,822	1.2
Bongo	48,470	2.1	3,209	2.7	45,261	2.0
Bawku West	51,580	1.1	5,180	3.0	46,400	0.9
Garu Tempane	70,082	1.2	3,640	7.6	66,442	0.8
Bawku Municipality	124,841	2.3	45,902	4.6	78,939	1.0

Source: Ghana Statistical Service, 2010 Population and Housing Census

9.5   Economically Not Active Population

Age and Sex

Table 9.8 portrays the distribution of the economically not active population 15 years and older by age and sex. Four broad age groups were used. This can result in the loss of some age-specific data. The table indicates that the proportion of the population who are economically not active is highest (57.2%) in the youngest age group 15-24 years. It reduces to as low as 10.1 percent in the age groups 25-34 years and 35-59 years. The proportion rises again at age 60 years and over to 22.5 percent. The size of the proportions in the various age-groups reflects, more or less the categories of the population who are in active and the age groups on which they

are generally found. For example, full-time students are generally in the age-group 15-24 years and retired persons are usually 60 years and older.

Table 9.8: Percentage distribution of economically not active population 15 years and older by age and sex

Age Group	Both sexes	Males	Females
15-24	57.2	66.9	49.7
25-34	10.1	9.6	10.5
35-59	10.2	6.9	12.7
60+	22.5	16.6	27.0
All Ages	100.0	100.0	100.0
N	159,508	69,842	89,666

Source: Ghana Statistical Service, 2010 Population and Housing Census

The pattern of reductions in the size of the proportions economically not active with advancement in age is replicated for both males and females. There are significantly more economically not active males in the age group 15-24 years (66.7%) than females (49.5%). However for the age groups 35-59 years and 60 years and older, there are more economically not active females than males.

Distribution by District and Locality Type

Out of the reported 156,989 economically not active population aged 15 years and older in the Region, 30,500 (19.4%) were counted in the Bawku Municipal District. Bolgatanga Municipal District recorded 25788 (16.4%). The District with the third largest share of the economically not active population was Kasena Nankana East with 19,638 (12.5%), Talensi/Nabdam recorded 16,238 (10.3%) and Garu Tempane reported 15,640 (10.0%). About ten percent of the economically not active population (15,359; 9.8%) was in the Builsa District. About seven percent was recorded in each of the remaining Districts.

Table 9.9 describes the economically not active rate in each District and among the urban and rural communities of each District. In the Region, the economically not active rate is about one quarter of the population aged 15 years and older (26.1%). The rate is highest in the Bolgatanga Municipal District (31.6%), followed by the Kasena Nankana East District (29.8%). This may be due to the fact that these two Districts have most of the second and third cycle educational institutions containing the dominant category of the economically not active population -that is students.

Table 9.9: Economically not active population 15 years and older by type of locality and district

District	Total		Urban		Rural	
	Total Population 15years and older	Rate	Population 15 years and over	Rate	Population 15 years and older	Rate
All Districts	611,926	26.1	137,856	34.0	474,070	23.8
Builsa	55,855	27.9	3,994	36.8	51,861	27.2
Kasena Nankana West	43,850	26.0	6,361	31.7	37,489	25.1
Kasena Nankana East	66,855	29.8	18,989	35.8	47,866	27.4
Bolgatanga Municipality	82,913	31.6	42,923	35.7	39,990	27.2
Talensi/Nabdam	67,480	24.4	7,658	24.5	59,822	24.4
Bongo	48,470	25.0	3,209	29.3	45,261	24.7
Bawku West	51,580	21.0	5,180	26.6	46,400	20.3
Garu Tempane	70,082	22.8	3,640	33.1	66,442	22.2
Bawku Municipality	124,841	24.9	45,902	34.5	78,939	19.4

Source: Ghana Statistical Service, 2010 Population and Housing Census

The economically not active population rate is generally higher in the urban compared to rural (34.0% in urban areas and 23.8% in rural areas). The Region's pattern is replicated in each District. In the Bawku Municipal District, for example, the rate for urban communities is 26.6 percent, compared to about twenty percent (20.3%) in the rural communities.

CHAPTER 10

DISABILITY

10.1   Introduction

Persons with disabilities (PWDs) face a wide range of life challenges for the reason that disability in whatever form or type reduces an individual's ability to function to his/her full potential.

The Ghana Statistical Service (2012) defines persons with disability as those who were unable to or were restricted in the performance of specific tasks/activities due to loss of function of some part of the body as a result of impairment or malformation.

Generally, persons with disability are marginalized and suffer from discrimination on account of their disability status. They are mostly regarded as less productive and not capable of contributing to development compared to their non-disabled counterparts. Accordingly, they are often seen as a burden on society in general and their families in particular.

Their unfortunate circumstances are often viewed as a curse or punishment. Furthermore, according to the summary World Report on Disability (World Health Organisation 2011), persons with disability have poorer health status, lower education achievements, less economic participation and higher proportions of poverty than people without disabilities.

The objective of this chapter is to analyse the data on persons with disability. Information was collected on persons with the following disabilities:

- Visual/sight impairment;
- Hearing impairment;
- Mental retardation;
- Emotional or behavioural disorders, and
- Other physical challenges

The chapter is organised along three areas:

i.   Distribution of population with disability by District
ii. Type of disability by District and age, sex marital status education and literacy and urban/rural
iii. Type of disability by economic activity, age sex, marital status, education and literary and urban/rural residence.

10.2   Distribution of Population with Disability

Distribution by District

Table 10.1 shows the distribution of PWD's by District. The table reveals that in the Region as a whole, 39,924 or 3.8 percent of the total population has some types of disability. This is higher than the national proportion of 3.0 percent.

Kasena Nankana West District recorded the highest proportion of its population as having some types of disability (6.3%) followed by Talensi Nabdam (4.9%). Bawku Municipality recorded the lowest proportion of its population as having disability (2.3%).

Table 10.1: Total population and persons with disability by district

District	District Population	Number of persons with Disability	Proportion of persons with disability
All Districts	1,046,545	39,924	3.8
Builsa	92,991	3,039	3.3
Kasena Nankana West	70,667	4,444	6.3
Kasena Nankana East	109,944	4,202	3.8
Bolgatanga Municipality	131,550	3,885	3.0
Talensi Nabdam	115,020	5,673	4.9
Bongo	84,545	4,063	4.8
Bawku West	94,034	3,941	4.2
Garu Tempane	130,003	5,639	4.3
Bawku Municipality	217,791	5,039	2.3

Source: Ghana Statistical Service, 2010 Population and Housing Census

A distribution of the total number of persons with disability and the Region's share of this number reveals that the Region recorded 5.4 percent of the total national disability figure of 737,743. Within the Region, Table 10.2 shows that although Bawku Municipality has only 2.3 percent of its total population having disability, the District contains 12.6 percent of all persons with disability in the Region. Similarly, although 4.3 percent of the population in Garu Tempane District are disabled, the District's disabled population is 14.2 percent of the total number of disabled persons in the Region. In fact, Talensi Nabdam District has the highest proportion of it's population been disabled (14.2%) and Builsa District has the lowest (7.6%).

Table 10.2: Proportion of region's population with disability in each district

District	Number pf Persons with Disability	Proportion of Persons with disability	Proportion of Region's population with disability in District
All Districts	39,924	3.8	100.0
Builsa	3,039	3.3	7.6
Kasena Nankana West	4,444	6.3	11.1
Kasena Nankana East	4,202	3.8	10.5
Bolgatanga Municipality	3,885	3.0	9.7
Talensi Nabdam	5,673	4.9	14.2
Bongo	4,063	4.8	10.1
Bawku West	3,941	4.2	9.9
Garu Tempane	5,639	4.3	14.1
Bawku Municipality	5,0.8	2.3	12.6

Source: Ghana Statistical Service, 2010 Population and Housing Census

Age Distribution of the disabled Population

Table 10.3 presents the distribution of PWDs by age for the total country and the Upper West Region. The Regional proportion distribution of persons with disability by five year age groups reveals that for all categories of disabilities, the proportion of PWDs shows a high concentration in the younger age groups 0-4, 5-9 and 10-14. This trend is suggestive of malformation disability in the early ages in life. It may also suggest a high mortality rate among people with disability, such that not many live up to advanced ages. The table shows that the Regional age distribution does not deviate significantly from the national proportions, especially in the very old age groups.

Table 10.3: Percentage distribution of persons with disability by age

Age Group	Total Country	Upper East
0-4	5.6	4.8
5-9	6.0	6.8
10-14	6.4	7.1
15-19	6.9	6.6
20-24	6.6	5.2
25-29	6.5	5.1
30-34	6.0	5.0
35-39	5.8	5.1
40-44	6.0	5.3
45-49	5.8	5.1
50-54	6.4	6.0
55-59	4.7	3.9
60-64	5.3	6.3
65-69	3.9	4.8
70-74	6.1	8.2
75-79	4.2	5.9
80-84	3.7	4.5
85-89	2.0	2.2
90-94	1.5	1.8
95+	0.7	0.7
Total	737,743	39,924

Source: Ghana Statistical Service, 2010 Population and Housing Census

Sex Distribution

Table 10.4 presents the total number of PWDs in the Region by District and sex. The table shows that out of the 39,924 PWDs in the Region, 19,580 (49.0%) are males and 20,344 (51.0%) are females. At the District level also, there are generally more females reporting a disability than males. The higher female numbers is maintained in all the Districts except the Bawku Municipality and Garu Tempane Districts.

Table 10.4: Population with disability by sex and districts

District	Number			Percent of Total	
	Total	Male	Female	Male	Female
All Districts	39,924	19,580	20344	49.0	51.0
Builsa	3,039	1487	1552	48.9	51.1
Kasena Nankana West	4,444	2183	2261	49.1	50.9
Kasena Nanakana East	4,202	1956	2246	46.5	53.5
Bolgatanga Municipality	3,885	1866	2019	48.0	52.0
Talensi Nabdam	5,673	2778	2895	49.0	51.0
Bongo	4,063	1995	2068	49.1	50.9
Bawku West	3,941	1902	2039	48.3	51.7
Garu Tempane	5,639	2830	2809	50.2	49.8
Bawku Municipality	5,038	2583	2455	51.3	48.7

Source: Ghana Statistical Service, 2010 Population and Housing Census

10.3 Marital Status

Despite their disability status, about three out of every four of the disabled population in the Region (75.3%) have ever married (Table 10.5). About forty six percent (46.3%) are currently married and 13.5 percent are widowed. The table shows that the Regional pattern is replicated in each of the Districts. That is to say, there is not much difference in the various marital status categories between Districts. Disability therefore does not appear to be a barrier to marital relationship.

Table 10.5: Marital status of persons with disability

District	Total Number	Never Married	Informal/ Consensual Union	Married	Separated	Divorced	Widowed
All Districts	34,173	24.7	0.6	46.3	1.9	3.0	23.5
Builsa	2,658	22.6	0.5	43.3	3.2	5.5	24.9
Kasena Nankana West	3,849	23.3	0.5	47.5	2.9	3.3	22.4
Kasena Nankana East	3,753	24.2	0.4	41.4	3.2	3.3	27.6
Bolgatanga Municipality	3,272	30.9	1.2	42.2	1.8	2.0	21.9
Talensi Nabdam	4,973	21.7	0.2	48.6	1.0	1.9	26.7
Bongo	3,554	25.6	0.4	42.0	1.9	3.1	27.1
Bawku West	3,290	22.6	0.3	46.9	1.3	3.8	25.0
Garu Tenpane	4,649	22.7	0.3	54.5	1.0	1.9	19.5
Bawku Municipality	4,175	29.5	1.3	46.3	1.6	3.5	17.7

Source: Ghana Statistical Service, 2010 Population and Housing Census

10.4 Education and Literacy

Education

School attendance is more prevalent among PWDs nationally than the Upper East Region. Whereas 40.1 percent of PWDs have never attended school in the country as a whole, the proportion who have never attended school in the Region is 68.2 percent. The proportion of the total Regional population who have never attended school is 44.5 percent. This indicates that PWDs are more disadvantaged.   Table 10.6 shows the distribution of PWDs by level of Education. The table indicates that basic school comprising primary, middle and JHS is the highest level attained (23.8%) followed by SSS/SHS (2.8%).   There are striking District differences, especially among the proportion of PWDs who have never attended school. There is as much as almost 20 percent points difference between the Districts with the highest proportion of never attended school PWDS (Bawku West District) and the one with the lowest (Bolgatanga Municipal District). Generally, the differences between the Districts in school attendance may be attributed to differentials in the accessibility of educational facilities at all levels.

Table 10.6: Distribution of persons with disability (PPWD) (three years and older) by level of education and district

District	Total	Never attended	Pre-primary	Basic school	Sec./ SSS / SHS	Voc, Tech., Comm	Post Sec.	Tertiary
Ghana	713,400	40.1	3.4	43.5	6.5	2.0	3.1	1.4
Upper East	8,894	68.2	3.1	23.8	2.8	0.5	1.1	0.4
Builsa	2,944	71.4	2.6	20.2	3.5	0.4	1.3	0.4
Kasena Nankana West	4,335	64.0	3.3	26.7	3.8	0.6	1.1	0.4
Kasena Nankana East	4,115	63.3	2.3	26.9	3.5	1.0	2.1	0.9
Bolgatanga Municipality	3,575	55.1	3.5	31.2	5.6	1.0	2.7	0.9
Talensi Nabdam	5,563	72.5	3.2	21.0	2.1	0.4	0.6	0.2
Bongo	3,981	71.4	3.0	22.5	2.0	0.3	0.6	0.2
Bawku West	3,838	75.4	3.6	18.6	1.6	0.2	0.5	0.1
Garu Tempane	5,502	71.5	3.4	22.9	1.2	0.3	0.6	0.1
Bawku Municipality	4,859	67.5	2.6	24.8	3.2	0.5	1.2	0.3

Source: Ghana Statistical Service, 2010 Population and Housing Census

Literacy

Literacy or ability to read and write is also low among the PWDs. Whereas for the Region as a whole, 59.0 percent are not literate, Table 10.7 shows that the proportion among PWDs is 73.3 percent. About seventeen percent (16.9%) are literate in English only. Less than nine percent (8.8%) are literate in English and a Ghanaian Language. Chapter seven of this report indicates that literacy in English only among the general population is 25.3 percent and 13.3 percent are literate in English and a Ghanaian language. Again the disadvantaged position of PWDs is apparent.

Table 10.7: Distribution of Persons with disability (11 years and older) by literacy status districts

District	Total	None (Not literate)	English Only	Ghanaian Language only	English and Ghanaian Language	English and French	English French and Ghanaian Language	Other
All Districts	34,647	73.3	16.9	0.9	8.8	0.0	0.1	-
Builsa	2,680	76.2	14.6	0.8	8.3	0.1	0.0	-
Kasena Nankana West	3,902	69.3	11.4	2.1	17.1	0.1	0.1	-
Kasena Nankana East	3,797	66.8	15.8	1.4	15.6	0.1	0.2	-
Bolgatanga Municipality	3,330	59.4	29.4	0.8	9.9	0.0	0.2	-
Talensi Nabdam	5,036	77.9	18.2	0.3	3.6	0.0	0.0	-
Bongo	3,586	76.9	14.2	1.0	7.8	0.0	0.1	-
Bawku West	3,334	80.2	16.1	0.5	3.1	0.0	0.1	-
Garu Tempane	4,730.00	78.8	13.9	0.8	6.5	0.0	-	-
Bawku Municipality	4,252	71.8	18.8	0.9	8.2	0.1	0.1	-

Source: Ghana Statistical Service, 2010 Population and Housing Census

Disability and Type of Locality of Residence

Table 10.8 answers the questions about what proportion of the population of PWDs reside in the rural or urban areas. The table shows that in the Region as a whole, the vast majority (85.2%) of the population of PWDs live in rural areas. The Regional picture is replicated in each of the Districts with the proportion living in rural communities higher than seventy-five percent in each District except the two most urbanized Districts (Bolgatanga Municipality and Bawku Municipality). Rural development programmes must, therefore, take into account the proportion of PWDs living in rural communities and their likely increased vulnerability in their quest for livelihoods.

Table 10.8: Distribution of persons with disability (PWDs)
by district and type of locality

District	Total	Urban	Rural
All Districts	39,924	14.8	85.2
Builsa	3,039	3.8	96.2
Kasena Nankana West	4,444	14.9	85.1
Kasena Nankana East	4,202	20.5	79.5
Bolgatanga Municipality	3885	37	63
Talensi Nabdam	5673	9.6	90.4
Bongo	4063	7.1	92.9
Bawku West	3941	6.8	93.2
Garu Tempane	5639	3.6	96.4
Bawku Municipality	5038	30.7	69.3

Source: Ghana Statistical Service, 2010 Population and Housing Census

Economic Activity Status

Economic activity status classified the PWDs aged 15 years and above into three categories namely employed, unemployed and not active. Table 10.9 presents the three groups by Region and District. The table shows a slightly more favourable economic activity status for PWDs in the Region and its Districts compared with the country as a whole. Employment rate in the Region is about fifty-eight percent (57.9%) compared to 54.1 percent in the country as a whole. The employment rate is above the national figure in each of the Districts. The unemployment rate of 1.0 percent is less than one-half the national rate of 3.0 percent. In each District, the unemployment rate is lower than the national figure. The economically not active rate is also lower than the national figure in the Region and in seven out of the nine Districts.

Table 10.9: Persons with disability by economic activity status and district

District	Economic Activity Status				Economic Activity Status				
	Total	Employed	Un-employed	Not active	N	%	Employed	Un-employed	Not active
National	604,862	3,272,200	17,874	259,788	60,486	100.0	54.1	3.0	42.9
All Districts	32,490	18,796	528	13,166	32,490	100.0	57.9	1.6	40.5
Builsa	2,560	1,292	45	1,223	2,560	100.0	50.5	1.8	47.8
Kasena	3,698	2,380	56	1,262	3,698	100.0	64.4	1.5	34.1
Kasena	3,605	2,038	62	1,505	3,605	100.0	56.5	1.7	41.7
Bolgatanga	3,097	1,690	76	1,331	3,097	100.0	54.6	2.5	43.0
Talensi	4,735	2,723	47	1,965	4,735	100.0	57.6	1.0	41.5
Bongo	3,376	2,091	54	1,231	3,376	100.0	61.9	1.6	36.5
Bawku	3,090	1,795	30	1,265	3,090	100.0	58.1	1.0	40.9
Garu Tempane	4,388	2,591	59	1,738	4,388	100.0	59.0	1.3	39.6
Bawku Municipality	3,941	2,196	99	1,646	3,941	100.0	55.7	2.5	41.8

Source: Ghana Statistical Service, 2010 Population and Housing Census

10.5 Types of Disability

District Level

According to the Ghana Statistical Service National Report on Disability (2012), it has been reported that nationally, almost 2 out of 5 of the population with disabilities (38.3%) have more than one type of disability condition. Similarly, almost the same proportions of males (38.2%) and females (38.5%) have more than one type of disability.

 In the Upper East Region, there is evidence that some persons with disability reported multiple disabilities. As such the frequency of reported disabilities (51,800) is higher than the number of persons in the Region reporting a disability (39,924), yielding an average of 1.3 disability type per person.

Table 10.10 describes the proportion distribution of the number of times a specific disability was reported by an individual in the Region and in each District. The table shows that, at the

Table 10.10: Proportionate distribution of disability type

District	Total Population with Disability	Total of Disability Types reported	Sight	Hearing	Speech	Physical	Intellectual	Emotional	Others
All Districts	39,924	51,800	30.8	16.4	9.6	16.8	9.9	10.2	6.3
Builsa	3039	4,081	27.5	14.5	9.8	18.0	9.3	12.7	8.2
Kasena Nankana West	4444	5,705	34.1	15.6	7.7	14.6	7.9	16.1	4.0
Kasena Nankana East	4202	5,316	35.4	17.4	8.	17.9	7.1	7.7	6.3
Bolgatanga Municipality	3885	4,967	22.6	13.8	9.6	18.1	10.2	13.9	11.8
Talensi Nabdam	5673	7,084	35.1	17.6	10.7	15.1	8.2	7.3	5.9
Bongo	4063	5067	30.9	17.4	8.7	18.7	9.1	10.4	4.8
Bawku West	3941	5141	28.8	16.6	9.6	15.0	17.6	9.0	3.4
Garu Tempane	5639	7570	32.2	18.1	10.3	16.6	9.1	8.0	5.7
Bawku Municipality	5038	6869	28.1	15.5	10.7	18.3	11.3	8.9	7.1

Source: Ghana Statistical Service, 2010 Population and Housing Census

Regional level, visual/sight impairment was the most frequently mentioned disability type (30.8%) followed, at a distant second by physical challenges (16.8%) and hearing impairment (16.4%). Emotional or behavioural disorders ranks third (10.2%). Intellectual problems (9.9%) ranks fourth followed closely by speech impairment (9.6%).

At the District level, visual/sight impairment ranks first in each District, again followed either by hearing impairment or physical challenges.

Types of Disability and Sex

Table 10.11a and 10.11b present the distribution of various type of disability as reported by males as compared with that of females. The distribution across the various disability types by sex indicates that the proportions of females who reported having difficulty with sight (53.9%) and hearing (56.1%) are higher than that of the males (46.1% and 43.9% respectively). For all the other disability types (speech, physical, intellectual and emotional), the proportions are higher for males.

The higher intellectual disability among males (52.1%) compared to females (47.9%) could be linked to the known higher use of hard drugs and other substances by males.

Although there are variations between Districts in the size of the proportion of males or females reporting disabilities, the male/female pattern of the various disabilities are more or less the same for all the Districts. For example, in each District difficulty with sight and hearing is higher for females than males. Speech and intellectual problems are higher for males in almost all the Districts.

