LIBERIA INSTITUTE OF STATISTICS AND GEO-INFORMATION SERVICES (LISGIS)
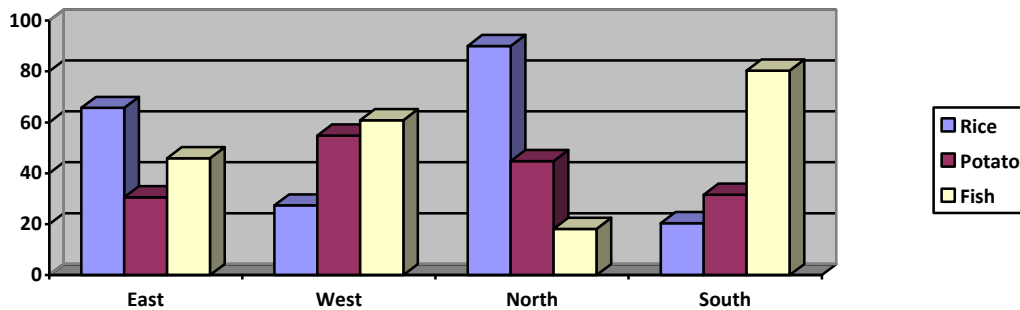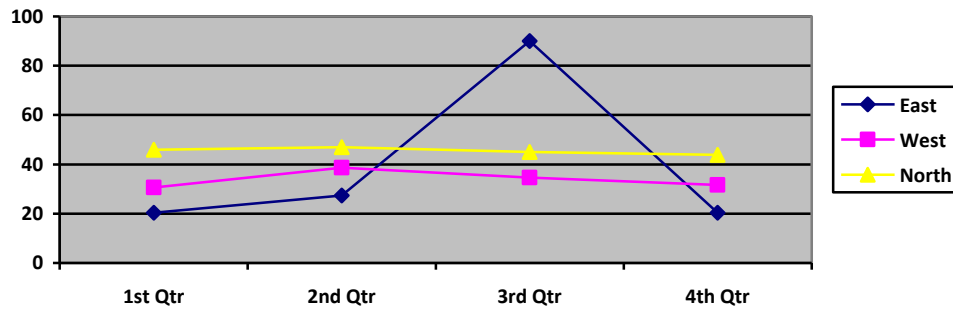
Analytical Report

of the

Retrieved National Population and Housing Census Data: Liberia, 1984

Edited by

Ibrahim Mohamed Sesay

PREFACE

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CHAPTER 1: BACKGROUND

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CHAPTER 1: BACKGROUND

Ibrahim M. Sesay

1.1   Introduction

A census of a population may be regarded as the whole range of activities involving the planning and execution of field collection, compilation, evaluation, analysis, publication and dissemination of demographic and socio-economic data, relating at a specific point in time, to all inhabitants living in a country or any well-defined geographic area. Census-taking is, therefore, a massive undertaking often requiring systematic planning and adequate but colossal amounts of fiscal, logistical and other resources to carry it out onto its logical conclusion.

Although there were occasional counts of the main urban localities and estimates of the rest of the population of the African countries in the 19th and the first half of the 20th centuries, they cannot be considered "censuses" in the strict sense of the word. The main consideration of the colonialists was to derive a guesstimate for tax purposes and the exercises lacked the desiderata of censuses as we know them today[1]. The vast majority of African nations took their first real censuses in the 1960s and periodic census-taking had continued since.

However, experience shows that nine factors continue to make the exercise very expensive and, hence, plague the successful holding and logical conclusion of the censuses on the continent. These are:
   (a)   the lack of coherence in the data collection programmes of the respective nations;
   (b)   there is no clearly defined and institutionalized census infrastructure;
   (c)   underutilization of data collected routinely in administrative departments;
   (d)   relatively long questionnaires;
   (e)   high cost of enumerators;
   (f)   long intervals between census design and dissemination of results;
   (g)   lack of efficient planning;
   (h)   underutilization of the census data, and
   (i)   incomplete preparatory work[2].

These notwithstanding, with the virtual absence of population registers and a largely deficient vital registration system, censuses in Africa continue to be the main source of data for administrative, planning, research and other development activities. Therefore, the stakes in holding a census are too high in such situations, and careful planning and execution of the process are required to save the investment and attain the development and other objectives.

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[1]   The fundamental principles of a modern census involve individual enumeration, universality within a well-defined territory, simultaneity and periodicity.

[2]   Ngatchou, Richard Dackam (2005): General Population and Housing Censuses in Africa (GPHC) – Products for Addressing Development Programme Needs, United Nations Population Fund Country Technical Services Team, P.O.Box 21090, Dakar-Ponty, Dakar, Senegal: Chapter 1, pages 17-21.

1.0.1 Liberia's Experience with Census-taking

With independence in 1847, Liberia is easily the oldest self-governing state in Africa. But the accounts of statistical development in the country reveal a trend similar to most other African states which became independent nations only after 1960.

The first 'complete population count' in Liberia was of the city of Monrovia in 1956. A second set of 'censuses' were taken in 1957 to 1958 in the headquarters of Buchanan in Grand Bassa, Greenville in Sinoe, Harper in Maryland and Robertsport in Grand Cape Mount Counties. It should be noted that these five urban localities were all coastal in location and of the only administrative subdivisions at the time designated as "counties". The exercise was never extended to other parts of the country and data were never analyzed or published[3].