Table 10:11a: Proportion of disability type reported by males by district

District	Total male	Sight	Hearing	Speech	Physical	Intellectual	Emotional	Other
All Districts	25.275	46.1	43.9	55.5	50.4	52.1	51.8	50.0
Builsa	2.040	47.3	46.2	56.5	49.5	52.2	53.6	50.8
Kasena Nankana West	2.757	45.3	42.7	58.8	50.8	54.4	48.4	55.1
Kasana Nankana East	2.471	41.7	41.6	55.7	50.0	48.9	52.6	54.7
Bolgatanga Municipality	2,378	42.9	43.4	54.4	49.8	53.5	47.8	49.6
Talensi Nabdom	3,398	47.1	40.8	53.8	51.1	51.6	53.0	44.5
Bongo	2,493	46.9	43.3	56.0	50.9	53.9	53.3	48.1
Bawku West	2,460	47.3	42.3	51.1	49.4	50.2	50.2	45.3
Garu Tempane	3,788	47.8	46.8	58.2	50.2	51.6	54.7	48.6
Bawku Municipality	3,490	47.6	47.6	55.4	51.2	53.4	55.3	52.9

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 10:11b: Proportion of disability type reported by females by district

District	Total female	Sight	Hearing	Speech	Physical	Intellectual	Emotional	Other
All Districts	26,525	53.9	56.1	44.5	49.6	47.9	48.2	50.0
Builsa	2,041	52.7	53.8	43.5	50.5	47.8	46.4	48.2
Kasena Nankana West	2,948	54.7	57.3	41.2	49.2	45.6	51.6	44.9
Kasana Nankana East	2,845	59.3	58.4	44.3	50.0	51.1	47.4	45.3
Bolgatanga Municipality	2,589	57.1	56.6	45.6	50.2	46.5	52.2	50.4
Talensi Nabdom	3,686	52.9	59.2	46.2	48.9	48.4	47.0	55.5
Bongo	2,574	53.1	56.7	44.0	49.1	46.1	46.7	52.9
Bawku West	2,681	52.7	57.7	48.9	50.6	49.8	49.8	54.2
Garu Tempane	3,782	52.2	53.2 `	41.8	49.8	48.4	45.3	51.4
Bawku Municipality	3,379	52.4	52.4	44.6	48.8	46.6	44.7	47.1

Source: Ghana Statistical Service, 2010 Population and Housing Census

CHAPTER ELEVEN

AGRICULTURAL ACTIVITY

11.1 Introduction

Agriculture and related activities is the main occupation of the people of the Region. According to the 2000 Ghana Population and Housing Census data, agriculture and related work occupied 66.4 percent of the population aged 15 years and above. The proportion increased slightly to 68.7 percent in 2010. The data on agriculture and related activities cover a broader area than what is meant as agricultural activities.

For the first time in the country's Population and Housing Census, questions were asked on members of households engaged in agricultural activity, that is, involved in crop farming, tree planting, fish farming or animal rearing in the 12 months before the time of the census.

If at least one member engaged in one agricultural activity or another, such a household qualified as an agricultural household (Ghana Statistical Service, 2012).

The census found that overall, 45.8 percent of households in the country are agricultural households. In the Region, 83.7 percent of households are engaged in agricultural activities. This is almost twice the proportion in the national population.

The objectives of this chapter are two-fold:

  i.   to analyse the demographic and other characteristics of the agricultural households, and
  ii. to analyse the types of farming activities, types of cropping, crops grown and acreages, livestock reared, numbers and keepers' and fish farming.

11.2 Households in Agriculture

Population of Agricultural Households, household size and locality

Members of an agricultural household include the head, spouse, biological children, parents, brothers and sisters, parents/in-laws, grand, step, adopted and foster children, other relatives and non-relatives. That is, all household members counted at the time of the census and not only members who are engaged in agricultural activities.

Agricultural households constitute 83.7 percent of households in the Region. Table 11.1 shows that membership of agricultural households in the Region, range from one to over ten members. Two out of every five are members of households with 4-6 members (40.9%). Nearly the same proportions have 7 or more members (39.3 %). About one out of every five households (19.8%) has 1-3 members.

**Table 11.1:   Distribution of agricultural households by size
and type of locality**

Household size (no. of persons in Household)	Total	Urban	Rural
1	3.8	4.8	3.6
2	6.3	6.7	6.3
3	9.7	10.7	9.5
4	12.7	12.9	12.7
5	14.5	14.1	14.5
6	13.7	13.0	13.8
7	11.1	10.3	11.2
8	8.1	7.3	8.2
9	5.8	5.5	5.9
10	14.3	14.6	14.3
Proportion of Household	(100.0)	(14.5)	(85.5)
Total	148,660	21,578	127,082

Source: Ghana Statistical Service, 2010 Population and Housing Census

The household sizes show differences between urban and rural communities. Small household sizes (1-3) are more common in urban agricultural households (22.2%) than in rural households (19.4%). Similarly, there are more large size households (7 or more) in the rural areas (39.6%) is higher than in urban communities (37.7 percent). The proportions of households with 4-6 members are almost the same in both types of localities.

Nearly 86 percent of agricultural households are in rural areas. The high concentration of the agricultural households in the rural communities confirms the assertion that, in the Region, agriculture is essentially a rural industry.

Household members in Agriculture

This section examines the households in agriculture in relation to the number of members who are engaged in agricultural activities. Out of the total population of 392,019, in agriculture, 341,472 or 87.1 percent are in rural communities, indicating that agricultural activities are predominantly for rural folks. The agricultural population is evenly distributed between males and females in the rural communities. In the urban areas however, out of the total population of 50,547 in agriculture, 54.2 percent are males and 45.8 percent are females. There are more males than females involved in agricultural activities (54.2% males and 45.8% females).

11.2.1 Age and sex of Heads of Agricultural Household

Sex

Most households in the Region are headed by males, and agricultural households are no exception. Male heads are 75.0 percent and female heads make up the remaining 25.0 percent. There are no urban/rural differences in the proportions.

Age and Locality

Table 11.2 gives the distribution of the agricultural households by age of heads and type of locality of enumeration.

The table shows that the proportions for the Region are quite similar to that of the total country. Within the Region, significant differences emerge between the urban and rural areas for the older age group 60 years and over.

The broad picture from the age distribution of the heads of agricultural households is that in the country as a whole and in the Region, two out of every five heads are aged fifty years or older. Most of the heads are not only farmers, but the farmers who are mostly old persons.

Table 11.2: Distribution of heads of agricultural households by age-group

type of locality

Age Group	Total Country	Upper East		
		Total	Urban	Rural
15-19	0.9	0.9	0.7	0.9
20-29	10.6	9.3	10.4	9.2
30-39	22.3	20.8	23.3	20.4
40-49	23.7	22.7	22.4	22.4
50-59	18.8	17.8	17.8	17.8
60+	23.8	28.5	23.2	29.5
Numbers	2503,006	148,660	21,578	127,082

Source: Ghana Statistical Service, 2010 Population and Housing Census

11.3   Farming Activities

Types of Farming

The households in agriculture in the Region are engaged in four types of farming activities, namely crop farming, tree growing, livestock rearing, and fish farming. Table 11.3 reports on the frequency distribution of the different agricultural activities. The data indicate that many households reported involvement in more than one farming activity. The 148,660 agricultural households reported a total of 267,743 agricultural activities, giving an average of about 2 different activities per household. The two traditional activities of crop farming and livestock rearing are prominent in both urban and rural communities. The number of households reporting tree growing and fish farming are relatively very small. Fish farming, as distinct from fishing, is relatively new in the Region. The initial investment is relatively high. The growing of trees in particular requires a considerable waiting time to harvest; this is not likely to draw much interest from the substantially subsistent farming communities.

Table 11.3: Frequencies of farming activities reported by agricultural households and type of locality

		Farming Activities			
Locality	Total frequencies	Crop farming	Tree growing	Live stock rearing	Fish farming
All Locality types	267,743	53.7	0.2	46.0	0.1
Urban	34,710	54.7	0.3	44.9	0.1
Rural	233,033	53.6	0.2	46.2	0.1

Source: Ghana Statistical Service, 2010 Population and Housing Census

Sex of head of Agricultural households whose members engage in specific farming activities

The head of household is generally the person responsible for the upkeep and maintenance of the household. The majority of households in the country are headed by males (65.3%) with female headed households constituting 34.7 percent

In the Region, 77.8 percent of all households are headed by males compared to 74.9 percent for agricultural households.

Table 11.4 relates the sex of the head of an agricultural household to the agricultural activity of the household members. It addresses the question of the proportion of a specific farming activity household that are headed by males or females. Table 11.4 shows that in the Region when all farming activities are taken into account, 74.9 percent of the households are headed by males, and 25.1 percent by females. When crop farming is considered, 75.1 percent of households who mentioned that activity are headed by males.

Table 11.4: Distribution of heads of agricultural households by sex of head and type of agricultural activity of household members, region and Urban/Rural

Locality and sex of household head	Farming Activities				
	All farming activities	Crop farming	Tree Planting	Livestock Rearing	Fish Farming
Male					
Total	74.9	75.1	73.8	78.2	85.5
Urban	74.3	74.4	63.8	77.5	85.7
Rural	75.0	75.2	76.0	78.3	85.5
Female					
Total	25.1	24.9	26.2	21.8	14.5
Urban	25.7	25.6	36.2	22.5	14.3
Rural	25.0	25.8	24.0	21.7	14.5

Source: Ghana Statistical Service, 2010 Population and Housing Census

In the relatively new activity of fish farming the share of male headed households increased from about 75.0 percent to about 85.0 percent. However, for tree growing, which requires high initial investment and considerable waiting time to harvest, the proportion of female headed households rather increased to about one out of every three agricultural households. This increase, however, pertains more to urban communities.

Crop Farming and Types of Cropping

Types of Crops

Four factors influence the types of crops cultivated; climate, vegetation, soil and drainage. Some lands are classified as suitable for farming certain crops and others are not. Acreage depends on the amounts of land and other resources available to the farmer.

Table 11.5 describes the ranking of the types of crops cultivated in the Region on the basis of the "total farms" of the crop. The table shows that the first five crops millet, groundnut, rice, maize and beans account for 82.3 percent of total farms in the Region. Additional five crops – soya beans, sorghum, okro, pepper and onion make up another 10.3 percent. In all the ten selected crops are grown on 92.6 percent of "total farms" in the Region.

Table 11.5: Proportionate distribution of ten major types of crop

Type of crop (selected) list	Total Farms	Proportion total farms
All crops	467,434	100.0
Millet	118,470	25.3
Groundnuts	80,318	17.2
Rice	73,670	15.8
Maize	67,354	14.4
Beans	44,860	9.6
Soyabeans	16,613	3.6
Sorghum	15,900	3.4
Okro	6,564	1.4
Pepper	4,799	1.0
Onion	4,042	0.9
All other crops	34,844	7.4

Source: Ghana Statistical Service, 2010 Population and Housing Census

Types of Cropping

Type of cropping refers to the arrangement of crops including trees on a farm or a piece of land. It is mono cropping where only one crop or tree is planted on a farm. Where two crops or trees are planted together on a farm in alternate rows, it is intercropping, and where two or more crops are planted together on a farm in a haphazard manner, it is mixed cropping.

Table 11.6 shows the type of cropping methods practised in the Region. Generally, in about one-half of the farms (52.5%) crops and trees are mono cropped. About thirty percent use inters cropping and the remaining 17.8 percent practice mixed cropping.

Table 11.6: Selected ten major types of crop, number of farms and type of cropping

Type of crop	Total Farms	Mixed cropping	Inter cropping	Mono cropping
All crops	467,434	17.8	29.6	52.5
Millet	118,470	18.5	35.0	46.4
Groundnuts	80,318	10.5	23.3	66.2
Rice	73,670	12.0	7.1	81.0
Maize	67,354	17.9	27.3	54.8
Beans	44,860	28.0	56.7	15.3
Soyabeans	16,613	17.2	43.4	39.4
Sorghum	15,900	25.7	53.9	20.4
Okro	6,564	48.0	21.2	30.8
Pepper	4,799	17.0	22.8	60.2
Onion	4,042	14.9	12.5	72.6

Source: Ghana Statistical Service, 2010 Population and Housing Census

The table also shows that the cropping methods used vary according to the types of crop. Rice and onion are essentially mono cropped while beans, soya beans and sorghum are intercropped in most farms.

Livestock Types, Numbers and Holdings (Keepers)

Livestock rearing is the second most important agricultural activity after crop farming in the Region. Table 11.7 shows the types of livestock reared, the numbers and the average number of animals per keeper. Among the traditional livestock (sheep, goats, cattle and pig), the average number of animals ranges narrowly from 8.5 goats per keeper to 9.0 cattle. The averages are almost the same in urban and rural areas. In the birds category, (chicken, turkey, guinea fowl, dove, duck and ostrich), the average number per holder ranges from 8.5 turkeys to 20.2 ostriches. The traditional local birds, chicken and guinea fowl, because of their availability in almost every household, do not yield significantly large average numbers. The non-traditional livestock (rabbit, grasscutter) are not reared by many households.

Table 11.7: Distribution of livestock and holdings (keepers) by type of locality,

	Total			Urban			Rural		
Livestock	Total No. of Animal	Total No. of Keepers	Average Animals per keeper	Total No. of Animals	No. of Keepers	Average animal per Keeper	Total No. of Animals	No. of Keepers	Average Animal per Keeper
Cattle	334,517	37,331	9.0	35,211	3,886	9.1	299,306	33,445	8.9
Sheep	525,462	58,874	8.9	65,682	7050	9.3	459,780	51,824	8.9
Goat	763,180	90,094	8.5	78,541	97,67	8.0	684,639	80,327	8.5
Pig	78,513	8,971	8.8	13,066	1164	11.2	65,447	7807	8.4
Chicken	1,421,407	80,144	17.7	160,234	9,514	16.8	1,261,173	70,630	17.9
Guinea Fowl	901,962	45,033	20.0	81258	3903	20.8	820,704	41,130	20.0
Ostrich	12,507	620	20.2	938	62	15.1	11,569	558	20.7
Turkey	4,852	573	8.5	610	92	6.6	4,242	481	8.8
Duck	18,163	1,567	11.6	2,684	253	10.6	15,479	1314	11.8
Dove	13287	686	19.4	2080	123	16.9	11,207	563	19.9
Grass-Cutter	10,486	643	16.3	2,568	52	4.9	7,918	591	13.4
Rabbit	4674	491	9.5	1040	101	10.3	3634	390	9.3
Snail	48	8	6.0	17	3	5.6	31	5	6.2
Beehives	3,368	436	7.7	340	67	5.1	3028	369	8.2
Silk-Worm	1,692	195	8.7	279	31	9.0	1413	164	8.6
Other	30,961	4413	7.0	2,678	453	5.9	28,283	3960	7.1

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 11.8 shows the proportions of livestock and keepers in the rural and urban areas. The table shows that livestock keepers are concentrated in the rural areas. The proportions range from 62.5 percent for the emerging snail rearing to 91.9 percent for yet another emerging venture (grass-cutter rearing).

The keepers of traditional livestock and birds are very highly concentrated in the rural areas. In terms of numbers of animal and birds, the distribution is skewed to the rural areas within a narrow range. It can therefore be concluded that livestock rearing is essentially rural based.

Table 11.8: Distribution of livestock and holdings (keepers) by type of locality

Live Stock	Animal Population			Holdings (Keepers)		
	Total	Urban	Rural	Total	Urban	Rural
Cattle	100.0	10.5	89.5	100.0	10.4	89.6
Sheep	100.0	12.5	87.5	100.0	12.0	88.0
Goat	100.0	10.3	89.7	100.0	10.8	89.2
Pig	100.0	16.6	83.4	100.0	13.0	87.0
Chicken	100.0	11.3	88.7	100.0	11.9	88.1
Guinea Fowl	100.0	9.0	91.0	100.0	8.7	91.3
Ostrich	100.0	7.5	92.5	100.0	10.0	90.0
Turkey	100.0	12.6	87.4	100.0	16.1	83.9
Duck	100.0	14.8	85.2	100.0	16.1	83.9
Dove	100.0	15.7	84.3	100.0	17.9	82.1
Grass-Cutter	100.0	24.5	75.5	100.0	8.1	91.9
Rabbit	100.0	22.3	77.7	100.0	20.6	79.4
Snail	100.0	35.4	64.6	100.0	37.5	62.5
Beehive	100.0	10.1	89.9	100.0	15.4	84.6
Silkworm	100.0	16.5	83.5	100.0	15.9	84.1
Others	100.0	8.6	91.4	100.0	10.3	89.7
Total	100.0	10.9	89.1	100.0	11.1	88.9

Source: Ghana Statistical Service, 2010 Population and Housing Census

Fish Farming

Fish farming is not a common activity in the agricultural households in the Region. Only 7,351 persons or 4.9 percent are engaged in fish farming. This category is made up of 1.1 percent engaged in modern fish farming, 3.8 percent in inland fishing. Generally, as with livestock, Table 11.9 shows that over 80.0 percent of the holdings are in the rural areas. The actual number of fish (basket or fingerlings) is also far higher in the rural areas except for the modern category of fish farming (51.7% urban).

Table 11.9: Distribution of population fishing harvested and holdings by type of locality

Type of Fishing Activity	Population of Fish caught			Number of holdings		
	Total	Urban	Rural	Total	Urban	Rural
Fish Farming	100.0	51.7	48.3	100.0	18.2	81.8
Inland Fishing	100.0	11.3	88.7	100.0	2.8	97.2
Marine Fishing	100.0	1.7	98.3	100.0	6.7	93.3
Total	100.0	18.6	81.4	100.0	8.9	91.3

Source: Ghana Statistical Service, 2010 Population and Housing Census

CHAPTER TWELVE

HOUSING CONDITIONS

12.1   Introduction

It has long been established that man's most basic needs are food, clothing and shelter. Housing is both a social good, providing core security for households, neighbourhoods, societies and communities and an economic good stimulation growth and development. A house or compound is defined as structurally separate and independent place of abode. The essential features are separateness and independence. An enclosure may be considered as separate if it is surrounded by walls, fences, etc., so that a person or group of persons can isolate themselves from other persons in the community for the purpose of sleeping, preparing and taking their meals or protecting themselves from hazards of climate such as storms and the sun. The type of dwelling or house (degree of facilities, surroundings, etc.) used by households affect their health, productivity, social intercourse, welfare, security and general outlook. Also, the type of flooring material used, the general condition of the dwelling, its location, and durability are indicators of the socio-economic status of the household. The 2010 Population Census in Ghana is the second national census, following the 2000 census that included a comprehensive housing census.

The 2010 population and housing census collected information on a variety of housing characteristics: the type of dwelling and the main materials used in house construction, occupancy status; waste disposal, utilities and household facilities.

The information from housing censuses will serve as a basis for planning housing and human settlement programmes and policies, evaluation and monitoring of housing conditions and needs of the population.

In this chapter, stock of houses, facilities and amenities of houses in the Region are analysed at the Regional and at the District levels.

12.2   Housing Stock

The Region's population of 1,046,545 live in a total of 114,034 residential dwelling units which include any type of shelter used as living quarters, such as flats, apartments, enclosed compound, huts, kiosks, cargo containers, and tents. These are structurally separate and independent places of abode such that a person or a group of persons can isolate themselves from the hazards of the climate such as storms, rain or the sun. A total of 177,631 households share the 114,034 dwelling units yielding a figure of 1.6 households per house. With a population of 1,046,545 the average population per house is 9.2 persons and the average household size is 6.2 persons (Table 12.1).

Table 12.1: Stock of houses and households

Region	Total population	No. of houses	No. of household	% increase in housing stock over 2000	Households per house	Population per house	Average Household size
Total Country	24,658,823	3,392,745	5,467,136	60.1	1.6	7.3	4.4
Upper East	1,046,545	114,034	177,631	30.4	1.6	9.2	6.2

Source: Ghana Statistical Service, 2010 Population and Housing Census; Summary, Report of Final Results, Table 35.

12.3 Type of Dwelling and Construction Materials

This section discusses the responses to the questions on the type of dwelling the households live in and the main construction material used for the outer wall, the roof and the floor.

Type of Dwelling

Table 12.2 shows that an overwhelming majority of households in the Region and within each District live in more or less permanent structures. Makeshift dwelling units such as tents, kiosks, containers, attachments to shops or offices, uncompleted buildings and others, together, constitute only 1.0 percent. In most of the Districts, the proportion of makeshift dwellings is less than 1.0 percent.

Table 12.2: Households by type of dwelling unit occupied by district

Type of Dwelling Unit	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolgatanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipality
Compound house rooms	57.5	60.0	68.8	52.8	52.5	43.1	50.0	47.3	64.9	73.1
Separate House	17.6	14.9	16.3	19.7	15.6	17.5	27.5	21.2	16.1	14.5
Huts/Buildings (same compound)	12.7	12.7	5.8	14.2	16.0	14.6	12.1	24.5	11.8	5.2
Huts/Buildings (different compound)	6.4	8.0	1.9	5.3	5.9	21.3	6.3	4.1	3.7	0.8
Semi-detached house	3.9	3.1	6.0	6.0	5.8	2.3	3.2	1.9	2.1	4.1
Flat/Apartment	0.9	0.5	0.7	1.2	2.3	0.3	0.3	0.3	0.4	1.0
Uncompleted building	0.4	0.4	0.1	0.3	1.2	0.2	0.2	0.1	0.4	0.6
All Others*	0.6	0.4	0.5	0.6	0.8	0.7	0.4	0.6	0.6	0.7
Total	182,845	17,352	12,978	20,538	27,632	22,428	15,350	15,837	17,879	32,851

Source: Ghana Statistical Service, 2010 Population and Housing Census
Note: All others include tent, improvised home (kiosk/container) living quarters attached to office/shop.

The table also indicates that 87.8 percent of households in the Region live in three major types of dwellings, namely, compound house (rooms) (57.5%), separate house (17.6%), and huts/buildings (same compound) (12.7). At the District level, the proportions of households who live in the three major types of dwellings range from 75.2 percent in the Talensi Nabdam District

to 93.0 percent in the Bawku West District. In the Region less than one percent of households (0.9%) live in modern flats/Apartments. At the District level, the proportions in this category of dwelling range from 0.3 percent in the Bongo District to 2.3 percent in the Bolgatanga Municipality.

Construction Materials

Material of Outer Walls

For purposes of house construction, mud brick or earth (80.7%) and cement blocks/concrete (16.0%) are the two main materials for the construction of the outer wall. Table 12.3 shows that the two materials account for over 95 percent of materials used in each of the Districts.