Modern census-taking can be said to start with Liberia's participation in the 1960 round of censuses. On Monday, 2nd April 1962, the first Population Census was conducted in the then administrative geographic areas comprising three Provinces (Western, Central and Eastern), four territories (Kru Coast, Marshall, Rivercess and Sasstown) and five Counties (Grand Bassa, Grand Cape Mount, Maryland, Montserrado and Sinoe). The total population returned was 1,016,443; of which there were 503,588 males and 512,855 females[4].

Detailed compilation of the results and some report on the 1962 census procedures were presented in two report series. Series PC-A1 to A12 presented data in twelve reports, one for each administrative subdivision of the country, with information on total population by age and sex and socio-economic characteristics. These reports also included similar data on selected areas like urban settlements or populations living in plantation concessions of Harper and Firestone and mining concerns like on Bomi Hills (LMC) or Mount Nimba (LAMCO) within the respective administrative units. Series PC-B carried the country summary statistics of the totals in each of the twelve reports in PC-A1 to A12, as well as a detailed introduction on the census objectives, definitions and explanations of concepts, the organization of the census (planning, infrastructure and administration) and census procedures in data collection, determination of accuracy (content and coverage errors) and the publication plan[5]. Although the 1962 Census of Population programme should be lauded for the careful planning and execution, most of the information cannot be traced easily in the country. The only publication available in government quarters is the Summary Report (PC-B).

The second Population and first Housing Census of Liberia was taken on 1st February 1974. The exercise was conducted throughout the country – in the nine counties (Bong, Grand Bassa, Grand Cape Mount, Grand Gedeh, Lofa, Maryland, Montserrado, Nimba and Sinoe) and five territories (Bomi, Kru Coast, Marshall, Rivercess and Sass Town). The national population count was

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[3]   Republic of Liberia (1964): <u>1962 Census of Population – Summary Report for Liberia PC-B</u>, Office of National Planning, Bureau of Statistics, Monrovia: page vii.

[4]   *ib. idem.*: pages xvii and 1-3.

[5]   *ib. idem.*: passim.

1,503,368 comprising 759,109 males and 744,259 females[6].

A more elaborate tabulation with charts and maps showing population characteristics of Liberia was achieved in this census. There were two Population Bulletins. Population Bulletin Number One carried data on the preliminary results and was released in December 1975. A second bulletin was published in September 1976 on the final results. Both of these publications carried data at clan/township and higher levels of administration. Detailed results on the 1974 census were published in three documents:

(a)   PC-1: 1974 Population Census Results – (National and County/Territorial levels) Liberia; in a single volume, it contained information at the national, rural and urban levels. Some county/territory data were displayed but with no rural-urban differentials;

(b)   PC-2: (01-14): 1974 Population Census Results (County/Territory and District levels) Name of County/Territory …, in 14 volumes at the county/territory level (and with rural-urban differentials) and their included districts, and

(c)   HC-1: 1974 Population and Housing Census Results (National, County/Territory and District Levels) Liberia, in one volume, on 14 counties/territories and 54 districts, and no rural-urban statistics[7].

After the 1974 census exercise, Liberia started to maintain the United Nations' decennial census schedule by holding the third Population and second Housing Census on 1st February 1984[8]. The preliminary report, which presented summary results of some salient demographic characteristics in graphics and descriptive analysis, showed that there were 2,101,628 inhabitants in the 13 counties in the country; Bomi, Bong, Grand Bassa, Grand Cape Mount, Grand Gedeh, Grand Kru, Lofa, Margibi, Maryland, Montserrado, Nimba, Rivercess and Sinoe. The sex distribution of this population was 1,063,127 males and 1,038,501 females[9]. It should be noted that unlike the 1962 and 1974 censuses, no publication was done on the final figures of the 1984 census. The manuscript of the analytical report was purportedly misplaced during the war and only a mutilated copy of the computer printout of the data at the national, urban and rural levels exists!

1.0.2   The Development Context

Before the completion of data analysis and report writing for the 1984 Population and Housing Census, war broke out in Liberia in December 1989. The envisaged census publications were never done and most of the data records were destroyed. With the loss of vital information from the 1984 census exercise, there exists a lacuna in the census data series of Liberia.

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[6]   Republic of Liberia (1977): 1974 Population and Housing Census – Final Population Results for Liberia and Major Political Divisions PC-1, Ministry of Planning and Economic Affairs, Monrovia, Liberia: pages ii and vi.

[7]   *ib. idem.*: page 24.

[8]   Republic of Liberia (1987): 1984 Population and Housing Census of Liberia – Summary Results Presented in Graphics and Descriptive Analysis of Some Salient Demographic Characteristics PC-1, Ministry of Planning and Economic Affairs, Monrovia, Liberia: page iii (mimeo).

[9]   *ib. idem.*: Table 1, page 30.

The war was officially declared over in 2003 and peace returned to the nation. The duration of the conflict denied the country the opportunities of holding a census in 1994 and 2004. Hence, the 1984 census data, deficient, fragmented and outdated as they were, lived with development practitioners in Liberia throughout the conflict period

Data for development planning and programme execution, monitoring and evaluation were scanty and unreliable or non-existent. The practice of various agencies, departments and ministries collecting, collating, managing, processing and analyzing data for their respective activities resulted in the generation of substandard information and guesstimates that only added to worsen the precarious data situation of the country.