Table 12.3: Main material used for outer wall by district

Main Material of outer wall	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga- tanga Muni- cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni- cipality
Mud brick Earth	80.7	79.2	85.3	73.4	61.8	89.7	91.7	92.9	90.4	77.8
Cement blocks concrete	16.0	16.9	12.1	24.3	36.4	7.5	5.7	4.3	4.6	17.4
Wood	0.9	1.0	1.0	0.6	0.5	1.0	0.6	1.1	1.0	1.1
Land Crete	1.0	1.4	0.2	0.5	0.4	0.7	1.2	0.3	2.3	1.9
All Others	14	1.5	1.4	1.2	0.9	1.1	0.8	1.4	1.7	1.8
Total	182,845	17,352	12,978	20,538	27,632	22,428	15,350	15,837	17,879	32,851

Source: Ghana Statistical Service, 2010 Population and Housing Census
*All other include Burnt bricks, metal sheet/slate/Asbestos, stone. Bamboo.Palm/leaf/thatch, grass raffia and others.

The highest proportion of mud brick earth used is in the Bawku West District (92.9%) followed by Bongo District (91.7%). On the other hand, the use of cement/concrete for outer wall construction is highest in Bolgatanga Municipal District (36.4%) followed by Kasena Nankana East (24.3%).

Landcrete is used for the outer wall of only one percent of dwelling units. The proportion using this material ranges from 0.2 percent in the Kasena Nankana West District to 2.3 percent in the Garu Tempane District.

Material of Roof

Table 12.4 shows that corrugated metal (67.2%), thatch (16.8%) and mud/mud bricks/earth (12.2%) are the three main materials used for the roof in the Region. This is the situation in all the Districts.

The table also reveals some differences between the Districts in the type of roofing materials used. Mud/mud brick/earth is used mostly in Kasena Nankana West District (45.3%), Builsa District (31.2%), and Kasena Nankana East District (26.0%). The architectural mud roofing phenomenon of flat mud roof houses is a continuation of the traditional practice prevalent in many parts of northern Ghana. The flat mud roofs serve as sleeping place for households when normal sleeping rooms become unbearably hot. The flat roofs are also used for drying perishable agricultural products such as maize beans and onions.

Table 12.4: Main construction material for roof by district

Main Material of floor	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolgatanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipality
Corrugated Metal Sheet	67.2	44.5	46.7	62.7	90.0	51.2	74.3	16.6	57.7	86.6
Thatch/ Palm leaf or Raffia	16.8	14.8	4.0	7.7	3.0	41.8	16.5	29.9	32.9	8.3
Mud/Mud Bricks/ Earth	12.2	31.2	45.3	26.0	4.4	3.4	6.7	5.9	5.6	2
Wood	1.7	7.6	2.9	1.3	0.8	0.7	0.7	1.3	0.7	0.9
All Others*	2.1	1.9	1.1	2.3	1.8	2.9	1.8	1.3	3.1	2.2
Total**	182,845	17,352	12,978	20,538	27,632	22,428	15,350	15,837	17,879	32,851

Source: Ghana Statistical Service, 2010 Population and Housing Census
*All others include cement/concrete, roofing tile, bamboo and other.

**Includes occupied and un-occupied dwelling units

Corrugated metal sheet is used for roofs mostly in the two most urbanized Districts namely, the Regional capital District; Bolgatanga Municipality (90.0%) and Bawku Municipal District (86.6%). Furthermore, whereas the Regional picture indicates thatch as the second most used roofing material, it's use is less than ten percent in four Districts Kasena Nankana West (4.0%), Kasena Nankana East (7.7%), Bolgatanga Municipality (3.0%) and Bawku Municipality (8.3%). However, about two out of every five dwelling units (41.8%) in the Talensi Nabdam District is roofed with thatch and one-third of the roofs in the Garu Tempane District is thatch.

Material of Floor

Table 12.5 shows that in the Region cement/concrete (65.8%) and earth/mud (31.7%) are the two main materials for the floor of occupied dwelling units. All the other materials, comprising stone, burnt brick, wood, vinyl tiles, ceramic/porcelain/Granite/marble tiles, Terrazzo/Terrazzo tiles and other materials make up only 2.5 percent of materials used for the floor. The Regional picture is replicated in all the Districts. The two main materials account for at least 96 percent of the floors in each District.

Table 12.5: Main Material used for floor by district

Main Material of floor	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga-tanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipality
Cement/concrete	65.8	44.5	57.2	70.9	78.9	66.3	63.0	58.3	49.6	80.1
Earth/Mud	31.7	51.6	40.8	27.3	17.6	32.3	34.5	39.8	48.2	17.2
Stone	0.9	2.4	0.5	0.8	0.7	0.3	1.5	0.6	1.4	0.5
All Others	1.6	1.5	1.5	1	2.8	1.1	1.0	1.3	0.8	2.2
Total	177,629	16,915	12,813	19,790	26,706	21,714	15,188	15,169	17,520	31,814

Source: Ghana Statistical Service, 2010 Population and Housing Census

12.4   Room Occupancy

The total number of rooms occupied by the households includes living, dining and bed rooms. It excludes bathrooms, toilet and kitchen. Sleeping rooms are the number of rooms out of the total rooms that are used for sleeping. Information on the number of sleeping rooms occupied by the household vis-a-vis the number and age of household members provides an indication of the level of overcrowding and adequacy of dwelling stock available. It also reflects the socio economic status of the household.

Number of Rooms

The number of rooms occupied by households ranges from one to more than nine rooms. The 2010 census data show that, there are more rooms available to each household in the Region than in the country as a whole. Generally, room occupancy is skewed towards one or two rooms. For the country as a whole, two out of every three households (69.3%) occupy only one or two rooms, compared to one out of every three (34.3%) in the Region. There are also more households occupying seven or more rooms in the Region (13.7%) than in the country as a whole (5.1%).

Table 12.6: Number of rooms occupied by households: district and type of locality

Number of rooms	All districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolgatanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipality
Number	177,629	16,915	12,813	19,790	26,706	21,714	15,188	15,169	17,520	31,814
All localities										
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
One room	14.3	12.1	17.0	20.1	27.4	12.9	9.4	8.5	3.5	11.8
Two rooms	20.0	25.1	27.2	24.8	23.2	23.9	22.2	16.8	7.3	13.8
Three rooms	20.7	26.2	25.3	23.1	20.0	26.0	27.0	19.0	11.1	14.8
Four rooms	15.5	17.3	14.9	14.4	12.7	18.0	20.1	16.7	13.7	14.2
Five rooms	9.1	8.3	7.2	7.2	6.9	8.4	9.9	11.8	11.8	10.7
Six rooms	6.6	5.0	4.2	4.4	4.1	5.4	5.4	9.2	12.0	9.1
Seven rooms	4.0	2.3	1.8	2.3	2.2	2.3	2.5	5.8	9.1	6.4
Eight rooms	2.9	1.5	1.1	1.4	1.4	1.3	1.5	4.1	7.4	5.2
Nine rooms or more	6.8	2.2	1.3	2.3	2.1	1.7	1.9	8.2	24.1	14.2
Urban										
Number	41941	1400	1968	5690	14801	2442	1145	1724	1096	11675
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
One room	28.2	39.6	31.4	36.8	39.7	10.0	29.4	24.1	16.1	13.1
Two rooms	21.0	25.0	25.2	18.0	23.2	24.5	19.8	22.3	18.7	17.8
Three rooms	16.4	13.6	19.8	15.0	15.8	26.0	17.2	16.8	12.6	15.8
Four rooms	11.6	9.9	9.9	10.8	8.7	19.7	14.1	13.5	15.9	13.7
Five rooms	6.9	3.9	5.5	5.6	4.9	7.7	8.4	9.2	9.1	9.8
Six rooms	5.1	2.7	3.5	4.9	3.2	5.3	4.2	5.6	9.7	7.7
Seven rooms	3.2	1.1	2.4	3.0	1.6	2.4	2.2	3.4	5.9	5.5
Eight rooms	2.3	0.8	0.8	1.7	1.3	1.1	1.8	2.0	4.7	4.4
Nine rooms or more	5.3	3.3	1.5	4.3	1.6	3.1	2.9	3.0	7.3	12.3
Rural										
Number	135,688	15,515	10,845	14,100	11,905	19,272	14,043	13,445	16,424	20,139
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
One room	10.0	9.6	14.4	13.4	12.0	13.3	7.8	6.5	2.7	11.0
Two rooms	19.7	25.1	27.6	27.6	23.2	23.8	22.4	16.1	6.5	11.4
Three rooms	22.1	27.3	26.3	26.3	25.2	26.0	27.8	19.3	11.0	14.2
Four rooms	16.7	18.0	15.9	15.9	17.8	17.8	20.6	17.1	13.5	14.5
Five rooms	9.8	8.7	7.5	7.8	9.3	8.5	10.1	12.1	12.0	11.2
Six rooms	7.1	5.2	4.4	4.2	5.2	5.4	5.5	9.6	12.2	9.9
Seven rooms	4.2	2.4	1.6	2.1	2.9	2.3	2.6	6.1	9.3	6.9
Eight rooms	3.1	1.6	1.1	1.2	1.6	1.3	1.5	4.3	7.6	5.7
Nine rooms or more	7.3	2.1	1.2	1.5	2.6	1.5	1.8	8.8	25.2	15.2

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 12.6 shows that about a third (36.2%) of households occupy three or four rooms, while 15.7 percent have five to six rooms and about fourteen percent (13.7%) are larger rooms houses (7 or more). Thus in general, those occupying three rooms or fewer comprise a little over one-half of the households (55.0%). The proportion of households declines with increases in the number of rooms available in the households. Within urban and rural communities, there are large proportions of households occupying three or fewer rooms in the urban areas (65.6%) than in the rural areas (51.8%). Conversely, there are higher proportions of households living in more rooms (4 to 9 or more) in the rural areas (48.2%) than in the urban areas (34.2%). The large

room sizes may be explained by the more communal extended family living arrangements that are predominant in rural areas.

At the District level, the proportion of households having only one or two rooms ranges from 10.8 percent in the Garu Tempane District to 50.6 percent in the Regional Capital District (Bolgatanga Municipality). All the Districts, except Garu Tempane, have proportions in this category that are higher than the Regional figure of 34.3 percent.

Households having three or four rooms range from 18.4 percent in Garu Tempane to 47.1 percent in the Bongo District. Five out of the nine Districts have proportions in this category higher than the Regional figure of 36.2 percent. In six Districts, the proportions living in seven or more rooms are below seven percent, which is about one-half the Regional proportion of 13.7 percent. Three Districts have proportions far larger than the Regional figure (Garu Tempane 40.6 percent, Bawku Municipality 25.8 percent and Bawku West 18.1 percent).

Number of Sleeping Rooms

Since not all rooms available to the household are necessarily used for sleeping purposes, the number of sleeping rooms for the household can be less than or equal to the number of rooms occupied by the household. The number of sleeping rooms available for households therefore ranges from one to more than nine.

Table 12.7 shows that in the Region about one-half of the households (51.5%) use one or two sleeping rooms. The proportion having 3-4 sleeping rooms is 33.6 percent, while 13.9 percent use five or more sleeping rooms.

Table 12.7: Sleeping rooms occupied by households, district and type of locality

Number of sleeping rooms	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolgatanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipality
Number	**177,629**	**16,915**	**12,813**	**19,790**	**26,706**	**21,714**	**15,188**	**15,169**	**17,520**	**31,814**
All localities										
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
One room	21.5	19.7	24.4	29.1	35.1	22.9	19.0	15.1	7.5	16.0
Two rooms	31.0	36.5	36.5	34.4	31.8	37.5	36.7	29.8	20.4	22.4
Three rooms	21.2	23.2	22.3	19.5	17.4	22.3	25.0	22.5	22.3	20.2
Four rooms	12.4	11.9	10.4	9.1	8.4	10.7	11.2	14.9	19.0	15.8
Five rooms	5.8	4.2	3.6	3.9	3.6	3.7	4.4	7.7	11.0	9.0
Six rooms	3.4	2.3	1.6	1.7	1.8	1.5	1.8	4.6	7.9	6.2
Seven rooms	1.7	0.8	0.6	0.9	0.8	0.6	0.9	2.1	3.8	3.4
Eight rooms	1.1	0.5	0.3	0.5	0.5	0.4	0.4	1.3	3.0	2.1
Nine rooms or more	1.9	0.9	0.3	0.8	0.6	0.3	0.5	1.9	5.1	4.8
Urban										
Number	41,941	1,400	1,968	5,690	14,801	2,442	1,145	1,724	1,096	11,675
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
One room	35.0	47.3	37.6	43.0	46.3	19.5	38.3	34.6	21.9	19.0
Two rooms	27.9	26.1	29.5	25.4	28.5	41.5	28.8	30.2	27.5	25.1
Three rooms	15.6	12.6	18.7	13.5	12.3	23.3	16.3	16.1	17.7	18.8
Four rooms	9.5	7.4	8.3	8.5	6.6	10.5	8.8	9.3	15.1	13.6
Five rooms	4.7	2.6	2.8	4.0	2.9	3.1	3.9	4.8	6.5	8.3
Six rooms	2.8	0.6	1.5	2.0	1.7	1.1	1.6	2.7	5.5	5.3
Seven rooms	1.4	0.9	0.6	1.1	0.6	0.2	1.3	1.0	1.7	2.9
Eight rooms	0.9	0.3	0.4	0.9	0.6	0.2	0.3	0.6	2.1	1.8
Nine rooms or more	2.1	2.1	0.6	1.7	0.6	0.5	0.5	0.7	2.1	5.2
Rural										
Number	135,688	1,5515	10,845	14,100	11,905	19,272	14,043	13,445	16,424	20,139
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
One room	17.3	17.2	22.1	23.4	21.2	23.4	17.4	12.6	6.5	14.3
Two rooms	32.0	37.5	37.8	38.0	35.8	37.0	37.4	29.8	19.9	20.8
Three rooms	22.9	24.1	22.9	22.0	23.8	22.2	25.7	23.4	22.6	21.0
Four rooms	13.3	12.3	10.8	9.4	10.6	10.7	11.4	15.7	19.3	17.2
Five rooms	6.2	4.4	3.8	3.9	4.5	3.8	4.5	8.0	11.3	9.4
Six rooms	3.6	2.5	1.6	1.6	2.0	1.6	1.8	4.8	8.1	6.6
Seven rooms	1.8	0.8	0.6	0.8	1.0	0.6	0.9	2.3	3.9	3.8
Eight rooms	1.1	0.5	0.3	0.4	0.5	0.4	0.4	1.4	3.1	2.3
Nine rooms or more	1.8	0.7	0.2	0.4	0.7	0.3	0.5	2.0	5.3	4.6

Source: Ghana Statistical Service, 2010 Population and Housing Census

Differences can be observed when considering urban and rural areas. Urban dwellers have fewer sleeping rooms. About sixty three percent (62.9%) use one or two sleeping rooms compared to 49.3 percent in rural communities. Conversely, only 37.0 percent of urban dwellers use three or more sleeping rooms, compared to 50.7 percent in the rural areas.

As with the total number of rooms occupied by households, there are variations between Districts in the proportions with regard to sleeping rooms.

Most Districts have between 28.0 percent and 67.0 percent of the households using only one or two sleeping rooms as compared with the Regional proportion of 51.5 percent. Three Districts have between 5.0 and 12.0 percent of the households in seven or more sleeping rooms. These proportions are higher than the Regional proportion of 4.7 percent. In the Region, out of the 21.5 percent who use one sleeping room, only 0.4 percent shares the sleeping room with other households.

12.5 Holding and Tenancy

Tenancy Status

Table 12.8 shows that by the present holding tenancy arrangements most households reside in dwellings owned by the household (owner occupied). The proportion of owner occupied dwelling units range from 65.6 percent in the Regional Capital District (Bolgatanga Municipality) to 96.3 percent in the Talensi Nabdam District. About a tenth (9.3%) of the households in the Region pay rent.

This proportion ranges from a mere 1.3 percent in the Talensi Nabdam District to almost one in three (29.1%) for the Bolgatanga Municipality.

Most of the households that pay rent are in the urban areas (29.9%) compared to only 2.9 percent of rural households.

About 3.6 percent of households in the Region live in rent-free accommodation, with the highest proportions in the Bawku Municipal and Bolgatanga Municipal Districts (5.7 percent and 4.9 percent respectively).

Table 12.8: Tenancy status of dwelling units occupied by households district and type of locality

Dwelling Units	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga. Munici- pality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Munici- pality
All localities										
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Owned by household member	86.7	86.9	92.2	83.9	65.8	95.4	95.2	91.5	94.9	87.0
Being purchased (e.g. mortgage)	0.4	0.7	1.0	0.2	1.0	0.1	0.1	0.1	0.2	0.3
Relative not a household member	3.4	4.8	3.0	2.8	5.1	1.8	0.7	3.5	2.4	4.7
Other private individual	6.9	5.7	2.4	9.7	22.3	1.0	2.1	3.5	1.4	5.4
Private employer	0.3	0.1	0.1	0.4	0.4	0.2	0.1	0.1	0.1	0.5
Other private agency	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.1
Public/Govt. ownership	2.1	1.5	1.2	2.7	5.1	1.4	1.5	1.2	0.7	1.7
Other	0.1	0.1	0.0	0.1	0.1	0.0	0.2	0.1	0.2	0.3

Table 12.8: Tenancy status of dwelling units occupied by households district and type of locality (Cont'd)

Dwelling units	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga. Munici- pality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Munici- pality
Urban										
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Owned by household member	63.6	44.1	75.2	60.2	45.5	96.8	67.4	65.3	78.4	79.8
Being purchased (e.g. mortgage)	1.0	1.5	1.9	0.6	1.7	0.3	0.2	0.1	0.2	0.6
Relative not a household member	6.1	9.6	7.7	4.4	6.7	0.1	3.0	8.8	6.0	6.5
Other private individual	22.8	37.1	10.5	27.4	37.7	0.4	19.0	21.5	10.7	8.4
Private employer	0.7	0.2	0.7	1.1	0.6	0.1	1.1	0.2	0.2	0.8
Other private agency	0.4	0.3	0.2	0.7	0.4	0.1	0.7	0.2	2.1	0.3
Public/Govt. Ownership	5.2	7.1	3.9	5.5	7.4	2.1	6.5	3.4	0.9	3.6
Other	0.2	0.0	0.0	0.1	0.1	0.2	2.2	0.5	1.6	0.1
Rural										
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Owned by household member	93.8	90.8	95.3	93.5	90.9	95.2	97.4	94.8	96.0	91.1
Being purchased (e.g. mortgage)	0.2	0.6	0.8	0.1	0.2	0.1	0.1	0.1	0.2	0.1
Relative not a household member	2.6	4.4	2.1	2.1	3.0	2.0	0.5	2.8	2.1	3.7
Other private individual	1.9	2.8	0.9	2.6	3.3	1.0	0.7	1.2	0.8	3.7
Private employer	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.3
Other private agency	0.1	0.1	0.1	0.0	0.0	0.2	0.0	0.1	0.0	0.1
Public/Govt. Ownership	1.1	1.0	0.7	1.6	2.4	1.3	1.1	0.9	0.6	0.6
Other	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.4

Source: Ghana Statistical Service, 2010 Population and Housing Census

Dwelling Ownership Status

Table 12.9 shows that in the Region and within each District, most households reside in dwellings owned by a household member. In rural areas of each District at least ninety percent of all dwelling units are owned by a household member. In the urban areas, the proportion in this category is below fifty percent in the Builsa District (44.1%) and Bolgatanga Municipality (45.5%).

Relatives of the household who are not household members own 3.4 percent of dwellings in the Region. The proportion ranges from 0.7 percent in Bongo District to about 5.0 in the Bolgatanga Municipal District.

There is a higher level of ownership by relatives in the urban areas (6.1%). The proportion ranges from 0.1 percent in the Talensi Nabdam to almost ten percent (9.6%) in the Builsa District.

Table 12.9: Ownership status of dwelling by district and type of locality

Ownership status	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolgatanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Temp-ane	Bawku Munici pality
All localities										
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Owned by household member	86.7	86.9	92.2	83.9	65.8	95.4	95.2	91.5	94.9	87.0
Being purchased (e.g. mortgage)	0.4	0.7	1.0	0.2	1.0	0.1	0.1	0.1	0.2	0.3
Relative not a household member	3.4	4.8	3.0	2.8	5.1	1.8	0.7	3.5	2.4	4.7
Other private individual	6.9	5.7	2.4	9.7	22.3	1.0	2.1	3.5	1.4	5.4
Private employer	0.3	0.1	0.1	0.4	0.4	0.2	0.1	0.1	0.1	0.5
Other private agency	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.1
Public/Government ownership	2.1	1.5	1.2	2.7	5.1	1.4	1.5	1.2	0.7	1.7
Other	0.1	0.1	0.0	0.1	0.1	0.0	0.2	0.1	0.2	0.3
Urban										
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Owned by household member	63.6	44.1	75.2	60.2	45.5	96.8	67.4	65.3	78.4	79.8
Being purchased (e.g. mortgage)	1.0	1.5	1.9	0.6	1.7	0.3	0.2	0.1	0.2	0.6
Relative not a household member	6.1	9.6	7.7	4.4	6.7	0.1	3.0	8.8	6.0	6.5
Other private individual	22.8	37.1	10.5	27.4	37.7	0.4	19.0	21.5	10.7	8.4
Private employer	0.7	0.2	0.7	1.1	0.6	0.1	1.1	0.2	0.2	0.8
Other private agency	0.4	0.3	0.2	0.7	0.4	0.1	0.7	0.2	2.1	0.3
Public/Government ownership	5.2	7.1	3.9	5.5	7.4	2.1	6.5	3.4	0.9	3.6
Other	0.2	0.0	0.0	0.1	0.1	0.2	2.2	0.5	1.6	0.1
Rural										
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Owned by household member	93.8	90.8	95.3	93.5	90.9	95.2	97.4	94.8	96.0	91.1
Being purchased (e.g. mortgage)	0.2	0.6	0.8	0.1	0.2	0.1	0.1	0.1	0.2	0.1
Relative not a household member	2.6	4.4	2.1	2.1	3.0	2.0	0.5	2.8	2.1	3.7
Other private individual	1.9	2.8	0.9	2.6	3.3	1.0	0.7	1.2	0.8	3.7
Private employer	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.3
Other private agency	0.1	0.1	0.1	0.0	0.0	0.2	0.0	0.1	0.0	0.1
Public/Government ownership	1.1	1.0	0.7	1.6	2.4	1.3	1.1	0.9	0.6	0.6
Other	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.4

Source: Ghana Statistical Service, 2010 Population and Housing Census

12.6 Lighting and Cooking Facilities

Main Source of Lighting

According to the 2000 census data, 12.4 percent of households in the Region use electricity (mains) as the main source of lighting while the kerosene lamp remained the major source of lighting for 84.6 percent. Table 12.10 shows that at the time of the 2010 census, electricity (mains) use doubled to 24.1 percent while the proportion using kerosene lamp reduced to 45.5 percent. The use of Flashlight/Torch has gained popularity, becoming the second overall source of lighting in the Region (27.6%).

Generally, the three main sources of lighting in homes are kerosene lamp, electricity and flashlight/torch. All the other sources including gas lamp, solar energy, electricity from private generator, candle and others account for about 3.0 percent of source of lighting.

Table 12.10: Main source of lighting for the households by district and type of locality

Main source of lighting	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga- tanga Muni- cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni- cipality
All localities										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Electricity (mains)	24.1	17.4	12.7	28.8	53.5	7.5	11.5	14.3	11.1	34.0
Electricity (private generator)	0.6	0.4	0.6	0.8	0.6	0.7	0.6	0.5	0.4	0.5
Kerosene lamp	45.5	45.8	57.1	51.1	39.6	59.1	64.8	39.8	34.9	32.0
Gas lamp	0.2	0.3	0.2	0.3	0.3	0.1	0.3	0.2	0.2	0.2
Solar energy	0.3	0.8	0.5	0.4	0.2	0.4	0.2	0.3	0.3	0.3
Candle	0.2	0.1	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.2
Flashlight/Torch	27.6	33.1	26.8	16.6	5.1	31.1	20.3	43.1	51.0	31.7
Firewood	0.7	1.3	1.0	0.3	0.3	0.4	0.6	0.8	1.4	0.5
Crop residue	0.5	0.5	0.4	0.4	0.1	0.3	1.1	0.6	0.6	0.5
Other	0.3	0.5	0.5	0.9	0.2	0.2	0.5	0.3	0.1	0.1
Urban										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Electricity (mains)	64.6	80.5	44.0	65.6	78.2	8.2	53.5	47.7	58.3	64.5
Electricity (private generator)	0.5	0.3	0.7	0.6	0.5	0.2	0.6	0.4	0.6	0.6
Kerosene lamp	23.3	12.3	36.6	22.9	16.4	61.8	36.6	22.0	23.4	22.0
Gas lamp	0.2	0.0	0.2	0.2	0.2	0.2	0.3	0.3	0.1	0.1
Solar energy	0.3	0.3	0.3	0.2	0.2	0.1	0.2	0.1	1.3	0.3
Candle	0.3	0.2	0.1	0.5	0.5	0.1	0.3	0.1	0.1	0.2
Flashlight/Torch	10.2	5.9	17.9	9.0	3.9	28.2	7.2	28.6	15.9	11.2
Firewood	0.2	0.2	0.3	0.1	0.1	0.7	0.3	0.5	0.2	0.2
Crop residue	0.3	0.1	0.0	0.2	0.0	0.3	0.4	0.1	0.1	0.6
Other	0.2	0.2	0.0	0.7	0.1	0.1	0.6	0.2	0.0	0.1

Table 12.10: Main source of lighting for the households bydistrict and type of locality (Cont'd)

Main source of lighting	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga-tanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipality
Rural										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Electricity (mains)	11.6	11.7	7.0	13.9	22.7	7.5	8.1	10.0	8.0	16.4
Electricity (private generator)	0.6	0.4	0.6	1.0	0.7	0.8	0.5	0.5	0.4	0.4
Kerosene lamp	52.3	48.8	60.8	62.5	68.5	58.7	67.1	42.1	35.6	37.8
Gas lamp	0.2	0.3	0.2	0.3	0.4	0.1	0.3	0.1	0.2	0.3
Solar energy	0.4	0.8	0.5	0.5	0.2	0.4	0.2	0.3	0.2	0.3
Candle	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Flashlight/Torch	33.0	35.5	28.4	19.7	6.5	31.5	21.4	45.0	53.3	43.6
Firewood	0.8	1.4	1.1	0.4	0.6	0.4	0.6	0.8	1.5	0.6
Crop residue	0.5	0.5	0.5	0.5	0.2	0.3	1.1	0.7	0.6	0.4
Other	0.4	0.5	0.5	1.0	0.2	0.2	0.5	0.4	0.1	0.1

Source: Ghana Statistical Service, 2010 Population and Housing Census

Although electricity use is only 24.1 percent for the Region, it is about sixty-five percent for urban areas. Also it is above forty percent in the urban areas of each District except Talensi Nabdam. Kerosene lamp use is above forty percent in the rural areas of all Districts except Garu Tempane (35.6%) and Bawku Municipal (37.8%) districts.

Main Source of Cooking Fuel

Firewood is the most used cooking fuel in the Region (60.4%), Millet stock or corn stock (crop residue) is used by 16.7 percent of households and charcoal is used by 15.2 percent. Table 12.11 shows that these are also the three main sources of cooking fuel in each District, although there are significant variation between Districts. The use of wood is lower than the Regional proportion of 60.4 percent in three Districts namely; Bolgatanga Municipality (33.2%), Bongo (39.2), and Bawku Municipality (47.7%). The use of crop residue is highest in the Bongo District (53.7%) followed by Bawku Municipality (22.6%). Charcoal use is twice the Regional proportion of 15.2 percent in the Bolgatanga Municipal District (31.2%). It is also higher than the Regional proportion in the Bawku Municipal District (23.4%).

Table 12.11: Main source of cooking fuel for households by district and type of locality

Main source of cooking fuel	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga-tanga Munici-pality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipality
Number	177,629	16,915	12,813	19,790	26,706	21,714	15,188	15,169	17,520	31,814
All localities										
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
None (no cooking)	1.8	1.4	1.3	1.8	4.0	1.7	1.0	1.3	0.6	1.9
Wood	60.4	80.8	73.3	59.2	33.2	75.3	39.2	80.2	79.9	47.7
Gas	4.9	3.0	2.5	8.9	15.0	1.7	2.1	1.8	1.2	3.0
Electricity	0.2	0.2	0.3	0.3	0.2	0.2	0.1	0.2	0.2	0.2
Kerosene	0.2	0.3	0.2	0.3	0.3	0.2	0.1	0.1	0.2	0.3
Charcoal	15.2	13.1	11.9	18.7	31.8	6.5	3.4	6.6	4.1	23.4
Crop residue	16.7	0.7	10.5	10.2	15.0	14.0	53.7	9.7	13.6	22.6
Saw dust	0.1	-	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Animal waste	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2
Other	0.3	0.4	-	0.6	0.3	0.2	0.3	0.1	0.0	0.6
Urban										
Number	41,941	1,400	1,968	5,690	14,801	2,442	1,145	1,724	1,096	11,675
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
None (no cooking)	3.9	5.4	2.6	2.7	6.0	0.5	3.7	4.2	3.7	2.5
Wood	28.3	12.1	45.1	29.2	13.2	83.1	22.6	52.0	50.6	29.8
Gas	14.8	18.9	7.6	24.3	22.9	2.1	13.6	9.8	4.2	5.3
Electricity	0.2	0.2	0.2	0.4	0.2	0.2	0.3	0.3	0.0	0.2
Kerosene	0.4	0.1	0.1	0.4	0.4	0.2	0.4	0.3	0.4	0.4
Charcoal	45.2	63.1	43.4	41.7	50.2	4.5	22.3	30.6	40.4	52.2
Crop residue	6.8	0.0	0.9	1.1	6.9	8.3	34.4	2.8	0.6	9.3
Saw dust	0.1	0.0	0.1	0.1	0.1	0.0	0.5	0.1	0.0	0.1
Animal waste	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Other	0.2	0.1	0.0	0.1	0.1	1.1	2.0	0.0	0.0	0.0
Rural										
Number	135,688	15,515	10,845	14,100	11,905	19,272	14,043	13,445	16,424	20,139
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
None (no cooking)	1.2	1.1	1.1	1.5	1.5	1.8	0.8	0.9	0.4	1.6
Wood	70.3	87.0	78.4	71.3	58.1	74.4	40.6	83.8	81.9	58.1
Gas	1.8	1.6	1.5	2.7	5.2	1.7	1.2	0.8	1.0	1.7
Electricity	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.2	0.2	0.2
Kerosene	0.2	0.3	0.2	0.2	0.1	0.3	0.1	0.1	0.1	0.2
Charcoal	5.9	8.5	6.2	9.4	8.9	6.8	1.8	3.5	1.7	6.7
Crop residue	19.8	0.8	12.3	13.9	25.1	14.7	55.2	10.6	14.5	30.3
Saw dust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Animal waste	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.3
Other	0.4	0.5	0.0	0.8	0.6	0.1	0.1	0.1	0.0	0.9

Source: Ghana Statistical Service, 2010 Population and Housing Census

The use of charcoal is higher in the urban areas. It uses three times the regional proportion of 15.2 percent in the urban areas (45.2%). In the urban areas of each district, the proportions range from 4.5 percent in Talensi Nabdam to 63.1 percent in Builsa district.

Gas is used mainly by urban dwellers (14.8% urban use compared to 1.8% rural). Each of the main sources of fuel used for cooking has associated problems. In all, three out of every four households in the Region use cooking fuels that deplete the forest cover (wood and charcoal). The environmental implications should, therefore, be a Regional concern. Gas and electricity are not very affordable and accessible to most households.

Cooking Space

Almost all households in the Region (96.4%) have some cooking space within the confines of the dwelling unit (Table 12.12). Almost two out of three households (63.8%) have structures specifically set aside for the purpose of cooking.

A further 10.4 percent use the veranda in front of their living quarters and 21.4 percent use the open compound space. An insignificant proportion cook in their Bedroom/Hall/Living room. About 4.0 percent of households reported having no cooking space, most likely because they eat from other households or buy food from prepared food sellers.

Table 12.12 shows that in general, four categories of cooking space are dominant in the Region. These are separate room for exclusive use of household (42.4%), open space in compound (21.4%); enclosures without roof (17.8%) and veranda in front of the living quarters (10.4%). The use of shared cooking space is not very common in the Region (2.6%). The Regional picture is replicated in the Districts.

There are variations between urban and rural communities in the proportions of households using the four main categories of cooking space. For example, whereas about thirty percent of households in the urban areas uses their verandas as cooking space, the proportion is only 4.2 percent for rural households.

Table 12.12: Cooking space for households by district and type of locality

Cooking Facility	All Districts	Builsa	Kasena Nankana East	Kasena Nankana West	Bolga-tanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipality
All localities										
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No cooking space	3.8	3.7	4.9	3.7	5.1	4.7	3.3	4.1	1.4	3.4
Separate room for exclusive use of hhold	42.4	59.9	41.0	34.5	36.5	65.3	33.2	55.1	30.8	32.8
Separate room shared with other hhold(s)	2.6	1.1	1.3	1.2	1.7	2.1	1.0	1.4	2.2	7.6
Enclosure without roof	17.8	12.6	7.9	11.7	18.3	15.5	42.2	19.2	19.2	16.3
Structure with roof but without walls	1.0	1.2	0.6	0.7	0.6	0.7	0.3	1.1	1.6	1.7
Bedroom/Hall/living room	0.3	0.4	0.2	0.6	0.5	0.2	0.2	0.0	0.2	0.2
Verandah	10.4	9.6	11.1	17.3	27.2	3.1	3.4	4.2	3.2	7.3
Urban										
Tota (Percent)l	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No cooking space	5.0	6.2	4.1	4.2	7.1	2.7	5.0	5.2	3.6	3.3
Separate room for exclusive use of hhold	30.2	26.0	19.6	26.0	26.4	57.7	32.1	47.2	29.0	31.2
Separate room shared with other hhold(s)	3.2	1.3	2.5	1.5	1.6	1.5	1.9	2.8	1.9	7.2
Enclosure without roof	7.7	1.5	0.5	1.9	8.2	30.8	22.3	6.1	12.5	5.6
Structure with roof but without walls	0.6	0.4	0.3	0.5	0.4	0.7	0.5	0.7	1.3	1.0
Bedroom/Hal/Living room	0.6	0.5	0.1	1.3	0.7	0.2	0.9	1.7	0.2	0.2
Verandah	30.3	50.8	33.1	43.6	44.4	2.6	18.5	19.6	18.6	12.7
Open space in compound	22.0	13.2	39.3	20.8	11.1	3.8	18.7	16.6	30.7	38.8
Other	0.2	0.1	0.6	0.3	0.1	0.0	0.1	0.1	2.1	0.1
Rural										
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No cooking space	3.5	3.5	5.1	3.6	2.6	5.0	3.1	3.9	1.2	3.5
Separate room for executive use of hhold	46.2	63.0	44.9	38.0	49.1	66.2	33.3	56.2	30.9	33.7
Separate room shared with other hhold(s)	2.4	11.1	1.0	1.0	1.8	2.2	0.9	1.3	2.2	7.8
Enclosure without roof	20.9	13.6	9.3	15.7	30.9	13.6	43.8	20.8	19.6	22.5
Structure with roof but without walls	1.1	1.3	0.6	0.8	0.8	0.7	0.3	1.2	1.6	2.1
Bedroom/Hall/Living room	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.1
Verandah	4.2	5.9	7.1	6.7	5.8	3.2	2.2	2.2	2.2	4.1
Open space in compound	21.2	11.3	31.5	33.8	8.5	8.8	16.0	14.1	41.6	25.7
Other	0.2	0.0	0.2	0.1	0.2	0.1	0.1	0.1	0.4	0.3

Source: Ghana Statistical Service, 2010 Population and Housing Census

12.7   Bathing and Toilet Facilities

Bathing Facilities

Table 12.13 shows that over four-fifths (86.7%) of households in the Region use a space specifically provided for bathing within the dwelling unit, while 11.3 percent use the open space around the house/compound. Less than two percent (1.6%) use public bath house or bathrooms in other houses.

When the use of space specially provided for bathing within the dwelling unit is ranked, own bathroom for exclusive use of the household ranks first (41.3%) followed by shared separate bathroom in the same house.   Private open cubicle ranks third involving 14.7 percent of households and shared open cubicle takes the fourth position accounting for 11.9 percent of households' bathing facility

Table 12.13 further shows that broadly the Regional rank orders are not replicated at the District level. Own bathroom for exclusive use of the household ranks first in all Districts except the Bawku Municipality where shared separate bath room in the same house ranks first. Open space around house ranks fifth at the Regional level. However, the use of open space for bathing ranks second in three Districts, the Kasena Nankana West (22.3%), Kasena Nankana East (16.8%), and Bongo District (15.5%). The use of open space ranks fourth in Builsa District (7.6%) Bawku West District (9.5%), and Garu Tempane District (17.1%).In the other Districts, open space for bathing maintains it Regional ranking of fifth position.

There are also deviations from the Regional rank orders in relation to locality type. For example, the rural areas follow closely the regional rank order, except for shared open cubicle which ranks fourth regionally but fifth in the rural areas. It ranks third in the urban areas. The proportions of households that have own bathroom for exclusive use is higher in the rural areas of all the Districts than the urban areas. Surprisingly despite this advantage, the proportion of households using open space around the house is also higher in the rural areas of each of the Districts than in the urban areas of the Districts.

Toilet Facilities

Toilet facilities are classified into three categories in relation to their location and accessibility. These are built or constructed facilities in or around the house, facilities in another house and public facilities. All the three categories can be flush toilet (W.C.), the KVIP, the pit latrine, or the bucket/pan latrines.

Public toilets are for communal or public use (paid or free use). No facility means that there is no built/constructed facility of any kind available for the use of the household and the household members use places other than the above-mentioned, including the bush, field, rivers or stream. Some people even use "chamber pots" or other small receptacles (including plastic bags) and dispose of these in all sorts of places including open fields, stream and gutters.

Table 12.13: Bathing facility used by households by district and type of locality

Bathing Facility	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga. Municipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Municipality
All localities										
Number	77,629	16,915	12,813	19,790	26,706	21,714	15,188	15,169	17,520	31,814
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Own bathroom for exclusive use	41.3	54.5	42.6	42.6	33.0	57.3	52.9	43.7	28.2	29.4
Shared separate bathroom in the same house	18.8	13.0	10.6	15.1	25.2	10.9	9.9	15.4	21.7	31.7
Private open cubicle	14.7	18.1	12.7	10.9	14.3	16.9	14.7	23.3	13.3	11.5
Shared open cubicle	11.9	5.9	8.6	11.8	17.2	6.5	6.0	7.4	18.4	17.0
Public bath house	1.3	0.4	2.3	1.7	3.1	0.4	0.2	0.2	0.9	1.8
Bathroom in another house	0.3	0.2	0.2	0.4	0.3	0.4	0.3	0.1	0.0	0.3
Open space around house	11.3	7.6	22.3	16.8	6.7	6.5	15.5	9.5	17.1	7.9
River/Pond/Lake/Dam	0.2	0.2	0.5	0.3	0.1	0.6	0.3	0.2	0.2	0.1
Other	0.2	0.1	0.2	0.2	0.2	0.5	0.2	0.3	0.2	0.1
Urban										
Number	41,941	1,400	1,968	5,690	14,801	2,442	1,145	1,724	1,096	11,675
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Own bathroom for exclusive use	28.7	33.1	26.2	26.8	22.1	45.5	34.9	33.6	23.3	33.5
Shared separate bathroom in the same house	33.8	40.9	25.3	28.1	37.7	16.7	35.8	33.4	27.5	36.1
Private open cubicle	9.5	4.5	10.9	6.4	10.4	23.4	10.0	11.5	10.3	6.8
Shared open cubicle	18.4	14.1	9.1	27.4	20.8	6.8	7.3	10.6	33.3	16.3
Public bath house	3.8	0.1	8.4	5.3	5.1	0.7	0.6	0.1	2.5	2.8
Bathroom in another house	0.3	1.4	0.2	0.4	0.4	0.2	1.1	0.2	0.1	0.1
Open space around house	5.4	5.4	19.4	5.3	3.4	6.6	10.0	10.5	2.9	4.2
River/Pond/Lake/Dam	0.1	0.3	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.1
Other	0.1	0.3	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1
Rural										
Number	135,688	15,515	10,845	14,100	11,905	19,272	14,043	13,445	16,424	20,139
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Own bathroom for exclusive use	45.2	56.5	45.6	49.0	46.7	58.8	54.4	45.0	28.5	27.1
Shared separate bathroom in the same house	14.2	10.5	8.0	9.9	9.6	10.2	7.8	13.1	21.3	29.2
Private open cubicle	16.3	19.3	13.0	12.8	19.1	16.1	15.1	24.8	13.5	14.3
Shared open cubicle	9.9	5.2	8.5	5.6	12.6	6.5	5.9	7.0	17.4	17.4
Public bath house	0.6	0.4	1.2	0.3	0.7	0.3	0.1	0.2	0.8	1.3
Bathroom in another house	0.3	0.1	0.2	0.4	0.2	0.5	0.2	0.1	0.0	0.5
Open space around house	13.1	7.8	22.9	21.4	10.7	6.5	15.9	9.4	18.1	10.1
River/Pond/Lake/Dam	0.3	0.2	0.5	0.4	0.1	0.6	0.4	0.2	0.2	0.1
Other	0.3	0.1	0.1	0.2	0.3	0.6	0.2	0.3	0.2	0.1

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 12.14: Toilet facility used by households by district and type of locality

Toilet Facility	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga-tanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipality
All localities										
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No facilities (bush/beach/field)	82.4	85.4	91.0	83.7	67.7	93.2	89.9	86.3	91.9	70.7
W.C.	3.4	1.6	0.8	4.4	12.5	0.9	1.1	1.0	0.5	2.7
Pit latrine	3.0	2.2	1.6	3.0	2.0	2.1	2.9	3.1	2.2	5.6
KVIP	3.5	3.6	3.1	2.8	2.7	2.3	2.8	6.6	3.3	4.4
Bucket/Pan	0.2	0.0	0.1	0.2	0.8	0.1	0.0	0.1	0.1	0.3
Public toilet (WC KVIP Pit Pan etc.)	7.2	7.0	3.3	5.7	13.6	1.1	3.1	2.8	1.3	16.1
Other	0.3	0.1	0.2	0.2	0.6	0.3	0.1	0.2	0.7	0.2
Urban										
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No facilities (bush/beach/field)	56.7	44.4	76.5	63.6	50.4	95.2	57.6	64.4	71.0	48.7
W.C.	10.9	12.1	2.9	11.7	19.0	2.0	7.9	6.1	2.1	5.0
Pit latrine	41,941	1	4	8	2	1	9	2	7	5
KVIP	6.2	3.3	8.6	4.9	3.4	0.6	10.1	18.9	15.6	8.4
Bucket/Pan	0.8	0.1	0.1	0.7	1.3	0.2	0.3	0.1	0.1	0.8
Public toilet (WC KVIP Pit Pan etc.)	21.1	38.9	7.5	11.3	23.3	1.0	15.3	8.0	4.6	31.5
Other	0.2	0.2	0.2	0.4	0.3	0.1	0.1	0.1	0.1	0.2
Rural										
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No facilities (bush/beach/field)	90.3	89.1	93.6	91.8	89.2	93.0	92.6	89.1	93.3	83.5
W.C.	1.1	0.7	0.5	1.4	4.5	0.8	0.5	0.3	0.4	1.3
Pit latrine	2.6	2.4	1.1	1.2	1.6	2.3	2.4	3.2	2.0	5.7
KVIP	2.7	3.7	2.1	2.0	1.9	2.5	2.2	5.0	2.5	2.1
Bucket/Pan	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Public toilet (WC KVIP Pit Pan etc.)	3	4	2	3	2	1	2	2	1	7
Other	0.3	0.1	0.2	0.2	1.1	0.3	0.1	0.2	0.7	0.2

Source: Ghana Statistical Service, 2010 Population and Housing Census

From the perspective of health hazards the picture with respect to toilet facilities is far from satisfactory. According to the 2000 census, 78 percent of households in the Region had no toilet facility. Table 12.14 shows that in 2010 about four-fifths of all households (82.4%) have no toilet facility and use the bush or field. The lowest proportion is reported in the Regional Capital District (Bolgatanga Municipality) where two out of every three households (67.7%) have no toilet facility.

In the rural areas, not less than eighty percent of households in each District have no toilet facility. Even in the urban areas, the proportions of households with no toilet facility range from 44.4 percent in Builsa to 76.5 percent in Kasena Nankana West.