In this connection, in 2006, in order to address the urgent need for an acute shortage of data situation, Government of the Republic of Liberia started a census of population and housing project to be executed by the Liberia Institute of Statistics and Geo-Information Services (LISGIS). In March 2008, LISGIS completed field data collection of the 2008 National Population and Housing Census. On 20th June, the Preliminary Results of the census were pronounced by Her Excellency, The President. The Post-Enumeration Survey (PES) was done in May and data processing is proceeding satisfactorily. It is expected that the census data would be ready for analysis in the first quarter of 2009.

The 2008 National Population and Housing Census of Liberia was taken at a time of a huge demand for timely, reliable and sufficient data sets for development planning at all levels. Since the report of the analysis of the 1984 Population and Housing Census was never published and many databases were destroyed during the 14-year civil war, analysis of information from the current census exercise will be faced with the difficulty of establishing trends and checking consistencies of statistics over time.

By 1987, some boundary changes in the administrative units of the country were considered as an impediment to easy comparison of observed population phenomena between and among the various census data. This was because the demarcation of the new administrative units created the need for a redrawing of boundaries to maintain consistency in the population bases that the statistics related to. As can be demonstrated, an analyst of the 1984 Population and Housing Census data lamented as follows:

> "… This analysis in particular is being done on the 1984 census with reference to similar results available from 1974 and 1962 censuses. In the first bulletin or report where the results of the two latter censuses were compared, it had not been feasible to conduct the analyses below the national level due to jurisdictional changes in the boundaries of various political sub-divisions between 1962 and 1974. Although there had not been such major changes between 1974 and 1984, however, for ease of comparability between all three censuses, the unit of analysis has been limited to the national level".[10]

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[10]   Chieh-Johnson, D. (1987): "Excerpts from the Results of the 1984 Census of Liberia", in Republic of Liberia (1987): <u>1984 Population and Housing Census of Liberia – Summary Results Presented in Graphics and Descriptive Analysis of Some Salient Demographic Characteristics PC-1</u>, Ministry of Planning and Economic Affairs, Monrovia, Liberia: page 28.

In the period since the penultimate census, there have been considerable changes in the administrative boundaries within the country. The number of administrative units has increased from 13 counties and territories to 15 counties and no territories. The number of districts increased from 66 to 135. These boundary changes have affected the distribution of population numbers and phenomena over the inter-censal period and posed problems of easy comparability of results between censuses.

1.0.3   Rationale and Objectives

Presently, the nation of Liberia is at the crossroads of major reconstruction and development. The nascent peace cannot be nurtured and further conflict prevented if the conditions that caused the war are not dealt with comprehensively. To do this, Government and her development partners need to know the population numbers and parameters to be able to plan adequately and implement development programmes that target these problems at their roots.

As part of these efforts, Government has devised its first ever Poverty Reduction Strategy Programme (PRSP) and is in the middle of implementing a series of other initiatives (such as the decentralization programme) consequent upon the development process that require timely, sufficient and reliable data. The 2008 Population and Housing Census was meant to fill a major data gap and taken just in time to facilitate the successful implementation of the various development orientations of the country.

In the analysis of census data, it is always necessary to make comparisons with the statistics of the censuses before. This enhances time series data analysis which reveals the trend of population phenomena over time. With the establishment of such trends, policy formulation will be well-informed as to the possible alternatives to be adopted to solve socio-economic and political development problems.

The ongoing census exercise has already started to show considerable signs of successes. In order to build on the momentum of the success of the enumeration exercise, it was necessary to lay groundwork for the census data analysis once the data processing was completed. In this regard, the population of the 1984 data should be recast to the 2008 county and district boundaries and the retrievable 1984 population analyzed to facilitate trend analysis of the demographic and socio-economic characteristics at these levels of administration. This would benchmark the population situation, add more meaning to the expected results and enable analysts of the 2008 census data to proffer policy options that could reverse negative trends in observed phenomena.

The development objective is to maintain a continuous population and housing database that allows for time series analyses and provides input into the population and development planning agenda of Government of Liberia.

1.0.4   Organization of the Report

This report is organized into ten chapters. Chapter 1 is a general background that spells out the operational perspective by sketching the country's experience with census-taking, defining the

problem within the context of a broader development framework, justifying the exercise and itemizing the objectives. It also, in part, deals with the research design by describing the nature and sources of data, limits the scope and extent of the analysis, and discusses the management and extent of reliability of the data. The respective chapters deal in details with this aspect of data and methodology as they relate to them.

The other nine chapters each deals with a population theme as follows:
Chapter 2:   Population Size, Age and Sex Structure;
Chapter 3:   Ethnic Composition and Religious Affiliation;
Chapter 4:   Literacy and Education;
Chapter 5:   Household and Housing;
Chapter 6:   Employment and Labour Force;
Chapter 7:   Fertility;
Chapter 8:   Mortality;
Chapter 9:   Population Distribution, Migration and Urbanization, and
Chapter 10:   Nuptiality.

1.1   Research Design: Data and Methodology

1.1.1   Nature, Sources, Management and Reliability of Data

Data for these analyses came from a retrieved hard copy of the 1984 Population and Housing Census of Liberia. There were no manuals to explain the data collection exercise and as such it was not easy to make some of the extended inferences that were possible in situations where these were available. The data related only to the total population and urban and rural subpopulations each presented in 50 tables (see Appendix 1A).

The paper could not allow photocopying and data had to be entered manually. Though the keyed data were checked against the original for data entry errors, there was no guarantee that all such errors were eliminated. The corrected data were further subjected to simple internal consistency checks. This resulted in some modifications to the base data. During the analysis, some inconsistencies were found in certain aspects of the data. Adjustments were done accordingly based on the best judgement of the analysts. In all such cases, the changes were duly documented in the respective analytical reports. To a large extent, the data were considered to be such as to lend themselves to various forms of usage. The level of reliability was, in some cases, questionable.

1.1.2   Scope and Extent

In the retrieved data, there was no information at the level of counties, territories, districts and clans. Therefore, the analysis was done at three levels of geography – national, urban and rural – for which data were available. The only data set at the level of the 1984 counties and territories was on the subject matter of population distribution. Detailed discussion on how the data limited the extent of the analysis was done in each chapter and, therefore, no attempt was made to repeat them here.

But by and large the limitations related to the fact that it was impossible for further cross tabulations to be done. The form of the data could not, therefore, be modified beyond the information presented in the given tables.

1.1.3 Recasting 1984 Population to Current Administrative Units

Before the 1984 Population and Housing Census, some boundary changes were done at the county, district and clan levels. As noted on Page 6, these jurisdictional changes posed problems for any time series analysis of data on Liberia.

Attempts at trying to reconstruct the 1984 boundaries to be coterminous with 2008 boundaries were frustrated by the lack of small area data, at say the clan level, that could be aggregated into larger units or parcels of land. In addition, the legislative instruments that created the new geographic subdivisions were many times imprecise with respect to the bounds and meets of the created county, district or clan. A clear example is the problem between Bomi, Gbarpolu and Montserrado Counties, each with unclear limits and boundaries and with claims and counterclaims of portions of land. Given these inconsistencies in boundary delimitations, the attempt to redraw the 1984 boundaries was considered unfruitful and abandoned.

1.2 Conclusion

Though Liberia has a reasonable experience in census-taking, the events of the civil war which led to the loss of virtually all databases of the census of 1984 was an example of a good effort almost gone wrong. For many years data users could not have access to the data, resulting in a waste of the valuable resources that went into the census effort.

The current exercise is very laudable. It represents a reconstruction of the data series of Liberia and has filled a major lacuna of information that may never have been possible without it. It is exemplary in that not many cases exist of a nation loosing the results of its entire census would recover from such a data stupor.

Since most of the analysts are themselves Liberian nationals, it is hoped that this Report would be of use to the Liberian Government, public and development practitioners. It is expected to a valuable reference material for researchers and students. Analysts of the 2008 National Population and Housing Census of Liberia will find in it a useful guide.

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Chieh-Johnson, D. (1987): "Excerpts from the Results of the 1984 Census of Liberia", in Republic of Liberia (1987): <u>1984 Population and Housing Census of Liberia – Summary Results Presented in Graphics and Descriptive Analysis of Some Salient Demographic Characteristics PC-1</u>, Ministry of Planning and Economic Affairs, Monrovia, Liberia: page 28.

Ngatchou, Richard Dackam (2005): <u>General Population and Housing Censuses in Africa (GPHC) – Products for Addressing Development Programme Needs</u>, United Nations Population Fund Country Technical Services Team, P.O.Box 21090, Dakar Ponty, Dakar, Senegal: Chapter 1, pages 17-21

Republic of Liberia (1987): <u>1984 Population and Housing Census of Liberia – Summary Results Presented in Graphics and Descriptive Analysis of Some Salient Demographic Characteristics PC-1</u>, Ministry of Planning and Economic Affairs, Monrovia, Liberia.

Republic of Liberia (1977): <u>1974 Population and Housing Census – Final Population Results for Liberia and Major Political Divisions PC-1</u>, Ministry of Planning and Economic Affairs, Monrovia, Liberia: pages 1-55.

Republic of Liberia (1964): <u>1962 Census of Population – Summary Report for Liberia PC-B</u>, Office of National Planning, Bureau of Statistics, Monrovia: page i-xvii.

APPENDIX

Appendix 1A: List of Tables in the Retrieved 1984 Population and Housing Census Data

TABLE	PAGE	TITLE OF TABLE
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3	3	Population by Single Years of Age and Sex
4	5	Persons Born in Liberia and Born Elsewhere by Age and Sex
5	6	Place of Birth of Persons Born in Liberia by Age and Sex
6	7	Foreign Born Population by Country of Birth, Citizenship and Sex
7	8	Citizenship of the Population by Age and Sex
8	9	Length of Residence in County/Territory of Enumeration by Age and Sex
9	10	Population by Length of Residence in County/Territory of Enumeration, Place of Birth and Sex
10	11	Marital Status of Population. 10 Years of Age and Over, by Age and Sex
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19	25	Religious Affiliation of the Population by Age and Sex
20	26	Religious Affiliation of the Population, 10 Years of Age and Over, by Marital Status and Sex
21	27	Religious Affiliation of the Population by Ethnic Group and Sex
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Appendix 1A: List of Tables in the Retrieved 1984 Population and Housing Census Data (continued)

Appendix 1A: List of Tables in the Retrieved 1984 Population and Housing Census Data (continued)

TABLE	PAGE	TITLE OF TABLE
48	99	Major Industry Group of the Working Population, 10 Years of Age and Over, by Age and Sex
49	101	Detailed Industry Group of the Working Population, 10 Years of Age and Over, by Sex
50	105	Occupational Industry Group of the Working Population, 10 Years of Age and Over, by Major Occupation Group and Sex

Note: The indicated pages (1-107) relate only to the data on the "Total Population". Data on the "Urban Population" and "Rural Population" were on pages 108-325 of the dataset.