The lesson learnt is that in the past and at present almost all houses were built with no toilet facilities. Only about ten percent of households in the Region have a toilet facility of any kind provided in the house and 7.2 percent use public toilet of any kind (W.C., KVIP Pit or Pan).

The proportion using public facilities ranges from 3.3 percent in the Kasena Nankana West to 16.1 percent in the Bawku Municipality. Having water closet in the house is not common, given the low level of availability and accessibility of piped borne water in houses. The proportion of households using W.C is only 3.4 percent in the Region and varies from 0.5 percent in Garu Tempane to 12.5 percent in the Regional capital District (Bolgatanga Municipality). The facility is also largely urban based (10.9% for urban areas versus 1.1% for rural areas). In each District the proportion of households using WC in the urban areas is at least twice that in the rural areas.

The availability and use of Public toilet of any type is skewed to urban areas. For the Region as a whole, 7.2 percent use public toilets. However, the urban/rural breakdown indicates 21.4 percent use in the urban areas compared to 2.9 percent in the rural areas. The pattern is replicated in each District.

Sharing of Toilet Facility with other households

Table 12.14 shows that 82.4 percent of households in the Region have no toilet facility and 7.2 percent use public toilet. Thus, only about ten percent of households in the Region have any facility to share. Out of these, 4.4 percent do not share their facilities; 4.7 percent share with other household(s) in the same house, less than one percent (0.8%) share with other household(s) in different house; and 0.5 percent share with other household(s) and in different house.

12.8 Waste Disposal

Solid Waste

The information refers to the method of collection and disposal of solid waste (rubbish) generated by the households. The method of rubbish disposal is categorized as "collected" where the solid waste is collected by authorised or self-appointed agents (e.g. Zoomlion). "Burnt by households" implies that the household disposes of the solid waste by burning it either inside or outside the dwelling unit, and "buried by household" is the situation where the rubbish is buried inside or outside the dwelling unit. Disposal at a Public Dump (container) refers to the situation where the household carries the waste to a designated place that has a container and public dump (open space) refers to the situation where the household disposes solid waste at a locally designated dumping place.

When the household disposes of solid waste indiscriminately in the bush, along streets, at abandoned or uncompleted building sites, the method is categorized as "Dumped Elsewhere". All other methods of disposal are put in the category "other". Table 12.15 shows that the main means of solid waste disposal in the Region is dumping at public dumps (open space 31.2% and container 7.9%). An additional 25.0 percent burn and 6.9 percent bury solid waste.

Table 12.15: Method of rubbish disposal by households by district and type of locality

Method of Solid Waste Disposal	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga-tanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Munici-pality
All localities										
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Collected	11.1	5.1	8.5	11.8	6.9	15.6	17.9	12.0	19.9	7.0
Burned by household	25.0	31.0	23.1	20.2	16.9	32.6	24.4	29.6	22.9	26.2
Public dump (container)	7.9	9.0	1.9	5.3	25.2	1.0	1.4	1.6	2.0	11.0
Public dump (open space)	31.2	40.0	42.7	38.6	37.9	27.7	25.1	18.3	19.3	29.9
Dumped indiscriminately	14.6	13.2	21.6	17.4	8.2	14.8	7.5	11.3	23.9	16.0
Buried by household	6.9	1.0	1.8	4.7	4.4	2.5	12.2	17.9	10.6	8.5
Other	3.3	0.9	0.4	1.9	0.5	5.8	11.5	9.2	1.3	1.5
Urban										
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Collected	8.7	1.4	6.3	15.6	6.6	30.1	22.6	3.9	5.3	4.3
Burned by household	20.6	9.8	30.9	20.0	12.9	29.4	24.5	26.2	42.7	24.9
Public dump (container)	26.4	30.6	6.3	12.1	44.4	0.7	5.9	8.7	17.2	24.2
Public dump (open space)	31.6	49.2	42.1	43.6	26.6	31.0	24.7	34.1	14.2	30.3
Dumped indiscriminately	8.3	6.9	12.9	6.3	5.3	1.5	6.8	16.8	17.2	11.8
Buried by household	3.1	2.0	1.0	1.8	3.7	1.4	8.1	5.2	2.6	3.2
Other	1.4	0.1	0.6	0.7	0.5	5.9	7.4	5.2	0.7	1.2
Rural										
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Collected	11.9	5.4	8.9	10.4	7.3	13.7	17.5	13.1	20.9	8.5
Burned by household	26.3	32.9	21.7	20.3	21.9	33.0	24.4	30.0	21.6	26.9
Public dump (container)	2.2	7.0	1.2	2.6	1.3	1.0	1.1	0.7	1.0	3.3
Public dump (open space)	31.1	39.1	42.8	36.6	51.9	27.3	25.1	16.3	19.6	29.6
Dumped indiscriminately	16.6	13.7	23.1	21.8	11.9	16.5	7.5	10.7	24.4	18.5
Buried by household	8.0	0.9	2.0	5.9	5.3	2.7	12.5	19.5	11.1	11.6
Other	3.9	1.0	0.4	2.4	0.5	5.8	11.9	9.7	1.4	1.6

Source: Ghana Statistical Service, 2010 Population and Housing Census

Almost fifteen percent (14.6%) of households dump waste elsewhere, which is unsatisfactory. Only about one in ten households (11.1%) pay for their solid waste to be collected.

In the urban communities, the three most important method of solid waste disposal are burning by household, public dump (container or open space) and indiscriminate dumping is on a reduced scale.

Liquid Waste

Table 12.16 shows that the two major ways of liquid waste disposal in the Region, in all the Districts as well as in the urban and rural areas is to throw onto the street/outside and unto the compound. These two methods account for at least 75.0 percent of the ways of liquid waste disposal used. The proportion using these two methods ranges from 74.7 percent of households in Bawku Municipality to 91.0 percent in the Bongo District. Even in the urban areas of each District the proportion varies from 66.2 percent in the Bolgatanga Municipal District to 94.1 percent in the Kasena Nankana West District.

Table 12.16: Method of liquid waste disposal by households by district and type of locality

Method of Liquid Waste Disposal	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga-tanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipality
All localities										
Number	177,629	16,915	12,813	19,790	26,706	21,714	15,188	15,169	17,520	31,814
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Through the sewerage system	2.3	0.6	0.6	2.1	3.1	3.9	1.2	0.6	3.4	2.9
Through drainage system into a gutter	4.3	1.8	3.2	2.5	8.2	3.7	1.8	2.7	2.8	7.3
Through drainage into a pit (soak away)	6.8	5.7	3.5	4.4	6.1	6.8	3.9	7.8	12.1	8.7
Thrown onto the street/outside	59.4	72.4	58.4	69.8	64.7	71.4	71.7	39.1	47.5	44.3
Thrown into gutter	3.4	2.3	1.4	1.9	6.8	2.0	0.9	1.8	2.8	6.0
Thrown onto compound	23.2	15.9	32.2	18.9	10.9	11.7	19.3	47.5	31.0	30.4
Other	0.6	1.4	0.6	0.4	0.3	0.5	1.1	0.5	0.5	0.4
Urban										
Number	41,941	1,400	1,968	5,690	14,801	2,442	1,145	1,724	1,096	11,675
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Through the sewerage system	4.0	1.0	0.4	4.0	3.6	17.2	0.8	0.3	0.4	3.8
Through drainage system into a gutter	9.2	1.8	2.8	3.5	13.1	1.5	3.1	1.6	1.3	12.9
Through drainage into a pit (soak away)	5.0	3.6	1.1	4.8	5.8	1.8	4.0	5.7	2.6	5.9
Thrown onto the street/outside	57.9	84.8	57.4	70.6	57.0	59.4	82.4	66.3	68.9	44.6
Thrown into gutter	7.6	3.0	1.4	3.8	11.1	7.3	2.5	1.9	8.9	8.0
Thrown onto compound	16.1	5.7	36.7	13.1	9.2	12.6	6.7	23.5	17.7	24.6
Other	0.2	0.1	0.1	0.2	0.2	0.2	0.4	0.6	0.4	0.2
Rural										
Number	135,688	15,515	10,845	14,100	11,905	19,272	14,043	13,445	16,424	20,139
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Through the sewerage system	1.8	0.5	0.7	1.4	2.4	2.2	1.3	0.6	3.6	2.4
Through drainage system into a gutter	2.8	1.8	3.3	2.0	2.0	3.9	1.7	2.8	2.9	4.0
Through drainage into a pit (soak away)	7.3	5.9	4.0	4.2	6.4	7.4	3.9	8.1	12.7	10.3
Thrown onto the street/outside	59.9	71.3	58.6	69.5	74.3	72.9	70.8	35.6	46.0	44.1
Thrown into gutter	2.1	2.2	1.4	1.2	1.5	1.4	0.8	1.8	2.3	4.9
Thrown onto compound	25.4	16.8	31.4	21.2	13.1	11.5	20.3	50.6	31.9	33.8
Other	0.7	1.5	0.7	0.5	0.3	0.6	1.2	0.5	0.5	0.5

Source: Ghana Statistical Service, 2010 Population and Housing Census

12.9   Source of Water

Water is an important requirement in all spheres of human endeavour. It is a scientific fact that 70 percent 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.

An adequate supply of easily accessible water for drinking and other domestic use is therefore a necessary condition for households to attain satisfactory living.

Drinking Water

Information was collected on the main source of drinking water for household members. The various water sources are classified in this section by their quality level in relation to their health effects on the consumer. According to the Ghana Medium Development Goal report (2012) an indicator referred to as 'improved water sources' measures the proportions of the population who use any of the following types of water supply for drinking: piped water, public tap, borehole or pump, protected well, protected spring or rain water. Improved water sources do not include vendor-provided water, bottled water, tanker trucks or unprotected wells and springs.

On the basis of this classification, at the regional level, it can be observed from table 12.17 that the proportion of households using various improved water sources is as follows:

i.   Bore-whole/pump/tube well (57.3%)

ii.   Protected well (12.8%)

iii.   Pipe-borne water (inside dwelling, outside dwelling and public stand pipe (17.9%)

iv.   Protected spring (0.4%)

The proportion using unimproved water sources is as follows:

i.   Unprotected well (6.2%)

ii.   River/stream (2.5%)

iii.   Dug out/Pond/Like/Dam/Canal (1.8%)

iv.   All others (1.1%)

Broadly, according to the classification over four out of every five households (88.2%) in the Region have access to drinking water sources, at the regional level.

At the District level, access to improved drinking water sources as defined, varies from 81.0 percent in the Builsa District to 94.9 percent in the Regional Capital District (Bolgatanga Municipality)

Table 12.17: Main source of drinking water for households by district and type of locality

Source of Drinking Water	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga-tanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Munici-pality
All localities										
Number	177,629	16,915	12,813	19,790	26,706	21,714	15,188	15,169	17,520	31,814
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Pipe-borne inside dwelling	6.5	5.1	1.9	7.8	23.2	1.5	1.1	3.2	0.8	5.2
Pipe-borne outside dwelling	8.5	7.0	12.3	7.4	17.3	3.6	2.9	4.0	5.9	10.6
Public tap/Standpipe	2.9	3.0	3.9	2.5	3.3	0.8	1.2	3.8	2.6	4.4
Bore-hole/Pump/Tube well	57.3	49.7	62.7	64.6	46.1	66.9	80.3	65.2	59.8	41.4
Protected well	12.8	15.9	10.1	9.9	4.7	10.7	8.0	14.1	13.8	23.7
Rain water	0.1	0.0	0.0	0.3	0.0	0.2	0.0	0.1	0.1	0.3
Protected spring	0.4	0.3	0.5	0.2	0.3	0.4	0.3	0.4	0.4	0.5
Bottled water	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Sachet water	0.4	0.1	0.2	0.4	0.5	1.1	0.1	0.2	0.3	0.3
Tanker supply/Vendor provided	0.2	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.6
Unprotected well	6.2	10.3	5.4	3.2	2.5	5.7	2.3	6.4	9.2	9.9
Unprotected spring	0.2	0.3	0.0	0.1	0.0	0.5	0.4	0.2	0.2	0.2
River/Stream	2.5	1.8	2.1	1.8	1.5	5.2	2.4	1.0	4.9	1.9
Dugout/Pond/Lake/Dam/Canal	1.8	6.2	0.6	1.6	0.1	3.4	0.8	1.4	2.0	0.9
Other	0.1	0.3	0.0	0.0	0.3	0.0	0.0	0.0	-	0.0
Urban										
Number	41,941	1,400	1,968	5,690	14,801	2,442	1,145	1,724	1,096	11,675
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Pipe-borne inside dwelling	22.5	49.1	7.6	21.1	37.6	4.5	8.7	20.6	0.2	10.9
Pipe-borne outside dwelling	19.8	27.6	9.7	12.3	28.4	5.9	9.3	13.1	15.6	18.7
Public tap/Standpipe	5.3	1.8	7.0	4.0	5.4	1.9	0.9	13.6	10.4	5.5
Bore-hole/Pump/Tube well	34.3	16.5	55.3	35.2	22.4	80.3	78.3	43.5	52.5	30.6
Protected well	11.1	3.4	15.0	18.8	2.2	3.8	0.6	3.8	8.8	22.7
Rain water	0.2	0.1	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.5
Protected spring	0.3	0.2	0.3	0.2	0.2	0.2	0.4	0.6	0.1	0.4
Bottled water	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
Sachet water	0.7	0.4	0.6	1.1	0.8	0.0	1.1	0.5	2.3	0.5
Tanker supply/Vendor provided	0.6	0.0	0.4	0.1	0.1	0.0	0.1	0.1	0.0	1.7
Unprotected well	3.7	0.7	4.2	1.6	1.7	3.2	0.1	3.9	10.0	7.5
Unprotected spring	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2
River/Stream	0.6	0.1	0.1	2.3	0.5	0.1	0.2	0.1	0.2	0.2
Dugout/Pond/Lake/Dam/Canal	0.6	0.0	0.0	3.2	0.0	0.0	0.2	0.0	0.0	0.5
Other	0.2	0.1	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.1
Rural										
Number	135,688	15,515	10,845	14,100	11,905	19,272	14,043	13,445	16,424	20,139
Total (Percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Pipe-borne inside dwelling	1.6	1.1	0.9	2.5	5.2	1.1	0.4	0.9	0.8	1.9
Pipe-borne outside dwelling	5.0	5.1	12.8	5.4	3.5	3.3	2.3	2.8	5.2	5.8
Public tap/Standpipe	2.2	3.1	3.3	1.9	0.8	0.6	1.2	2.6	2.1	3.8
Bore-hole/Pump/Tube well	64.4	52.7	64.0	76.5	75.7	65.3	80.5	68.0	60.2	47.7
Protected well	13.4	17.0	9.2	6.3	7.7	11.6	8.6	15.4	14.1	24.3
Rain water	0.1	0.0	0.0	0.3	0.0	0.2	0.0	0.1	0.1	0.1
Protected spring	0.4	0.3	0.5	0.3	0.3	0.5	0.3	0.3	0.4	0.6
Bottled water	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sachet water	0.3	0.1	0.2	0.1	0.1	1.2	0.1	0.2	0.2	0.2
Tanker supply/Vendor provided	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Unprotected well	7.0	11.2	5.6	3.9	3.6	6.1	2.5	6.8	9.2	11.2
Unprotected spring	0.3	0.3	0.0	0.1	0.0	0.5	0.4	0.2	0.2	0.3
River/Stream	3.1	2.0	2.5	1.7	2.7	5.8	2.6	1.1	5.2	2.9
Dugout/Pond/Lake/Dam/Canal	2.2	6.7	0.8	0.9	0.3	3.8	0.9	1.6	2.1	1.1
Other	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0

Source: Ghana Statistical Service, 2010 Population and Housing Census

Access to improved drinking water sources is almost evenly spread between urban and rural communities. Access ranges from 87.5 percent in the urban areas of the Bawku Municipal District to 96.4 percent in the urban areas of Talensi Nabdam District. In the rural communities of the Districts, access ranges from 79.0 percent in the Builsa District to 93.0 percent in the Bongo District.

There are, however, some variations in the type of improved drinking water sources between urban and rural areas and also between Districts. In general, the use of pipe-borne water inside or outside dwelling and public tap/stand pipe is higher among households in urban communities than rural communities. The use of Bore-hole/Pump/Tube well and protected well is generally higher in the rural communities.

At the District level the use of pipe-borne water sources for drinking water is higher in the urban areas of each District than in its rural areas. Between Districts, its use is higher than the Regional proportion of 17.9 percent of households in only two Districts namely: Bolgatanga Municipality (43.9%) and Bawku Municipality (20.2%).

Water for Other Domestic Use

For the purposes of this analysis other domestic use of water involves mainly bathing, cooking, washing of dishes and washing of clothes.

In the Region, the same sources of water used for drinking are also used for other domestic purposes except bottled water and sachet water. The proportions of households using the various sources of water for drinking are statistically not different from the proportions using the sources for other domestic purposes. Table 12.18 compares the proportions using the same various water sources for drinking and those using them for other domestic purposes at the Regional level. The table shows that there are no significant shifts in the proportion that use the various sources of water for drinking when other domestic uses is considered. On the whole, fewer households use improved drinking water sources for other domestic purposes than for drinking, and slightly more households use unimproved water sources for other domestic purposes than for drinking.

Table 12.18: Percentage distribution of water sources and their use

Source of Water	Percentage of Households using for	
	Drinking	Other Domestic Purposes
Pipe-borne inside dwelling	6.5	6.4
Pipe-borne outside dwelling	8.5	7.9
Public tap/standpipe	2.9	2.6
Bore-hole/Pump/Tube well	57.3	55.4
Protected well	12.8	14.0
Rain water	0.1	0.2
Protected Spring	0.4	0.4
Bottled Water	0.0	-
Satchel Water	0.0	-
Tanker supply/Vendor/Provided	0.2	0.2
Unprotected well	6.2	6.5
Unprotected spring	0.2	0.4
River/Stream	2.5	3.4
Dugout/Pond/Lake/Dam/Canal	1.8	2.5
Other	0.1	0.1
Total	100.0	100.0

Source: Ghana Statistical Service, 2010 Population and Housing Census

When urban and rural areas are compared, table 12.19 shows that the rural areas, generally replicate the regional picture of non-significant shifts in the proportions between sources of drinking water for other domestics uses reported in Table 12.18.

Significant shifts are, however, observed in the urban areas. Firstly, there is a significant increased use of unimproved water sources for non-drinking purposes. For example whereas only 3.7 percent of households in the urban areas use unprotected well water for drinking, twice as many (6.5%) use it for other domestics purposes. Less than one percent use river /stream for drinking in the urban areas. However, three times that proportion (3.4%) uses it for washing clothes, bathing or cooking.

Secondly, many more households use pipe-borne water (whether inside or outside the dwelling and public stand pipe) for drinking than for other domestic purposes. A reason for this large difference may be the direct monetary costs involved in accessing pipe-borne water.

Table 12.19: Percentage distribution of water sources and their use by type of locality

	Urban		Rural	
Source of water	Drinking	Other Domestic	Drinking	Other Domestic
Pipe-borne inside	22.5	6.4	1.6	1.6
Pipe-borne outside	19.8	7.9	5.0	4.9
Public tap/standpipe	5.3	2.6	2.2	1.9
Bore-holes/pump/tube well	34.3	55.4	64.4	62.2
Protected well	11.1	14.0	13.4	13.9
Rain water	0.2	0.2	0.1	0.1
Protected springs	0.3	0.4	0.4	0.4
Bottled water	0.1	-	0.0	-
Sachet water	0.7	-	0.3	-
Tanker supply/vender provided	0.6	0.2	0.0	0.0
Unprotected well	3.7	6.5	7.0	7.1
Unprotected spring	0.1	0.4	0.3	0.4
River/stream	0.6	3.4	3.1	4.2
Dugout/pond/lake/dam/canal	0.6	2.5	2.2	3.1
Other	0.2	0.1	0.0	0.1
Total (Percent)	100.0	100.0	100.0	100.0

Source: Ghana Statistical Service, 2010 Population and Housing Census

Also, in the urban areas whereas only one out of every three households (34.3%) use bore-holes/pump/tube well for drinking, as many as 54.4 percent use the source for other domestic purposes. This differs from the almost equal share of this source for drinking and other domestics use in the rural areas 64.4 versus 62.2 percent.

Further analysis by Districts given in Tables 12.20a and 12.20b indicates that; Builsa District replicates the Regional picture that shows no substantial differences between the proportion of households using the same source of water for drinking and other domestic purposes.

The households in the Kasena Nankana West District, Kasena Nankana East District and Bongo District also replicate the Regional picture. Generally no significant differences are revealed

between the proportions using the same source of water for both drinking and other domestic purposes.

However, in the three Districts the use of unimproved water sources for other domestic purposes is far more than their use for drinking purposes. For example, whereas 2.6 percent of households use dugout/pond/lake/dam/canal for other domestic purposes in the Kasena Nankana West District less than one percent (0.6%) use the same source for drinking. Similarly, twice as many households (3.1%) use dugout/pond/lake/dam/canal for other domestic purposes than for drinking (1.6%) in the Kasena Nankana East District.

The same pattern emerges in the Bongo District where 2.8 percent of households use dugouts/pond/lake/dam/canal for other domestic purpose compared to less than 1.0 percent who uses it for drinking purposes.

The two districts with at least 33.0 percent of the population living in urban settlements also do not exhibit a pattern different from the other Districts. This shows that, the Regional patterns of fewer households using improved drinking water sources for other domestics use and slightly more households using unimproved water sources for non-drinking purposes than for drinking is generally replicated in each of the Districts.