CHAPTER 2: POPULATION SIZE, AGE AND SEX STRUCTURE

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CHAPTER 2: POPULATION SIZE, AGE AND SEX STRUCTURE

Alfred K. Tarway-Twalla, Ibrahim M. Sesay, Musu Twalla and Johnson Q. Kei

2.0   Background

2.0.1   Introduction: Importance of Data on Population Size, Age and Sex Structure

In demographic analysis, the concept of size is the first and most basic information required of a given group of inhabitants. It relates to the amount of individuals enumerated within a country or its subdivisions in a census or survey. Knowing the population size is important for planning purposes at all levels of development. Without an idea of how many people there are, it will be difficult to ascertain the level of service provision for the population and the optimal alternative mechanism to be adopted in making decisions about current and future populations.

"Age data provide an indispensable basis for studies of a nation's manpower potential and its requirements for schools, housing, food and various other kinds of goods and services. … (Since) it is the starting point for population projections, … the age structure of a population is considered basic to the study of population problems" (Kpedekpo, G.M.K.: 1982, 34). A population distributed by age indicates the various proportions at each age (or age group). In such a case, a population with a lot of children will require huge investments in providing goods and services like baby milk, toys, playing grounds and schools. One with many young adults would need to create a lot of job opportunities to absorb the energies of its teeming population. Where there are too many aged people, it will be necessary to provide old age care centres and insurance schemes. Therefore, the importance of age data cannot be overemphasized.

Data on sex depicts the correlative traits of male and female in the population. The social, cultural, economic and demographic differentials between the sexes would never have been known if such a categorization of data was not done. Sex data all by themselves may not be very useful. However, in combination with age, the age and sex structure of a population presents the most important basic analytical tool that the demographer has contributed to science.

The normal age-sex distribution usually starts at age zero with a male majority which diminishes up the age structure up to age 15 where the sexes seem to be at par. Thereafter, a female dominance results but this may be cut back with the onset of high levels of maternal mortality normally associated with childbearing in the least developed nations. In addition, in a typical youthful population as in Liberia, if the age reporting is near correct, the magnitude of the proportions reported at each successive age (for single years) or age group would diminish from the base of the age pyramid upwards. Any deviation from this pattern is suspect of errors of age reporting.

Therefore, the size, age and sex structure of a population determines the most basic characteristics of the population. Every population has a different age and sex composition which is the number and proportion of males and females in each age group. The age structure is considered to have a considerable impact on the population's social and economic situation, both present and past.

Thus, within the framework of the foregoing, this chapter on the Population Size, Age and Sex Structure of the 1984 National Population and Housing Census data was analyzed to fill in the data gap and provide some basic demographic information on the composition of the population.

2.0.1 Nature, Scope and Limitations of Data

The basic data were collected as part of the census field enumeration of Liberia in 1984. Like other aspects of this dataset, the data were insufficient for the task at hand because information on the geographic subdivisions was available only at the urban-rural levels. Also, being a hard copy, it was virtually impossible to do further tabulations other than those in the original retrieved data. Though these limitations define the scope of the work, the available information was able to allow for a wide latitude of analysis, thanks to the plethora of methodologies recent developed and well-suited for such purposes.

The study has adequately detected the extent of age reporting errors and relative undercount of the age and sex data but no attempt was made to adjust the data for want of more time to finish the processing of the 2008 National Population and Housing Census data. It is hoped that since this analysis was to lay the groundwork for the analysis of the latter, the required data adjustment would be taken onboard during that exercise.

2.0.2 Method of Analysis

The analysis employed methods which have been tried and tested in similar exercises around the world. Percentages, rates and ratios were used to analyze population size and distribution by age, sex and rural and urban residence. The ratio computation techniques developed by Zelnik, Ramachandran and the United Nations were used to obtain the age ratios and determine the accuracy and usefulness of Liberia's 1984 age data. Myer's and Whipple's indices were also applied to detect instances of age heaping. In addition, survival ratios and Mortara's test of relative accuracy of age reporting were employed to know the level of age misreporting that resulted in over-reporting and/or underestimation of the ages. The results of the various methods used in the analysis of were presented through charts, graphs and tables to illustrate the findings.

2.1 Population Size and Growth

2.1.1 Type of Enumeration

There are two methods of counting a population. Persons may be counted by the notion of where they normally reside. This approach enumerates all usual members of households irrespective of whether they are away on vacation, business, in hospitals, etc. New born babies are counted by the usual place of residence of their mothers and any persons with no usual residence elsewhere are included in the count. Such a method of enumeration is referred to as *de jure*.

The other procedure is to count people simply where they are found, or all persons who slept in the household, on census night. In this procedure, visitors, strangers, lodgers and other non-

usual household members are included in the enumeration. This sort of population canvass is called *de jure*.

Liberia has had three population censuses in 1962, 1974 and 1984. In each of these censuses, the method of counting the people was in their usual places of abode and, hence, *de jure* counts.

2.1.2   Trends in Population Growth

The population of Liberia has been increasing since the conduct of the first national census in 1962. As indicated in Figure 2.1, the population which was about one million in 1962 and grew 47.9 percent to reach 1.5 million in 1974. By 1984, the population had increased to 2,101,628, reflecting an inter-censal percentage change of 39.8 percent. The population change between 1962 and 1974 involved 486,925 additional persons or 40,577 persons per year. During 1974 and 1984, the change was increased to 598,260 individuals and a mean annual increase of 59,826 people. The male-female absolute figures are shown in Figure 2.1.
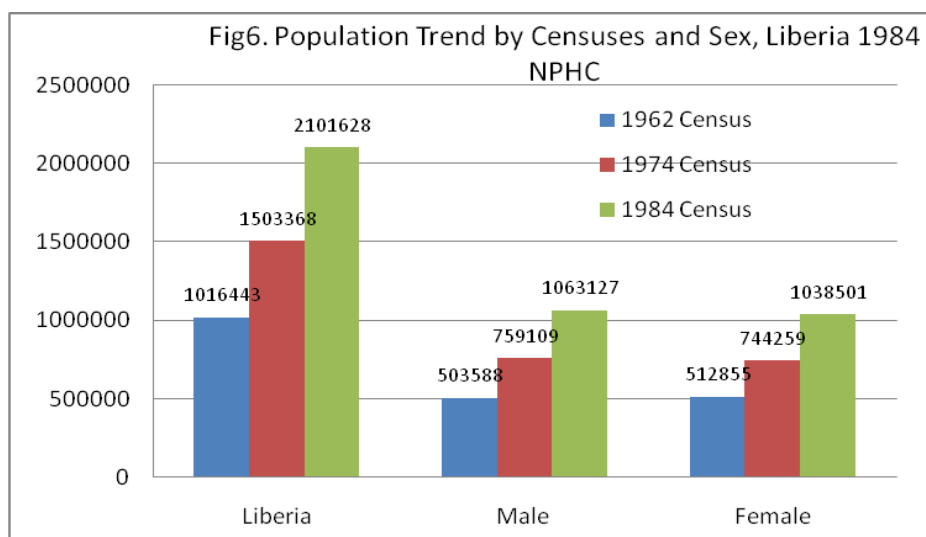
The annual rate of growth at the national level was 3.3 percent from 1962 to 1974 and it remained almost unchanged at 3.4 percent between 1974 and 1984. The growth rates, however, illustrated that the population of Liberia was growing at a very fast rate.

At the sub-national level, the period 1974-1984 recorded a positive change in the subpopulations of all counties. The changed ranged about seven percent in Bomi Territory to 69 percent in Montserrado County (Table 2.1). The annual population growth rates followed the pattern of the absolute population changes over the period. Of greater concern was the population dynamics in Montserrado County, which hosted the primate city of Liberia. In addition to natural increase in population, the high rate of growth in Montserrado was largely due to rural-urban migration for employment and education, and other social amenities and economic opportunities. Other sub-political divisions with high annual rates of growth from 1974-1984 were Grand Gedeh, Bong, Gibi, Cape Mount, Lofa and Rivercess.

The period 1962-1974 revealed a slightly different pattern of population change and growth pattern. Rivercess experienced a negative rate of growth and has been the only geographic subdivision to register a decline in population since 1962. Trend data showed that some areas continuously showed strong growth tendencies at the expense of others. The national picture, therefore, revealed the extent of population redistribution over time. Since this was of major concern to another chapter in this monograph, care was taken not to duplicate the efforts here.

Table 2.1: Population Distribution and Annual Growth Rates, Liberia 1962-1984				
County/Territory	Inter-Census Percentage Change of population		Annual Population Growth Rates	
	1962-1974	1974-1984	1962-1974	1974-1984
Bomi Territory	57.8	6.9	3.7	0.7
Bong County	44.0	36.2	2.8	3.4
Gibi Territory	30.3	60.4	3.2	3.4
Grand Bassa County	23.9	29.4	1.8	2.6
Grand Cape Mount County	75.8	40.1	4.6	3.3
Grand Gedeh County	48.8	43.1	3.3	3.5
Kru Coast Territory	27.4	30.1	2.0	2.6
Lofa County	37.4	37.0	2.6	3.1
Marshall Territory	63.7	50.4	4.0	4.0
Maryland County	17.7	32.2	1.4	2.8
Montserrado County	90.9	69.3	5.9	4.2
Nimba County	53.3	25.4	3.5	2.3
Rivercess County	-3.5	36.4	-0.3	3.1
Sasstown Territory	4.3	15.8	0.4	1.5
Sinoe County	29.1	11.3	3.1	1.1
Liberia	47.9	39.8	3.3	3.4

2.2   Age Data Distribution and Accuracy

2.2.1   Single Year Age Distribution

The distribution of the 1984 census data in single year ages demonstrated that Liberia's population was very youthful. The population less than 10 years of age accounted for 31.6 percent of the total and 82.3 percent was less than 40 years. This was true of both sexes as 80.9 percent of males were less than 40 years while that of females was 83.7 (Appendix 2A). The population above 64 years of age was 4.1 percent. In combination with data from the 1974 census, it was shown that most of the increase in population between 1974 and 1984 occurred to the population less than 10 years of age; thereby suggesting a strong natural population growth.