Table 12.20a: Proportionate distribution of main source of drinking water for households by districts

Main Source of Drinking Water for Households	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga-tanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tepmane	Bawku Muni-cipality
All localities										
Number	177,629	16,915	12,813	19,790	26,706	21,714	15,188	15,169	17,520	31,814
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Pipe-borne inside dwelling	6.5	5.1	1.9	7.8	23.2	1.5	1.1	3.2	0.8	5.2
Pipe-borne outside dwelling	8.5	7.0	12.3	7.4	17.3	3.6	2.9	4.0	5.9	10.6
Public tap/stand pipe	2.9	3.0	3.9	2.5	3.3	0.8	1.2	3.8	2.6	4.4
Bore hole/pump/tube well	57.3	49.7	62.7	64.6	46.1	66.9	80.3	65.2	59.8	41.4
Protected well	12.8	15.9	10.1	9.9	4.7	10.7	8.0	14.1	13.8	23.7
Rain water	0.1	0.0	0.0	0.3	0.0	0.2	0.0	0.1	0.1	0.3
Protected spring	0.4	0.3	0.5	0.2	0.3	0.4	0.3	0.4	0.4	0.5
Bottled water	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Sachet water	0.4	0.1	0.2	0.4	0.5	1.1	0.1	0.2	0.3	0.3
Tanker supply/vendor Provided	0.2	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.6
Unprotected well	6.2	10.3	5.4	3.2	2.5	5.7	2.3	6.4	9.2	9.9
Unprotected spring	0.2	0.3	0.0	0.1	0.0	0.5	0.4	0.2	0.2	0.2
River/stream	2.5	1.8	2.1	1.8	1.5	5.2	2.4	1.0	4.9	1.9
Dugout/pond/lake/dam/carnal	108	2.6	0.6	1.6	0.1	3.4	0.8	1.4	2.0	0.9
Other	0.1	0.3	0.0	0.0	0.3	0.0	0.0	0.0	-	0.0

Source: Ghana Statistical Service, 2010 Population and Housing Census

Table 12.20b: Proportionate distribution of main source of water for other domestic use by households and by district

Main Source of Water for other Domestic use by Households	All Districts	Builsa	Kasena Nankana West	Kasena Nankana East	Bolga-tanga Muni-cipality	Talensi Nabdam	Bongo	Bawku West	Garu Tempane	Bawku Muni-cipality
All localities										
Number	177,629	16,915	12,813	19,790	26,706	21,714	15,188	15,169	17,520	31,814
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Pipe-borne inside dwelling	6.4	5.1	1.6	7.5	23.1	1.4	1.1	3.1	0.8	5.1
Pipe-borne outside dwelling	7.9	6.5	11.9	6.7	15.3	3.6	3.7	3.8	5.7	9.4
Public tap/stand pipe	2.6	2.1	3.4	2.4	2.9	0.8	0.7	3.3	2.2	4.2
Bore hole/pump/tube well	55.4	47.4	57.7	62.4	46.2	66.2	76.0	64.5	57.0	39.9
Protected well	14.0	17.4	12.4	11.3	6.1	10.8	8.4	14.4	14.9	25.1
Rain water	0.2	0.1	0.1	0.3	0.1	0.2	0.1	0.1	0.1	0.4
Protected spring	0.4	0.3	0.4	0.3	0.2	0.4	0.4	0.4	0.4	0.5
Bottled water	-	-	-	-	-	-	-	-	-	-
Sachet water	-	-	-	-	-	-	-	-	-	-
Tanker supply/vendor Provided	0.2	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.6
Unprotected well	6.5	11.1	6.7	3.6	2.6	5.69	2.8	6.2	9.3	10.2
Unprotected spring	0.4	0.3	0.1	0.2	0.1	0.6	0.8	0.4	0.5	0.4
River/stream	3.4	2.6	2.8	2.1	2.3	6.6	3.4	1.9	6.4	3.0
Dugout/pond/lake/dam/carnal	2.5	7.0	2.6	3.1	0.5	3.6	2.8	1.7	2.5	1.1
Other	0.1	0.1	0.0	0.0	0.4	0.0	0.1	0.1	0.2	0.1

Source: Ghana Statistical Service, 2010 Population and Housing Census

CHAPTER THIRTEEN
SUMMARY OF FINDINGS, CONCLUSIONS AND
POLICY IMPLICATIONS

13.1 Introduction

As far back as 1969, the Government of Ghana recognized that the "population of Ghana is the nation's greatest resource. It is both the instrument and objective of national development. The protection and enhancement of its welfare is the Government's first responsibility "(Government of Ghana, 1969). Government also explicitly recognized the reciprocal relationship between population and development (i.e. population affects development even as development affects population). An understanding of the population, is characteristics and dynamics, is therefore crucial for realistic development planning.

The Government of Ghana has operated the decentralized system of development since 1980 with the District Assembly, as the planning authority, expected to initiate and coordinate the processes of planning, programming, budgeting and implementation of district plans, programmes and projects the district assemblies and the various organs are expected to carry out medium and long term planning, including integration of population policies and issues as they pertain to the needs of particular districts and communities.

The overall level of development and demographic structure of the country conceals differences between and within regions, districts, urban and rural localities. As such, there are bound to the differences in the population and development needs and priorities between and within regions, districts, urban and rural localities.

The report deals with the Upper East Region and its Districts. Its objective is to make available to the general public analysis of data, the results of the 2010 Population and Housing Census and their full implications for policy and planning in the component districts.

As far as feasible comparisons between the 2000 PHC and 2010 PHC results are presented.

13.2 Census Methodology

Summary of findings

The methodologies adopted for the 2010 census were derived from the recommendation of the United Nations' Principles, and recommendations for the 2010 Rounds of Population and Housing Censuses as well as experiences from precious censuses in Ghana. In developing the methodologies, the Ghana Statistical Service (GSS) was also guided by the need to obtain accurate information and achieve international comparability. The primary objective was to provide information on the number, distribution and social economic and development in the country. Methods and strategies described cover activities related to the pre-enumeration phase, enumeration phase, post-enumeration phase and challenges associated with them. There are no region specific methods and strategies. The chapter concludes that some major challenges were encountered in the areas of census mapping, field data collection and data processing. However,

staff of GSS and members of the various census committees were able to address these challenges including the region specific ones creditably.

13.3 Demographic Characteristics

Population size, growth and density

The population of the region rose from 920,089 in 2000 to 1,046,545 in 2010, an estimated increase of 13.7 percent. The 2010 regional figure, however, is less than twentieth (4.2%) of the national population. The regional population also has the following features;

The inter-censual growth rate of 1.2 percent per annum is slightly below one-half the national growth rate of 2.5 percent and is the second lowest growth rate recorded for the region since 1970.

The region's share of the total national population continue to decline from its highest percentage share of 6.9 percent in 1960 to the 2010 level of 4.2 percent. In terms of density, the region's population density increased steadily over the years from 53.0 persons per sq. km in 1960 to 118.4 in 2010. This is higher than the national density of 103.4 persons per sq. km and ranks fifth on the country's regional density ladder. The region's population of 1,046,545 is not evenly distributed among the nine districts. Five districts have populations of 100,000 or more (ranging from 109,994 for Kasena Nankana East District to 217,791 for the Bawku Municipal District). Kasena Nankana West District has the smallest share of the region's population (6.8%), followed by Bongo district (8.1%).

Age structure

The age structure of the region follows the national pattern. I t is skewed towards the youth. Children less than 5 years constitute 13.9 percent of the total population and those less than 15 (0-14 years) represent 41.5 percent. Youths age between 15 and 19 years make up and additional 11.1 percent. In all, the population under 20 years of age recoded in the 2010 census is 52.6 percent. The elderly population (65 years and over) constitute only 6.8 percent of the region's population.

Urban and Rural distribution

The urban status of a community is based on population size only. Localities with persons 5,000 or more are classified as urban. On the basis of this definition, the region is primarily rural (79.0%). However, the proportion of the urban population increased steadily from 3.9 percent in 1960 to 7.3 percent in 1970. Over the forty years period from 1970 to 2010, the urban population increased three folds to embrace one out of every five persons in the region. Although the urban population is still small (21.0%), the annual growth rate has been sustained. The region recorded annual growth rates beyond the national average of 4.7 percent over the period 1960-1970. For the period 1970-1984, the region's urban growth rate of 6.6 percent was twice the national average of 3.3 percent. During the 2000-2010 period, the regional growth rate was at par with the national average. Despite this growth in the urban population, the region is one of the two in the country with an urban population below 30 percent. Only three districts in the region (Bolgatanga Municipal, Bawku Municipal and Kasena Nankana East) have levels of urbanization above the regional level of 21.0 percent. The largest proportion of 49.8 percent is in the

Bolgatanga Municipal District followed by Bawku Municipal District (34.6%), 27.9 percent in the Kasena Nankana East District and 14.0 percent in Kasena Nankana West District.

Fertility

Fertility is high in the region and child bearing goes on through-out the entire reproductive period (15-49 years); with the age-specific rate of 33.9 live births for the 45-49 years age group which is the end of the child bearing period being close to the 36.2 rate for the 15-19 years age group. Three measures of fertility namely total fertility rate, generally fertility rate and crude birth rate all declined between 2000 and 2010. But the mean number of children ever born to mothers aged 45-49years (completed fertility) has remained the same in 2000 and 2010. The analysis of fertility differentials brought out the important role of education in changing the fertility behaviour of females. The inverse relationship between educational attainment and fertility suggests that education is a catalyst for fertility decline.

Mortality

In relation to mortality indicators, data on children ever born, children surviving and deaths in households in the 12 months prior to the census were used for estimating mortality indices. Despite probable under reporting of deaths and children ever born and surviving, the information was considered satisfactory enough for deriving reliable estimates for the various mortality indicators, including age patterns of mortality and maternal mortality rate and ratio. Although mortality indicators have shown steady declines in the country and in the region, the 2010 census data reveal that the region still experiences high infant, under-five mortality and maternal mortality.

Migration

The issue of migratory movements into and out of the region was also addressed. The main findings on the issue of migratory movements into and out of the region are that an overwhelming majority (88.0%) were enumerated at their locality of birth. Only twelve percent were migrants (born elsewhere in the region (5.6%) born in other region (5.8%) and born outside Ghana (0.6%). The 2010 census reveals that 61,298 Ghanaians migrated into the region. However, higher number 328,990 natives of the region were counted in the other nine regions. This implies that the region is losing population through migration at a fast rate.

Data on emigration show that the main destinations of emigrants from the region were Europe, the Americas (North/South and Caribbean) and Cote d'Ivoire, Burkina Faso, Togo and Nigeria. Most citizens of the region living abroad are labour migrant.

The data on urbanization reveal that although for the first time the urban population in Ghana reached the fifty percent mark, the region remains one of the least urbanized with only a fifth (21.0%) of its population living in urban communities.

Ethnicity

The question on ethnicity was administered only to Ghanaians by birth. Te main ethnic groups that are indigenous to the region are the mole-Dagbon, Grusi, Mande-Busanga and Gurma. Among the mole-Dagbom, the Nabdam, Kusasi, Tallensi, Nankani/Gurense and Builsa are significant. The significant

other sub groups are the Kasena among the Grusi, the Busanga among the mande-Busanga and the Bimoba among the Gurma.

This regional picture, however, varies depending on the concentration or dominance of an ethnic group within specific districts. For example, the mole-Dagbon make up three out of every four (74.7%) of the population in the whole region. However, they comprise ninety-eight percent of the population in the Bongo and Talensi Nabdam districts, 90.0 percent in the Builsa district and 86.3 percent in the Bolgatanga municipal District.

Religious Affiliation

Three main religious groupings are found in the region. These are traditionalist (27.9%), Islam (27.1%) and Christianity (41.7%). Within the Christian religion, the Catholics are in the majority (19.9%), followed by the Pentecostal/charismatic (11.8%) and Protestants (7.1%). At the district level, the proportion that are of 27.9 percent in five districts, namely Builsa (44.0%), Talensi Nabdam (46.8%), Bongo (44.0%), Bawku West (43.9%) and Kassena Nankana West (30.5%). Islam is pronounced in two districts namely Bawku Municipal (60.7%) and Garu Tempane (40.1%).

13.4 Social Characteristics

The summary of findings on social characteristics is derived from the following chapters of the report:
  i.   Chapter four – Household size, structure and composition;
  ii.   Chapter five – Marital characteristics;
  iii. Chapter six – Information communication Technology (I.C.T);
  iv.   Chapter seven – Education and Literacy;
  v.   Chapter ten – Disability;

Households

There are 117,631 households in the region consisting of 41,941 in the urban areas and 135,690 in the rural areas. The average household size for the region is 6.2; ranging from 4.9 in Bolgatanga Municipal to 7.4 in the Garu Tempane District. Comparatively, there are larger household sizes in the rural (6.1) than the urban areas (5.2).

Household sizes are generally large in each of the districts. The proportion of households with six persons or more varies from 35.7 percent in the Bolgatanga Municipal District, to 64.0 percent in the Garu Tempane District. The head of household is usually a male. The proportion of female-headed households ranges from 31.8 percent in the urban areas, to 26.4 percent in the rural areas.

Household heads constitute 17.2 percent of the membership of households in the region; spouses constitute 10.2 percent, children of the head of household makeup the highest proportion (47.0%) of household members.

The fact that household members other than head, spouse(s) and biological children constitute one quarter (25.6%) of household members confirms the view that the traditional extended family household composition has not changed much.

Household Types

Household types refer to the type of relationship among household members whether related or unrelated. In this analysis each household belongs to an identified exclusive type. Ten types of households are identified in the 2010 census based on the relationship of the members to the head of household.

On the whole 45.0 percent of the households belong to "nuclear family" categories (single person, couple only, double parent nuclear households and single parent nuclear households). About forty four percent (44.3%) belong to "extended family" categories (extended, extended plus non-relatives, single parent extended and single parent extended plus non relatives). This shows that, the traditional extended family is still rooted in the region. About ten percent are termed households with "other compositions".

In the region and in both urban and rural areas, the most common household types are:

 i.   Double parent nuclear households and double parent extended family households.
 ii.   Single person households (Head only)Households with head and spouse only
 iii. Households with head, spouse(s) and biological/adopted children only (double parent nuclear households.
 iv.   Households with head (no spouses) and biological/adopted children only (Single parent nuclear households)
 v.   Households with head, spouse(s), biological/adapted children and relatives of the head (double parent extended family)
 vi.   Households with head, spouse(s), biological/adapted children and relatives and non-relative (double parent extended family + non relatives)
 vii. Households with head, no spouse, biological and adopted children and relatives of the head only (Single parent extended family)
 viii. Households with head, no spouse, biological and adopted children and relatives and non-relatives of head (Single parent extended family +non relatives)
 ix.   Households with head, spouse(s) and other composition (Couple with other composition)
 x.   Households with head and other composition but no spouse (Single parent +other composition)

Single parent nuclear households and single parent extended family households comprise one in four households in the region in both urban and rural areas. Single person households are also becoming common, especially in the urban areas in the districts.

Households with head only (single person) range from a low of 2.7 percent in the Garu Tempane District to a high of 11.6 percent in the regional capital district. Households with head and spouse only are not common are not common in the region, ranging from 1.1 percent in the Bongo District to 2.7 percent for Bolgatanga Municipal.

The "double parent nuclear household" is the most common type in all districts. The lowest proportions which are below the regional average of 23.7 percent district are in the Bongo District (17.8%), Bolgatanga Municipal (21.8%) and Kasena Nankana East (21.7%). The highest proportions (above the regional average) are in the Builsa District (26.4%), Kasena Nankana West (26.4%), Bawku West District (25.8%) and Bawku Municipal (25.7%).

"Double parent extended households" ranges from a low of 21.1 percent in the Bolgatanga Municipal District to a high of 45.2 percent in Garu Tempane District. The proportion for "single parent nuclear", and" single parent extended" are above ten percent of the households in almost all the districts.

The prevalence of "single person households" is at least two fold higher in the urban than rural areas in all the districts. "Double parent nuclear households" do not follow any consistent urban-rural differences in the size of the proportions in each district. Double parent extended households are generally more prevalent in the rural than urban areas of each district. Also the proportion of single parent nuclear and single parent extended households do not show consistently larger or smaller proportions between urban and rural areas in each district.

Ownership of mobile phones (individual)

In general the percentages of people 12 years and older, having mobile phones are low across the entire region. Out of the total population of 690,901 aged 12years and over in the Upper East Region only 167,421 (24.2%) have mobile phones.

The highest percentage of people aged 12 years and above having mobile phones was recorded in the Bolgatanga Municipal District (24.2%); followed by Bawku Municipal District (23.1%).The lowest percentage was recorded in Bongo District (5.5%) and Kasena Nankana East District (5.7%).

When males and females are compared, the table shows that Bolgatanga Municipal District (27.7%) recorded the highest percentage of people 12 years and older for females while Bawku Municipal District (23.5%) recorded the highest for males. There is a relatively lower levels of people aged 12 years and older having mobile phones among the districts for both sexes (male and female).

Use of internet

In the country as a whole 7.8 percent of the population 12 years and over use internet facility compared to only - 2.3 percent in the Upper East Region. Table 6.6 brings out the rate of internet use by districts in the Upper East Region. Among the districts, Bolgatanga Municipal District (39.8%) has the highest recorded percentage out of the 15,777 internet users, followed by Kasena Nankana East District (22.2%). Bawku Municipal District comes third (13.7%). The lowest percentage using internet facility among the districts is in Garu Tempane District (2.9%) and Bongo District (3.4%).

Bolgatanga Municipal District has the highest proportion using internet facility for both males (37.2%) and females (45.5%). On the other hand, Garu Tempane (2.7%) has the lowest proportion for males while Bongo District (3.1%) has the lowest proportion for females. Generally a higher proportion of males than females use internet facility in the Upper East Region

Ownership of desktop/laptop

Across the region, households in which a member owns desktop/laptop is very small indeed. Just about 3.1 percent of the households of the region own desktop and laptop. The distribution by district indicates that among the districts desktop/laptop ownership is again low and skewed

towards the three more urbanized districts. Bolgatanga Municipal District recorded the highest percentage (9.4%) followed by Kassena Nankana East District (5.0%) and Bawku Municipal District(2.4%).The other districts range from 0.9 percent in the Garu Tempane District to 1.6 percent in the Builsa District.

Marital status

The traditional practice of early and almost universal marriage is reflected in the fact that the proportion of the total population, aged 12 years or older, who have never married varies from 35.9 percent in the Talensi Nabdam, to 43.6 percent in the Bolgatanga, District. Among the females, the proportion varies from 26.8percent in the Bawku West, to 37.1 percent in the Bolgatanga Municipal District.

A higher percentage of females (51.4%) are currently married than males (46.7%). Also a slightly higher percentage of females (1.2%) than males (1.0%) are reported as separated. The proportion of females (14.3%) reported as widowed is six and a half times that of males (2.2%)

Literacy

In the country as a whole the majority (74.1%) of the population 11years and older are literate. Over two-thirds (67.1%) of the population can read and write in English. About one-fifth (20.1%) can read and write in the English language only while 53.7 percent of the population can read and write in at least one Ghanaian language.(Ghana Statistical Service May,2012).

In the region, less than fifty percent (47.5%) of the population 11 years or older are literate. About one in three (32.0%) is literate in English only and 14.0 percent are literate in English and a Ghanaian language and only 1.0 percent is literate in a Ghanaian language only. Though the region shares a boundary with two French speaking countries (Burkina Faso and the Republic of Togo) only 0.2percent of the population 11 years and older are literate in French.

The districts with the highest proportion of literate population are Bolgatanga Municipal District (54.6%), followed by Kasena Nankana East District (56.3%) and Kasena Nankana West District (50.2%).   Since mass communication is in English and since instructions in schools are in both English and Ghanaian languages, literacy is classified into;

1. literate in English only
2. literate in English and Ghanaian language
3. literate in Ghanaian language only
4. all others

On the basis of this classification, in the region as a whole, about one in three of the population 11years or older (32.0%) are literate in English only and 14.0 percent are literate in English and Ghanaian language. Less than two percent (1.3%) falls into the category literate in Ghanaian language only. The category of all others \ (literate in English and French, and literate in English, French and Ghanaian language) make up only 0.2%.

At the district level, literacy in English only is above the regional average of 32.0 percent in the regional capital district (Bolgatanga Municipal District) where almost one in two (49.6%) is literate in English only, followed by Talensi/Nabdam District (35.1%). Literacy in English and

Ghanaian language is twice the regional average of 14.0 percent in the Kasena Nankana West and Kasena Nankana East Districts (28.1% and 26.4% respectively).

Literacy by sex shows that in the region, 55.4 percent of the male population 11 years and older are literate compared to only two out of every five females (40.6%). The female illiteracy rate of 59.4 percent is higher than the regional rate of 52.5 percent. The regional proportions are low compared to the country as a whole where 80.2 percent of males and 68.5 percent of females are literate. However in both the country and in the region, literacy is higher for males than for females.

The data show that 36.1 percent of the male population is literate in English only while 17.5 percent is literate in both English and Ghanaian Language. On the other hand, 28.4 and 10.9 percent of the female population are literate in English only and literate in English and Ghanaian Language respectively.

The data indicates that among the population 11 years and older in the region, the urban dwellers are more likely to be literate than those in the rural areas. About sixty two percent (61.9%) of the urban dwellers are literate in one language or the other.

Education

Nationally, the 2000 Population and Housing Census revealed that the proportions of the population 6 years and older have ever attended school was 60.4 percent (66.2% of males and 54.8% of females). From the 2010 census data the proportion increased to 76.5 percent (81.7 of males and 71.7 percent of females.

In the Upper East Region also, there is an improvement. However, the gap in ever school attendance between the country and the region remains very wide. Education and literacy programmes were introduced late in the Northern sector of the country (comprising Northern, Upper East and Upper West Regions) as a result of deliberate colonial era policy. According to Governor Guggisberg in 1925 promulgated the policy that in the North, education should be limited to Primary six for the general population and only the best should reach standard seven (Bening R.B. 1990). This policy was followed through out by successive Governors. The colonial office in London supported the policy adding that it was inexpedient for Northerners to attend secondary school. The various Christian Missions, who founded schools in other parts of the country, were prevented from establishing schools in the North. The first secondary school in the North was opened in Tamale in 1951.

As a consequence of this colonial policy, and other social, cultural and economic factors, school attendance has generally been low in the region.

From 2000 census (2000 PHC) data only 28.2 percent of the population 6 years and older have ever attended school (33.2 % of males and 23.6 % of females).

From the 2010 Population and Housing Census (2010 PHC) data, the proportion increased about two-fold to 54.2 percent (60.9 % for males and 48.1 % for females). On the whole, more males have attended school in the past and are attending school now than females.

From the analysis of the data the following significant findings emerged;

   i.   A substantial proportion (45.8%) of the population 6 years and older have never attended school.
   ii. At least 2.3 times are currently attending school (38.0%) compared to those who attended in the past (16.2%).
   iii. The increase in current school attendance compared to past school attendance is evident in both urban and rural areas, and also for both males and females.
   iv. On the whole. School attendance past (27.3%) and current (39.1 %) is higher in the urban areas than in the rural areas (13.2% and 37.7%).
   v.   However, there is a very significant growth in current school attendance in the rural areas. The gap between past (27.3%) and current (39.1 %) school attendance in the urban areas is not as large as the gap in the rural areas (13.2% for past and 37.7% for current).
   vi. The disadvantaged position of females in relation to school attendance is also clear.
   vii. A higher proportion of females (51.9%) than males (39.1%) have never attended school. This is true in both urban and rural areas.
   viii. Fewer females than males have attended school in the past or are currently attending school in both urban and rural areas.