The percentage distribution of single ages predominantly dropped to less than 2 percent after age 20 years. The percentage distribution of most of the single ages further dropped to less than 1 percent after age 32, except for even number ages and ages ending in 5 such as 35 years (1.7 percent); 40 years (1.8 percent); 45 years (1.3 percent); and 50 years (1 percent). The high percentages among younger persons signified a natural fertility regime and a subsequent high age dependency ratio of the population in 1984 (Appendix 2A).

2.2.2 Accuracy of Single Year Age Data

An observation of the single year age data revealed that the single ages ending in five, zero and even numbers were higher than those ending in other digits, suggesting that most Liberians preferred these ages. There was a secondary preference for ages that ended in eight. Figure 2 shows that the reporting trend of the sexes combined followed that of the separate data for males and females except between ages 10-14, 21-24 and 64-66.

Considering the spikes in the age distribution, the age pattern of the population was adjudged as atypical. The analysis clearly suggested that there were errors in the nature of age reporting which mainly involved ages that ended in five and even numbers, particularly ages ending in zeroes. Of particular importance was the trough that showed the catastrophic events between single ages 0 and 4 (Figure 2.2). This immediately suggests some serious age reporting problems that were further investigated.

The number of reported births in the year before the 1984 census was 59,472. All been well, the survivors among these individuals were to be the expected population counted at the census and

Fig1. Analysis of Errors in 1984 Single-Year Ages by Sex, Liberia 1984 NPHC
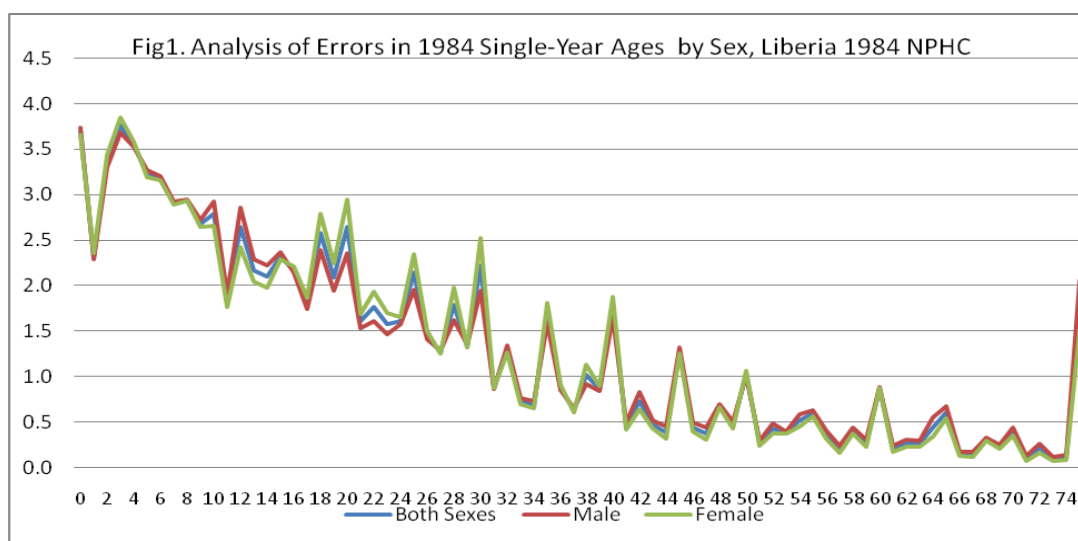
recorded as of age zero. The registered population was 77,669 persons. The crude birth rate calculated based on the births in the last year before the census was 28.3 which was very low compared to that estimated from indirect methods based on modified Brass technique (54.0). This suggested a 47.6 percent omission of births.

Mortara's test of relative accuracy, which adjusts the reported births by the use of a separation factor of two-thirds of the deaths that occurred in the infant population, was applied to the data. The basic formula used was $\beta = \rho_o/(1-2/3\alpha)$; where:

β = number of births in the population;

ρ_o = reported infants;

2/3 = the separation factor assuming the reported deaths constituted only 2/3 of all infant deaths

α = infant mortality rate.

The application was informed by the same procedure applied to the 1985 census data of Sierra Leone with reasonable results (Thomas, A.C. and Ramachandran, K.V.: 1995, 73-74).

Proceeding, β = 77,669/1-(0.67*0.125) = 84,768. This was 42.5 percent higher than the reported number of births. The birth rate was recalculated based on the (new) births obtained. The mid-year population was approximated as $P = k[\rho(1+r)^t]$; where:

> P =   mid-year population;
> k =   1,000, a constant function of the equation;
> ρ =   total national population;
> r =   rate of growth
> t =   time.

Hence, $P = k[2,101,628(1+0.033)^{-0.5}] = 2,101,628(0.850155546) = 1,786,711$. Therefore, the crude birth rate (CBR) based on the adjusted reported births was equal to $k[\beta/P(1+r)^t]$. This worked out as CBR = 1,000(84,768/1,786,711) = 47.4.

This was less than the CBR calculated from the modified Brass method but seemed more reasonable than that based on the reported births in the census. It accounted for 67.5 percent more births than the latter and was in agreement with the amount of under-enumeration arrived at using the modified Brass method.