Fewer females (14.0%) than males (18.6%) have attended school in the past, and fewer females (34.1%) than males (42.3%) are currently in school.

This proportion is similar to that of the total country for basic education (71.3%). However twice as many ended at the primary level in the Upper East Region (38.0%) than in the country as a whole (17.6%). Also, of those who have attended school in the past, in the country 53.7 percent have the upper level of basic education (Middle or J.S.S. /J.H.S.) as their highest level of schooling compared to a smaller proportion (31.3%) in the Upper East Region. This clearly affirms Primary education as the highest level of schooling attended in the region by most of the population.

In the Upper East Region, there were relatively more females (73.9%) than males (65.3%) with Primary, Middle or JSS/JHS as the highest level of schooling. This suggests that, in the past, females were more likely than males to terminate schooling after the basic school level. Lower proportion of females (26.1%) than males (34.7%) progress to SSS/SHS, Secondary and other higher levels.

In the region, primary education is the highest level of schooling attended by those who attended school in the past, followed by JSS/JHS, SSS/SHS and Middle. This pattern is repeated in each of the districts although with varying magnitudes of the proportions. Three districts that have proportions with primary education larger than the regional figure of 32.0 percent are Garu/Tempane which has the highest proportion (53%), followed by Bawku West (50.4%) and Talensi/Nabdam (47%). Kasena Nankana West has the highest proportion (25.8%) of the population which attained JHS education, followed by Bongo district (23.6%) and Bawku Municipal (21.1%). The SHS is highest in Bolgatanga Municipal (17.1%) followed by Builsa district (15.6%).

Analysis of the data on the school attendance status of the population 6 years and older reveals that more people are currently in school (38.0%) than attended school in the past (16.2%).

Among those currently attending school, 6.4% are in Nursery and Kindergarten and another sixty two percent are in primary school while about one in five are in JSS/JHS. Less than ten percent are in SSS/SHS. Current school attendance at all the other make up only 3.2 percent.

When males are compared to female there is not much difference at the basic school level up to JSS/JHS. There is also not much difference in the proportions at the Vocational/Technical/Commercial, Post Middle/Post Secondary Certificate and Post Secondary Diploma levels.

A comparison with the country as a whole reveals that the proportion currently in primary school is higher in the region (62.4%) than in the country as a whole (54.4%). The region is almost at par with the country at the JSS/JHS and SSS/SHS levels. The proportion at these two levels in the country is 32.7 percent compared to 28.1 percent in the region. Pre-school (Nursery and Kindergarten) attendance has also caught up in the region, enrolling 6.6 percent of the population currently at school compared to 7.1 percent in the country as a whole. At the Vocational/Technical/Commercial and Post Middle levels also, the region (1.2%) compares favorably with the country (1.3%) However, twice as many are currently at the Post Secondary, Bachelor Degree and Post Graduate levels in the country (4.3%) than in the region (2.1%).

Disability

In the region as a whole, 39,924 or 3.8 percent of the total population has some types of disability. This is higher than the national proportion of 3.0 percent.

Kasena Nankana West District recorded the highest proportion of its population as having some types of disability (6.3%) followed by Talensi Nabdam (4.9%). Bawku Municipal recorded the lowest proportion (2.3%).

A distribution of the total number of persons with disability and the region's share of this number reveals that the region recorded 5.4 percent of the total national disability figure of 737,743. Within the region. Although Bawku Municipal has only 2.3 percent of its total population having disability, the district contains 12.6 percent of all recorded persons with disability in the region. Similarly, although 4.3 percent of the population in Garu Tempane District recorded are PWDs, the district's PWD population is 14.1 percent of the total number of PWDs in the region. Talensi Nabdam District has the highest proportion of its populations as PWD (14.2%) and Builsa District has the lowest (7.6%).

The regional percentage distribution of persons with disability by five year age groups reveals that for all categories of disabilities, shows a high concentration in the younger age groups 0-4, 5-9 and 10-14. This trend is suggestive of malformation disability in the early ages in life. It may also suggest a high mortality rate among people with disability, such that not many live up to advanced ages. The data show that the regional age distribution does not deviate significantly from the national proportions, especially in the very old age groups.

Out of the 39,924 PWDs in the region, 19,580 (49.0%) are males and 20,344 (51.0%) are females. At the district level also, there are generally more females reporting a disability than males. The higher female numbers is maintained in all the districts except the Bawku Municipal and Garu Tempane Districts.

Despite their disability status, about three out of every four of the PWD population in the region (75.3%) have ever married. About forty six percent (46.3%) are currently married and about five percent (4.9%) are either separated or divorced, 23.5 percent are widowed. Thus, three out of every four (74.7%) of PWDs have ever married. Nationally 40.3 percent are currently married and about two-thirds (68.3%) have ever married. Disability therefore does not appear to be a barrier to marital relationship. The table shows that the regional pattern is replicated in each of the districts and there is not much difference in the various marital status categories between districts.

School attendance is more prevalent among PWDs nationally than in the Upper East Region. Whereas 40.1 percent of PWDs have never attended school in the country as a whole, the proportion who have never attended school in the region is 68.2 percent. The proportion of the total regional population who have never attended school is 44.5 percent. Table 10.6 which shows the distribution of PWDs by level of Education indicates that basic school comprising primary, middle and JHS is the highest level attained (23.8 percent) followed by SSS/SHS (2.8 percent). There are striking district differences especially among the proportion of PWDs who had never attended school. There is as much as almost 20 percent points difference between the districts with the highest proportion of never attended school PWDS (Bawku West District) and the one with the lowest (Bolgatanga Municipal District). Generally, the differences between the districts in school attendance may be attributed to differentials in the accessibility of educational facilities at all levels.

Literacy or ability to read and write is also low among the PWDs. Whereas for the region as a whole, 59.0 percent are not literate, the proportion among PWDs is 73.3 percent. About seventeen percent (16.9%) are literate in English only. Less than nine percent (8.8%) are literate in English and a Ghanaian Language. Literacy in English only, among the general population, is 25.3 percent and 13.3 percent are literate in English and a Ghanaian language (Chapter seven of this report).

In the region as a whole, the vast majority (85.2%) of the population of PWDs live in rural areas. The regional picture is replicated in each of the districts with the proportion living in rural communities higher than seventy-five percent in each district except the two most urbanized districts (Bolgatanga Municipal and Bawku Municipal). Rural development programmes must, therefore, take into account the proportion of PWDs living in rural communities and their increased vulnerability in their quest for livelihoods.

A slightly more favorable economic activity status for PWDs is reported, for the region and its districts, compared with the country as a whole. Employment rate in the region is about fifty-eight percent (57.9%) compared to 54.1 percent in the country as a whole. The employment rate is above the national figure in each of the districts. The unemployment rate of 1.0 percent is far lower than the national rate of 3.0 percent. In each district, the unemployment rate is lower than the national figure. The economically not active rate is also lower than the national figure in the region and in seven of the nine districts.

The Ghana Statistical Service National Report on Disability (2012), reported that nationally, almost 2 out of 5 of the population with disabilities (38.3%) have more than one type of disability condition. Similarly, almost the same proportions of males (38.2%) and females (38.5%) have more than one type of disability condition.

In the Upper East Region, there is evidence that some persons with disability reported multiple disabilities. As such the frequency of reported disabilities (51,800) is higher than the number of persons in the region reporting a disability (39,924), yielding an average of 1.3 disability type per person.

The data show that, at the regional level, visual/sight impairment was the most frequently mentioned disability type (30.8%) followed, at a distant second by physical challenges (16.8%) and hearing impairment (16.4%).   Emotional or behavioral disorders rank third (10.2%). Intellectual problems (9.9%) ranks fourth followed closely by speech impairment (9.6%).

At the district level, visual/sight impairment ranks first in each district, again followed either by hearing impairment or physical challenges.

The distribution across the various disability types by sex indicates that the proportions of females who reported having difficulty with sight (53.9%) and hearing (56.1%) are higher than for males (46.1% and 43.9%). For all the other disability types (speech, physical, intellectual and emotional), the proportions are higher for males.

The higher intellectual disability among males (52.1%) compared to females (47.9%) could be linked to the known higher use of hard drugs and other substances by males as documented by in-patient statistics from Psychiatrist hospitals.

Although there are variations between districts in the size of the proportion of males or females reporting disabilities, the male/female pattern of the various disabilities are more or less the same for all the districts. For example, in each district difficulty with sight and hearing is higher for females than males. Speech and intellectual problems are higher for males in almost all the districts.

13.5   Economic characteristics

The proportion of the employed increases with increasing age and is highest for the 35-59 age group (39.2%). The proportion recorded by the 60 years and older age group (13.7%) is the least. The combined proportions for the youthful age groups 15-24 years and 25-34 years, who are available to work for many more years before reaching retirement age, is 47.1 percent. This indicates that, in term of age composition, the region has a relatively large workforce that can be harnessed for development activities. The general pattern of increases in employment with advancing age is replicated for both males and females. There are no significant differences between males and females in the proportion of the employed population in the various age groups.

In the region, the employment rate is 71.8 percent of the total population 15 years and older. The rate ranges from a low of 64.6 percent in the Bolgatanga Municipal District to 78.0 percent in the Bawku West District.

In each district, the urban employment rate is consistently lower than the rate for the rural areas. The rates for urban areas are generally below seventy percent and range from 55.2 percent in the Builsa District to 74.3 percent in the Talensi/Nabdam District. Rural employment rates are above seventy percent in each district and range from 70.6 percent in the Bolgatanga Municipal District to 79.6 percent in the Bawku Municipal District.

The distribution of the unemployed population 15 years and older by age and sex, indicates that the proportion of the unemployed decreases with increasing age. It is highest (45.2%) for the youngest age group 15-24 years and reduces by almost 17 percentage points to 28.5 percent for the age group 25-34 years. It again drops by 12 percentage points to 16.5 percent for the age group 35-59 years. The combined proportion for the age groups 15-24 years and 25-34 years is 73.7 percent indicating that almost three out of every four unemployed are young. In this predominantly peasant labour intensive agricultural economy, if the regional economy does not diversify and grow rapidly, and are not creates jobs sufficiently to match the demand. There will be a constant pool of unemployed labour. The already existing proportion of unemployed may be a factor in current and future social and economic unrest in the region.

The general pattern of reductions in the proportion in unemployment with increasing age is replicated for both males and females. However, there are some noticeable differences between males and females. The proportion of unemployed youth 15-24 years is about the same for both males and females. From age 35 years onwards, the proportions unemployed are slightly higher for females. For the age group 25-34 years, the proportion is higher for males.

In the region, the unemployment rate is 2.5 percent of the total population 15 years and older. The rates range from the low of 1.4 percent in Bawku West District to 4.3 percent in the Bolgatanga Municipal District. The unemployment rate of 5.1 percent in the urban areas is three times higher than the rate of 1.8 percent among rural communities.

In each district, urban unemployment is consistently higher than rural unemployment, and generally, the urban rates are at least twice those of rural areas. Urban unemployment ranges from 1.7 percent in the Talensi/Nabdam District to almost one out of every ten of the population in the Garu/Tempane District 9.7%). A reason for the higher urban unemployment may be the fact that the industrial activities in the urban areas are a little more outside the capacities and capabilities of urban dwellers because they require training and specific skills.

Rural unemployment rates in the districts are below the regions average of 2.5 percent in almost all the districts. The rates range from 1.2 percent in the Garu/Tempane District to 2.5 percent in the Bolgatanga Municipal District.

The distribution of the economically not active population 15 years and older by age and sex is based on four broad age groups. This can result in the loss of some age-specific data. The proportion of the population who are economically not active is highest (57.0%) in the youngest age group 15-24 years. It reduces to as low as 10.3 percent in the age groups 25-34 years and 35-59 years. The proportion rises again at age 60 years and over to 22.4 percent. The size of the proportions in the various age-groups reflects more or less the categories of the population who are inactive and the age groups on which they are generally found. For example, full-time students are generally in the age-group 15-24 years and retired persons are usually 60 years and older.

The pattern of reductions in the size of the proportions economically not active with advancement in age is replicated for both males and females. There are significantly more economically inactive males in the age group 15-24 years (66.7%) than females (49.5%). However for the age groups 35-59 years and 60 years and older, the percentage of economically not active females is higher than that of males.

In the region, the economically not active rate is about one quarter of the population aged 15 years and older (25.7%). The rate is highest in the Bolgatanga Municipal District (31.1%), followed by the Kasena Nankana East District (29.5%). This may be due to the fact that these two districts have most of the second and third cycle educational institutions with the dominant category of the economically not active population -that is students.

The economically inactive population rate is generally higher in the urban areas (33.3%) compared to the rural areas (23.4%). The region's pattern is replicated in each district. In the Bawku Municipal District, for example, the rate for urban communities is 33.6 percent, compared to less than twenty percent (19.0%) in the rural communities.

13.6 Agricultural activity

Members of an agricultural household include the head, spouse, biological children, parents, brothers and sisters, parents/in-laws, grand, step, adopted and foster children, other relatives and non-relatives. That is, all household members counted at the time of the census and not only members who are engaged in agricultural activities.

Agricultural households constitute 83.7 percent of households in the region and are fairly large with the number of persons ranging from one to over ten. Two out of every five have 4-6 members (40.9 percent). Nearly the same proportions have 7 or more members (39.3 percent). About one out of every five households (19.8 percent) contains 1-3 members.

The distribution of agriculture householder by size shows some differences between urban and rural communities. Small household sizes (1-3) are more common in urban agricultural households (22.2%) than in rural households (19.4%). Similarly, there are more large size households (7 or more) in the rural areas (39.6%) than in urban communities (37.7 percent). The proportions of households with 4-6 members are almost the same in both types of localities.

Nearly 86 percent of agricultural households are in rural areas. The high concentration of the agricultural households in the rural communities confirms the assertion that, in the region, agriculture is essentially a rural industry.

Out of the total population of 392,019, in agriculture, 341,472 or 87.1 percent are in rural communities indicating that agricultural activities are predominantly for rural folks. The agricultural population is evenly distributed between males and females in the rural communities. In the urban areas however, out of the total population of 50,547 in agriculture 54.2 percent are males and 45.8 percent are females. There are more males (54.2%) than females (45.8%) involved in agricultural activities.

Most households in the region are headed by males, and so are agricultural households (75.0%) male and (25.0%) females. There are no urban/rural differences in the proportions.

The distribution of the agricultural households by age of head and type of locality of residence shows that the proportions for the region are similar to those of the total country. Within the region, significant differences emerge between the urban and rural areas for the older age group 60 years and older.

The broad picture from the age distribution of the heads of agricultural households is that in the country as a whole and in the region two out of every five heads are aged fifty years or more. On the likelihood that most of the heads are also farmers, the farmers can be presumed to be mostly old persons.

The households in agriculture in the region are engaged in four types of farming activities namely: crop farming, tree growing, livestock rearing, and fish farming. The data indicates that many households reported involvement in more than one farming activity. The 148,660 agricultural households reported a total of 267,743 agricultural activities giving an average of about 2 different activities per household. The two traditional activities of crop farming and livestock rearing are prominent in both urban and rural communities. The number of households reporting tree growing and fish farming are relatively very small. Fish farming, as distinct from fishing, is relatively new in the region. The initial investment is relatively high. The growing of trees in particular requires a considerable waiting time to harvest and this is not likely to draw much interest from the substantially subsistent farming communities.

The head of household is generally the person responsible for the upkeep and maintenance of the household. The majority of households in the country are headed by males (65.3%) with female headed households constituting 34.7 percent. However, the proportion of agricultural households headed by males is 71.4 percent suggesting an increased male dominance. In the region, 77.8 percent of all households are headed by males compared to 74.9 percent for agricultural households.

The sex of the head of an agricultural household relates to the agricultural activity of the household members. It addresses the question of the proportion of a specific farming activity household that is headed by a male or a female. On the basis of this, the data shows that in the region, when all farming activities are taken into account, 74.9 percent of the households are headed by males, and 25.1 percent by females. When crop farming is considered 75.1 percent of households who mentioned that activity are headed by males.

In the relatively new activity of fish farming, the share of male headed households increased from the usual proportion of about 75.0 percent to about 85.0 percent. However, for tree growing, which required high initial investment and considerable waiting time to harvest, the proportion of female headed households rather increased to a little more than one out of every three agricultural households. This increase, however, pertains to only urban communities.

Three factors influence the types of crops cultivated; climate, vegetation and soil and drainage. Some lands are classified as suitable for farming certain crops and others are not suitable. Acreage depends on the amounts of land and other resources available to the farmer.

The ranking of the types of crops cultivated in the region is based on the "total farms" of the crop. The first five crops: millet, groundnut, rice, maize and beans account for 82.3 percent of total farms in the region. Additional five crops – soya beans, sorghum, okra, pepper and onion make up another 10.3 percent. In all the ten selected crops are grown on 92.6 percent of "total farms" in the region.

Type of cropping refers to the arrangement of crops including trees on a farm or a piece of land. It is mono cropping where only one crop or tree is planted on a farm. Where two crops or trees

are planted together on a farm in alternate rows, it is intercropping, and where two or more crops are planted together on a farm in a haphazard manner, it is mixed cropping.

In the region, generally, about one-half of the farms, crops and trees are mono cropped (52.5%). About thirty percent use inter cropping and the remaining 17.8 percent practice mixed cropping. Rice and onion are essentially mono cropped while beans, soya beans and sorghum are intercropped in most farms.

Livestock rearing is the second most important agricultural activity after crop farming in the region. Among the traditional livestock (sheep, goats, cattle and pig) the average number of animals varies within the narrow range of 8.5 goats per keeper to 9.0 cattle. The averages are almost the same in urban and rural areas. In the birds category (chicken, turkey, guinea fowl, dove, duck and ostrich) the average number per holder ranges from 8.5 turkeys to 20.2 ostriches. The traditional local birds, chicken and guinea fowl, because of their availability in almost every household, do not yield significantly large average numbers. The non-traditional livestock (rabbit, grasscutter) are not reared by many households.

Most livestock keepers are concentrated in the rural areas. The proportions range from 62.5 percent for the emerging snail rearing to 91.9 percent for yet another emerging venture (grass-cutter rearing).

The keepers of traditional livestock and birds are very highly concentrated in the rural areas. In terms of numbers of animal and birds also, the distribution is skewed to the rural areas within a narrow range. It can therefore be concluded that livestock rearing is essentially rural based.

Fish farming is not a common activity in the agricultural households in the region. Only 7,351 persons or 4.9 percent are engaged in fish farming.

13.7 Housing Condition and Facilities

Housing Stock

The region's population of 1,046,545 live in a total of 114,034 residential dwelling units which include any type of shelter used as living quarters, such as flats, apartments, enclosed compound, huts, kiosks, cargo containers, and tents. A total of 177,631 households share the 114,034 dwelling units yielding a figure of 1.6 households per house. With a population of 1,046,545 the average population per house is 9.2 persons and the average household size is 6.2 persons.

Rooms in compound houses are the predominant type of dwelling units in all the districts. A high proportion of the households in each district, ranging from 81.6 percent in the

Bolgatanga, to 93.4 percent in the Bawku West, District, live in dwellings owned by a relative.

The quality of dwellings in the region and access to amenities are low. For example, as with the situation in 2000, mud/mud bricks account for over 80.7 percent of wall materials in all districts. Additionally, thatch from grass, wood or mud/mud bricks account for over 32.8 percent of material for roof in every district. This is a tremendous improvement over the 2000 proportion of 75.0 percent.

Number of Rooms

The number of rooms occupied by households ranges from one to more than nine rooms. The 2010 census data show that, there are more rooms available to each household in the region than in the country as a whole. Generally, room occupancy is skewed towards one or two rooms. For the country as a whole, two out of every three households (69.3%) occupy only one or two rooms, compared to one out of every three (34.3%) in the region. There are also more households occupying seven or more rooms in the region (13.7%) than in the country as a whole (5.1%).

About a third (36.2%) of households occupy three or four rooms, while 15.7 percent have five to six rooms and about fourteen percent (13.7%) are large rooms houses (7 or more). Thus in general, those occupying three rooms or fewer comprise a little over one-half of the households (55.0%). The proportion of households declines with increases in the number of rooms available in the households. Within urban and rural communities, there are large proportions of households occupying three or fewer rooms in the urban areas (65.6%) than in the rural areas (51.8%). Conversely, there are higher proportions of households living in more rooms (4 to 9 or more) in the rural areas (48.2%) than in the urban areas (34.2%). The large room sizes may be explained by the more communal extended family living arrangements that are predominant in rural areas.

At the district level, the proportion of households having only one or two rooms ranges from 10.8 percent in the Garu Tempane district to 50.6 percent in the regional capital district (Bolgatanga Municipality). All the districts, except Garu Tempane, have proportions in this category that are higher than the regional figure of 34.3 percent.

Households having three or four rooms range from 18.4 percent in Garu Tempane to 47.1 percent in the Bongo district. Five out of the nine districts have proportions in this category higher than the regional figure of 36.2 percent. In six districts, the proportions living in seven or more rooms are below seven percent, which is about one-half the regional proportion of 13.7 percent. Three districts have proportions far larger than the regional figure (Garu Tempane 40.6 percent, Bawku Municipal 25.8 percent and Bawku West 18.1 percent).

Since not all rooms available to the household are necessarily used for sleeping purposes, the number of sleeping rooms for the household can be less than or equal to the number of rooms occupied by the household. The number of sleeping rooms available for households therefore ranges from one to more than nine.

In the region, about one-half of the households (51.5%) use one or two sleeping rooms. A third (33.6%) of households have 3-4 sleeping rooms, while 13.9 percent use five or more sleeping rooms.

Differences can be observed when considering urban and rural areas. Urban dwellers have fewer sleeping rooms. About sixty three percent (62.9%) use one or two sleeping room- compared to 49.3 percent in rural communities. Conversely, only 37.0 percent of urban dwellers use three or more sleeping rooms, compared to 50.7 percent in the rural areas. As with the total number of rooms occupied by households, there are variations between districts in the proportions with regard to sleeping rooms.

Most districts have between 45.0 percent and 67.0 percent of the households using only one or two sleeping rooms. These proportions are generally higher than the regional proportion of 51.5 percent. Three districts have between 5.0 and 12.0 percent of the households in seven or more sleeping rooms. These proportions are higher than the regional proportion of 4.7 percent. In the region, out of the 21.5 percent who use one sleeping room, only 0.4 percent shares the sleeping room with other households.

Tenancy Status

Most households reside in dwellings owned by the household (owner occupied). The proportion of owner occupied dwelling units range from 65.6 percent in the regional capital district (Bolgatanga Municipal) to 96.3 percent in the Talensi Nabdam District. About a tenth (9.3%) of the households in the region pay rent. This proportion ranges from a mere 1.3 percent in the Talensi Nabdam District to almost one in three (29.1%) for the Bolgatanga Municipal. Most of the households that pay rent are in the urban areas (29.9%) compared to only 2.9 percent of rural households. About 3.6 percent of households in the region live in rent-free accommodation, with the highest proportions in the Bawku Municipality 5.7 percent and Bolgatanga Municipality Districts 4.9 percent.

Dwelling Ownership Status

In the region and within each district, most households reside in dwellings owned by a household member. In rural areas of each district, at least ninety percent of all dwelling units are owned by a household member. In the urban areas, the proportion in this category is below fifty percent only in the Builsa District (44.1%) and Bolgatanga Municipal (45.5%).

Relatives of the household who are not household members own 3.4 percent of dwellings in the region. The proportion ranges from 0.7 percent in Bongo District to about 5.0 in the Bolgatanga Municipal District.

There is a higher level of ownership by relatives in the urban areas (6.1%). The proportion ranges from 0.1 percent in the Talensi Nabdam to almost ten percent (9.6%) in the Builsa District.

13.7.2 Housing Facilities

Main Source of Lighting

According to the 2000 census data, 12.4 percent of households in the region use electricity (mains) as the main source of lighting while the kerosene lamp remained the major source of lighting for 84.6 percent. At the time of the 2010 census, electricity (mains) use doubled to 24.1 percent while the proportion using kerosene lamp reduced to 45.5 percent. The use of Flashlight/Torch has gained popularity, becoming the second overall source of lighting in the region (27.6%).

Although electricity use is only 24.1 percent for the region, it is about sixty-five percent for urban areas. Also it is above forty percent in the urban areas of each district except Talensi Nabdam. Kerosene lamp use is above forty percent in the rural areas of all districts except Garu Tempane (35.6%) and Bawku Municipal (37.8%).

Generally, the three main source of lighting in homes are kerosene lamp, electricity and flashlight/torch. All the other sources, including gas lamp, solar energy, and electricity from private generator, candle and others account for about 3.0 percent of source of lighting.

Main Source of Cooking Fuel

Firewood is the most used cooking fuel in the region (60.4%), Millet stock or corn stock (crop residue) is used by 16.7 percent of households and charcoal is used by 15.2 percent These are also the three main sources of cooking fuel in each district, although there are significant variations between districts. The use of wood is lower than the regional proportion of 60.4 percent in three districts namely; Bolgatanga Municipal (33.2%), Bongo (39.2), and Bawku Municipal (47.7%). The use of crop residue is highest in the Bongo district (53.7%) followed by Bawku Municipal (22.6%). Charcoal use is twice the regional proportion of 15.2 percent in the Bolgatanga Municipal District (31.2%). It is also higher than the regional proportion in the Bawku Municipal District (23.4%). The use of firewood and charcoal has resulted in an increasing depletion of the vegetation cover in the region, with the associated negative impact on rainfall and farming.

Toilet Facilities

Toilet facilities are classified into three categories in relation to their location and accessibility. These are built or constructed facilities in or around the house, facilities in another house and public facilities. All the three categories can be flush toilet (W.C.), the KVIP, the pit latrine, or the bucket/pan latrines.

Public toilets are for communal or public use (paid or free use). No facility means that there is no built/constructed facility of any kind available for the use of the household and the household members use places other than the above-mentioned, including the bush, field, rivers or stream. Some people even use "chamber pots" or other small receptacles (including plastic bags) and dispose of these in all sorts of places including open fields, stream and gutters.

From the perspective of health hazards, the picture with respect to toilet facilities is far from satisfactory. According to the 2000 Census, 78 percent of households in the region had no toilet facility. The situation has deteriorated as in 2010 about four-fifths of all households (82.4%) have no toilet facility and use the bush or field. The lowest proportion is reported in the regional capita district (Bolgatanga Municipal) where two out of every three households (67.7%) no toilet facility.

In the rural areas, not less than eighty percent of households in each district have any toilet facility. Even in the urban areas, the proportion of households with no toilet facility rank from 44.4 percent in Builsa to 76.5 percent in Kasena Nankana West.

The lesson learnt is that in the past and at present almost all houses were built with no toilet facilities. Only about ten percent of households in the region have a toilet facility of any kind provided in the house and 7.2 percent use public toilet of any kind (W.C., KVIP Pit or Pan).

The proportion using Public facilities ranges from 3.3 percent in the Kasena Nankana west to 16.1 percent in the Bawku Municipal. Having water closet in the house is not common, given the low level of availability and accessibility of piped borne water in houses. The proportion of households using W.C is only 3.4 percent in the region and varies from 0.5 percent in Garu

Tempane to 12.5 percent in the regional capital district (Bolgatanga Municipal).The facility is also largely urban based (10.9%) and 1.1% for rural areas. In each district the proportion of households using WC in the urban areas is at least twice that in the rural areas.

The availability and use of Public toilet of any type is higher in the urban areas. For the region as a whole, 7.2 percent use public toilets. However, the urban/rural breakdown indicates a 21.4 percent use the urban areas and 2.9 percent in the rural areas. The pattern is replicated in each district.

Sharing of Toilet Facility with other households

About 82.4 percent of households in the region have no toilet facility and 7.2 percent use public toilet. Thus only about ten percent of households in the region have any facility to share. Out of these, 4.4 percent do not share their facilities; 4.7 percent share with other household(s) in the same house, less than one percent (0.8%) share with other household(s) in different house; and 0.5 percent share with other household(s) and in different house.

Waste Disposal (Solid Waste)

The main means of solid waste disposal in the region is dumping at public dumps (open space 31.2% and container 7.9%). An additional 25.0 percent burn and 6.9 percent bury solid waste. Almost fifteen percent (14.6%) of households dump waste elsewhere, which is unsatisfactory. Only about one in ten households (11.1%) pay for their solid waste to be collected. In the urban communities, the three most important method of solid waste disposal are burning by household and public dump (container or open space) indiscriminate dumping

Waste Disposal (Liquid Waste)

The two major ways of liquid waste disposal in the region, in all the districts as well as in the urban and rural areas, is to throw onto the street/outside and unto the compound. These two methods account for at least 75.0 percent of the ways of liquid waste disposal used. The proportion using these two methods ranges from 74.7 percent of households in Bawku Municipal to 91.0 percent in the Bongo District. Even in the urban areas of each district the proportion varies from 66.2 percent in the Bolgatanga Municipal District to 94.1 percent in the Kasena Nankana West District.

Source of Drinking Water

The various water sources are classified by their quality level in relation to their health effects on the consumer. According to the Ghana Medium Development Goal Report (2012) an indicator referred to as 'improved water sources' measures the percentages of the population who use any of the following types of water supply for drinking: piped water, public tap, borehole or pump, protected well, protected spring or rain water. Improved water sources do not include vendor-provided water, bottled water, tanker trucks or unprotected wells and springs.

On the basis of this classification, at the regional level, it can be observed from table 12.17 that the proportion of households using various improved water sources is as follows:

   i.   Bore-whole/pump/tube well (57.3%)
  ii.   Protected well (12.8%)
 iii.   Pipe-borne water (inside dwelling, outside dwelling and public stand pipe (17.9%)
  iv.   Protected spring (0.4%)

The proportion using unimproved water sources is as follows:

  i.   Unprotected well (6.2%)
  ii.   River/stream (2.5%)
  iii. Dug out/Pond/Like/Dam/Canal (1.8%)
  iv.   All others (1.1%)

Broadly, according to the classification, over four out of every five households (88.2%) in the region have access to drinking water sources, at the regional level. At the district level, access to improved drinking water sources as defined, varies from 81.0 percent in the Builsa District to 94.9% in the regional capital district (Bolgatanga Municipal)

Access to improved drinking water sources is almost evenly spread between urban and rural communities. Access ranges from 87.5 percent in the urban areas of the Bawku Municipal District to 96.4 percent in the urban areas of Talensi Nabdam District. In the rural communities of the districts, access ranges from 79.0 percent in the Builsa District to 93.0 percent in the Bongo District.

There are however, some variations in the type of improved drinking water sources between urban and rural areas and also between districts. In general, the use of pipe-borne water inside or outside dwelling and public tap/stand pipe is higher among households in urban communities than rural communities. The use of Bore-hole/Pump/Tube well and protected well is generally higher in the rural communities.

At the district level the use of pipe-borne water sources for drinking water is higher in the urban areas of each district than in its rural areas. Between districts, its use is higher than the regional proportion of 17.9 percent of households in only two districts namely: Bolgatanga Municipal (43.9%) and Bawku Municipal (20.2 %.).

Cooking Space

Almost all households in the region (96.4%) have some cooking space within the confines of the dwelling unit. Two out of three households (63.8 percent) have structures specifically set aside for the purpose of cooking. A further 10.4 percent use the veranda in front of their living quarters and 21.4 percent use the open compound space. An insignificant proportion of households cook in their Bedroom/Hall/Living room. About 4.0 percent of households reported having no cooking space, most likely because they eat from other households or buy food from outside.

In general, four categories of cooking space are dominant in the region. These are separate room for exclusive use of household (42.4%) open space in compound (21.4%); enclosures without roof (17.8%) and veranda in front of the living quarters (10.4%). The use of shared cooking space is not very common in the region (2.6%). The regional picture is replicated in the districts.

There are variations between urban and rural communities in the proportions of households using the four main categories of cooking space. For example, whereas about thirty percent of households in the urban areas use their verandas as cooking space, the corresponding proportion is only 4.2 percent for rural households.

Bathing Facilities

Over four-fifths (86.7%) of households in the region use a space specifically provided for bathing within the dwelling unit, while 11.3 percent use the open space around the house/compound. Less than two percent (1.6%) use public bath house or bathrooms in other houses.

When the use of space specially provided for bathing within the dwelling unit is ranked, own bathroom for exclusive use of the household ranks first (41.3 percent) followed by shared separate bathroom in the same house. Private open cubicle rank third accounting for 14.7 percent of households and shared open cubicle ranks the fourth, accounting for 11.9 percent of households' bathing facility

13.8   Conclusions

Comparison of demographic indicators at the national and regional levels

The indicators show that, for most of the demographic characteristics, the values for the region are not close to those of the country. The population density of the region is higher than the national average. The national population density rose from 79 persons per square kilometer in 2000 to 103 persons per square kilometer in 2010. In the region, density increased from 104.1 in 2000 to 118.4 in 2010. The national inter-censal growth rate is far higher than that of the region (11.2%). This is also reflected in a national inter-censal increase which is 2.5 times that of the region.

The age structure of the region differs slightly from the national picture in terms of the broad age groups 0-14 years, 15-64 years, and 65 years and older. The sex ratio is also not much at variance with the national and regional figures. The urban population in the country rose from 43.8 percent in 2000 to 50.9 percent in 2010. In the region, the proportion increased from 15.7 in 2000 to 21.0 in 2010.

The low level of population movement into the region is reflected in the fact that the proportion born outside the locality of enumeration is 12.0 percent compared with the national average of 35.0 percent. The area of origin, however, does not differ much. The proportions born in another locality in the region, in another region, and outside Ghana, are not much different for the national and regional averages.

The fertility indicators (CBR, TFR and MCEB) for the region compare favorably with the national average. The proportion of children surviving, however, is lower for the region.

Comparison of socio-economic indicators at the national and regional levels

The region falls low in most of the indicators that measure socio-economic development, such as level of education, literacy and accessibility to improved water sources. Compared with the 2000 Census data, the level of literacy and education have increased tremendously. In the region, 55.4 percent of the male population, 11 years and older, is literate compared to two out of every five of the females (40.6%). Despite the improvement, literacy is still very much lower in the region compared to the country as a whole in 2010 were 80.2 percent of males and 68.5 percent of females are literate.

In the same vein, in 1984, 44.0 percent of Ghanaians have never attended school. Between 1984 and 2000, the percentage fell only slightly to 38.8 percent. From 2010 Census, the proportion who had never attended school is further reduced by 15.3 percentage points to 23.5 percent. Census results from 10984 to 2010 indicate remarkable improvements in school attendance in the region. The population who had never attended school reduced from 69.4 percent in 2000 to 45.8 percent of the population aged 6 years and older in 2010 (39.1%) males and (51.9%) females. However, the highest level of schooling attended or attending now for about three out of every ten of the population is primary school.

In the country, 67.4 percent of the population 15 years and older are employed and only 4.2 percent are unemployed while 28.5 percent are not economically active. The situation in the region compares favorably with the country where 71.8 percent are employed, only 2.5 percent are unemployed and 25.7 percent are economically not active.

Housing quality is far poorer in the region than for the country. Electricity is available to only one in eight households in the region while more than sixty percent (64.2%) of about two in five households nationwide use electricity (mains). Toilet facilities show the greatest discrepancy. Whereas only one in five households, nationally, have no toilet facility, about eight in ten households in the region have no toilet facility.

Comparison of indicators at the regional and districts levels

The values of the indicators show that most of the demographic characteristics of the districts are very similar to the regional pattern. The age structure of the region is reflected in the age structure of each district. Similarly, sex ratios (males per 100 females) are only slightly higher than the regional value of 93.8 in the Builsa, Kasena Nankana West, Kasena Nankana East and Bolgatanga Districts.

All the fertility indicators observed for the region differ only slightly for each district. Five districts (Bawku Municipal, Bolgatanga, Kassena-Nankana East, Garu Tempane and Tallensi Nabdam) contain about fifty-five percent (54.7%) of the region's population. The proportion of the urban population in the Bolgatanga District is twice the regional average while that in the Bawku East District is almost three times higher. The low level of population movement in the region is reflected in the fact that the proportion of the population born outside the locality of enumeration is not significantly different in the districts.

13.9 Policy implications

The overall level of development and demographic structure in the country conceals very marked differences between and within regions, districts, rural and urban areas. It was to effectively address the imbalance in development that the decentralization programme was initiated in 1984 with the District Assemblies established to "initiate and coordinate the processes of planning, programming, budgeting and implementation of district plans, programmes and projects" relevant to the needs of particular districts and communities.

All poverty indications show that northern Ghana (Upper East, Upper West and Northern) continues to be the poorest area in the country (Ghana Statistical Service, 2000). The characteristics of the districts (demographic, social, economic, housing conditions and Community facilities) in these three northern regions therefore need to be taken into account in deciding on the broad areas for policy strategies and interventions.

All the measures of fertility indicate continuous child bearing throughout the reproductive ages. The region's child survival rate of 78.6 percent is 10.3 percent lower than the national average of 86.7 percent. Even though the region's population growth rate of 1.2 percent is much lower than the national rate of 2.5 percent, it should nevertheless be of much concern because of the low level of employment and low level of exploitation of available resources within the region to sustain the population. This situation is reinforced by the fact that the population is relatively young, with 41.4 percent below 15 years; this requires substantial expansion in the local economy to provide employment opportunities, as well as educational and health facilities.

The regional total fertility rate (TFR) of 4.0 and the mean age of child bearing (33 years) implies a continuous child bearing throughout the reproductive periods. This situation should prompt the Regional Population Council and the District Population Advisory Committees to put in place population management policies aimed at educating the population, through advocacy programmes, on the need of a smaller family size, on a sustainable basis.

The analysis shows that 77.8 percent of households in the region are headed by males. In an environment (northern Ghana) where males are mostly recognized by the household members as being responsible for their upkeep and maintenance, even if in reality a female is maintaining the household, the proportion of female-headed households is a welcome positive development that should be encouraged.

The fact that females are increasingly assuming roles as heads of households does not mean that their role in decision making may also have increased, because the patriarchal system still marginalizes females in diverse ways. This may tend to exclude females from the decision-making process when it comes to the development of their communities. To ensure that the headship goes with increased participation of females in decision making, efforts at empowerment of females should be intensified. Such efforts should include sensitizing the male population to perceive females as partners in decision-making processes in their respective communities.

The region has more females than males. One should, therefore expect more girls than boys in schools. Generally, in primary schools, there are as many girls as boys, a situation which often changes at the JSS level and beyond when the female dropout rate becomes high. From the JSS level, many girls, in their puberty age, are given out in marriage, and some migrate to the south, as house helps or "Kayayee", to earn a living. The main cause of the low girl-child education, especially after the primary school level, is not merely poverty but the extreme poverty of parents (Regional Planning Coordinating Unit, 2003). It may also be due to the fact that not much education has been given to change the age-old perception that the girl-child's education. The girl-child education can only be improved, at the JSS level and beyond, when the local economy is improved. Several policy issues are involved.

First, the people should be educated on the need to send the girl-child to school and have her retained for a better future for the girl, the parents and the entire society. Secondly, existing

cultural practices, in relation to the position of women and girls in society, should be critically examined and modified or scrapped. There should be intensified education on the benefits of schooling to help stem girl-child dropout from schools, to provide incentives and attractive conditions to help retain girls in school. The school feeding program, free text book and school uniforms and a host of other such programs to retain pupils in school are already in place.

The most pressing population and development problems requiring policy formulation and interventions are human reproduction/natural increase issues, young age structure and high dependency burden, high level of illiteracy, especially among the adult population, non-availability and/or poor access to social infrastructural facilities and services, including electricity and health services, uneven distribution and poor quality educational infrastructure. The region suffers from low levels of formal sector or non-farm employment. High levels of unemployment and high levels of self-employment (over 75.0% of all employment). The region's forest reserves are threatened with destruction through the use of wood for building and cooking fuel (fire wood and charcoal). All the above emphasize the importance of intensifying the process of extension of social infrastructural facilities within the region instead of the current over concentration of services in only a few district capitals.

13.10 Interventions

Various programmes, projects and activities have been implemented over the years to address the population and development problems of the country, but problems of implementation have made it difficult to make progress. The already documented policies, programmes, projects and activities are extensive and comprehensive enough to meet the needs and priorities of individual districts, sub-districts and communities. Careful assessment is needed to identify policies and interventions, appropriate to meet individual district needs and circumstances.

The planning, execution and monitoring of various interventions should adopt the district/community "ownership" strategies. Interventions should also be in phases or stages. Mass education programmes should be embarked upon and pursued with all seriousness before introducing interventions to educate people on the benefits of each intervention, to the individual and to the community, as well as on the consequences of not implementing the interventions on a sustainable basis.

Programmes, projects and activities that are either "population influencing or population responsive" include improving and expanding the health of mothers and children (programmes on breast-feeding, ante-natal care, post-natal care, growth monitoring, child survival, safe motherhood), reduction in the incidence of teenage pregnancy and reduction in incidence of child bearing among women older than 35 years.

The health and reproductive health specific programmes include the Expanded Programme of Immunization (EPI) and family planning services delivery programmes (importation of Contraceptives, distribution of contraceptives), sale of contraceptives, training of community based distributors, training of traditional birth attendants (TBAs). Family planning IEC programmes to encourage and maintain the involvement of males in family planning, control of sexually transmitted diseases, including HIV/AIDS (training of health workers, IEC on STDs) to provide training and understanding on how population and development are related (training programmes, workshops for district level policy makers and implementers, heads of Government departments, traditional leaders). There are other health improvement programmes for the

physically challenged and other vulnerable groups. These are the improvement of health and welfare services for people with physical disabilities (rehabilitation, counseling), improved health and welfare of the aged (housing for old people, medical needs, and recreational programmes).

Females constitute another group of the population that appears to be excluded and needs to be integrated into the development process. The full participation of women is not only necessary as a social right, but is also essential for increased productivity. Programmes on the empowerment of women to improve upon the role and status of women, through adult literacy programmes, girl-child education and income generating activities for women, should be promoted to enable females to participate fully in the development process.

Agricultural improvement and food security issues have also been addressed. There are programmes to improve agriculture and food production (extension services, introduction of new varieties of crops). Also included in this category of interventions are agricultural reform or transformation (research into land tenure systems, land use planning, appropriate technology) and food security issues (production, storage, distribution of food).

Poverty alleviation programmes and broad public health and income generation programmes and the provision of basic community services need to be implemented to the benefit of the disadvantaged in society, particularly the vulnerable and excluded groups.

The Public health care programmes include the expansion and improvement of health, water and sanitation, surveillance, prevention and control of malaria, yaws, oncho, guinea worm, diarrhea diseases, acute respiratory infections, and mental health.

Enhancing rural and urban development through farm settlement schemes and the establishment of small-scale industries, using appropriate technology, is also recommended as an effective programme. In order to effectively protect the environment and fight desertification, tree planting programmes should be intensified. In this respect, particular attention should be given to the planting of such drought resistant trees as the cashew, need, baobab, dawadawa and shea. The practice of preserving groves as forest cover should be demystified and revived.

Other programmes such as educational programmes (provision of schools, teachers bungalows), functional literacy programmes and migration and spatial distribution programmes (creation of growth centers to encourage or discourage people moving to specific towns or villages within the districts) need to be assessed to identify areas of resource constraints and difficulties to full implementation.

Project performance is an essential component of monitoring and evaluation of projects (programmes that specifically address issues of quality of project inputs and outputs, the effectiveness and efficiency of project implementation agencies, cost-benefit studies) should be intensified to assess the effectiveness of programme. This should involve the collection, analysis and dissemination of population data (baseline demographic surveys, registration of births and deaths), and population information dissemination programmes (awareness programmes on population problems, will encourage the use of population data).

The training of staff to acquire the skills that encourage and improve routine data collection, analysis and dissemination of routine data on the activities and programmes of various

government and non-governmental organizations, are necessary for addressing development problems.

District Assemblies in the region face problems in identifying, prioritizing and implementing policies and interventions specific to their districts and communities. The most important of these, which are of immediate concern, are adequate supporting infrastructure, trained staff, and financial resources. These will enable them to prepare coherent district development plans and also take charge of initiating, implementing and monitoring integrated programmes, projects and activities.

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