Secondly, the investigation observed the populations at ages one to four in order to finish the assessment of the trough noticed in Figure 2.2. The observed populations at ages one and two (48,716 and 70,659) looked lower than expected, judging from the figures of 77,669 (adjusted upwards to 84,768) for age zero and 79,058 for age four. The proportion of the population 0-4 years old (350,621/2,101,628) was 16.7 percent. The percentage seemed normal in sub-Saharan African situations but the high fertility regime of Liberia left a lingering doubt as to the level of coverage of the child population which was questioned.

Mid-year populations at ages one to four were obtained through a rough estimate of births by the use of a reverse census survival ratio application for the period 1974 to 1984. The estimated survival ratio from the population 5-9 obtained the total number of persons that survived from the birth cohort five years before the census. This derived an adjusted population of persons reported in the age cohort 0-4 at the census and was reported in Table 2.2.

Table 2.2: Enumerated and Adjusted Populations 0-4 Years of Age, Liberia 1984

AGE	ENUMERATED POPULATION	ADJUSTED POPULATION
0	77,669	75,891
1	48,716	74,556
2	70,659	68,147
3	79,058	69,043
4	74,519	62,984
TOTAL	350,621	350,621

Under good reporting conditions, the age progression should be expected to yield progressively slightly lower populations as we move up the age pyramid. The crudely graduated populations above showed a gross under-enumeration at age one and suggested further under-enumerations at ages two to four

2.2.3   Five Year Age Distribution

The distribution of the 1984 population by five-year age groups supported earlier findings that Liberia's population was youthful. Accordingly, population less than five years constituted about 17 percent while the population under 20 years made up 54.1 percent of the 1984 population, with 54.3 for males and 53.9 for females. The population 60-64 years old was less than three percent and that for 70-74 years less than 1 percent of total population (Table 2.3).

The urban inhabitants were significantly younger in composition than the rural people. This youthfulness was more of the female than male population. Although there were more people in the rural than urban areas, the male-female ratios were not consistent with respect to the age-specific differentials that made the population of one area higher than the other in a particular age group. It could be inferred that the high percentage of youths in urban centers could be due to the availability of, and search for, education, employment and other social services that were grossly inadequate in rural areas.

Table 2.3: Five Year Age Distribution by Rural-Urban Residence, Liberia 1984								
	Liberia Total			Urban Population			Rural Population		
Age	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
0 - 4	16.7	16.5	16.9	16.8	16.2	17.6	16.6	16.7	16.4
5 – 9	14.9	15.0	14.8	14.6	13.9	15.4	15.1	15.8	14.4
10 - 14	11.5	12.2	10.9	12.4	12.3	12.5	11.0	12.1	9.9
15 - 19	11.0	10.6	11.4	12.2	11.5	13.0	10.2	10.0	10.4
20 - 24	9.2	8.5	9.9	11.4	10.7	12.1	7.8	7.0	8.6
25 - 29	8.0	7.6	8.4	9.8	10.0	9.6	6.8	6.0	7.6
30 - 34	5.8	5.6	6.0	6.5	7.1	5.9	5.4	4.7	6.1
35 - 39	5.1	4.8	5.4	4.9	5.4	4.4	5.2	4.4	5.9
40 - 44	3.8	3.9	3.7	3.2	3.9	2.5	4.2	3.9	4.4
45 - 49	3.3	3.4	3.1	2.5	3.0	2.0	3.7	3.7	3.7
50 - 54	2.6	2.8	2.5	1.7	1.9	1.4	3.3	3.3	3.2
55 - 59	1.8	2.0	1.7	1.1	1.3	0.9	2.3	2.5	2.1
60 - 64	2.1	2.3	1.9	1.0	1.1	0.9	2.7	3.1	2.4
65 - 69	1.4	1.6	1.3	0.7	0.7	0.7	1.9	2.2	1.7
70 - 74	0.9	1.1	0.8	0.4	0.4	0.3	1.3	1.5	1.0
75+	1.8	2.1	1.5	0.6	0.6	0.6	2.5	3.0	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	2,101,628	106,3127	1,038,501	816,124	423,979	392,145	1,285,504	639,148	646,356

Similarly, there were more old age persons (60 years and over) in rural than urban areas. The low percentage of old age population in urban areas and the subsequent low percent of youthful population in rural areas, under ceteris paribus conditions, could be accounted for by the high rural-to-urban migration in Liberia.

The youthful nature of Liberia's population was further illustrated by the 1984 population pyramid with a protruding broad base. The pyramid begins with higher percentages for age group 0-4 for males and females respectively. The rapid decline of the broad base of the pyramid up to age 75 years and over was indicative of the youthfulness of the population (Figure 2.3).

The population pyramid indicated that there were more males than females after age 50; while there were also more females between ages 15-39years than males (Figure 3). This situation could be responsible for the availability of more females in early ages of marriage (i.e. 15-39 years) than males in urban as well as rural areas in Liberia. *Ceteris paribus,* the point that females constituted a majority of the sexually active age group (15-39 years) could be a contributory factor to the high rate of sexually transmitted infections (including HIV/AIDS) amongst them.

2.2.4   Accuracy of Five Year Age Data

The 1984 age ratio scores for Liberia were very poor, signifying inaccurate age data reporting. Age ratios were accurate when they were equal to 100; and inaccurate when they were less than or exceeded 100. In other words, the closer an age ratio was to 100, the more accurate it was. However, age ratios were net age misreporting and not net census errors and may not be taken as valid indicators of error for a particular age group (Shryock et al.: 1973, 125).

Fig. 3 Population Pyramid of Liberia, Liberia 1984 NPHC
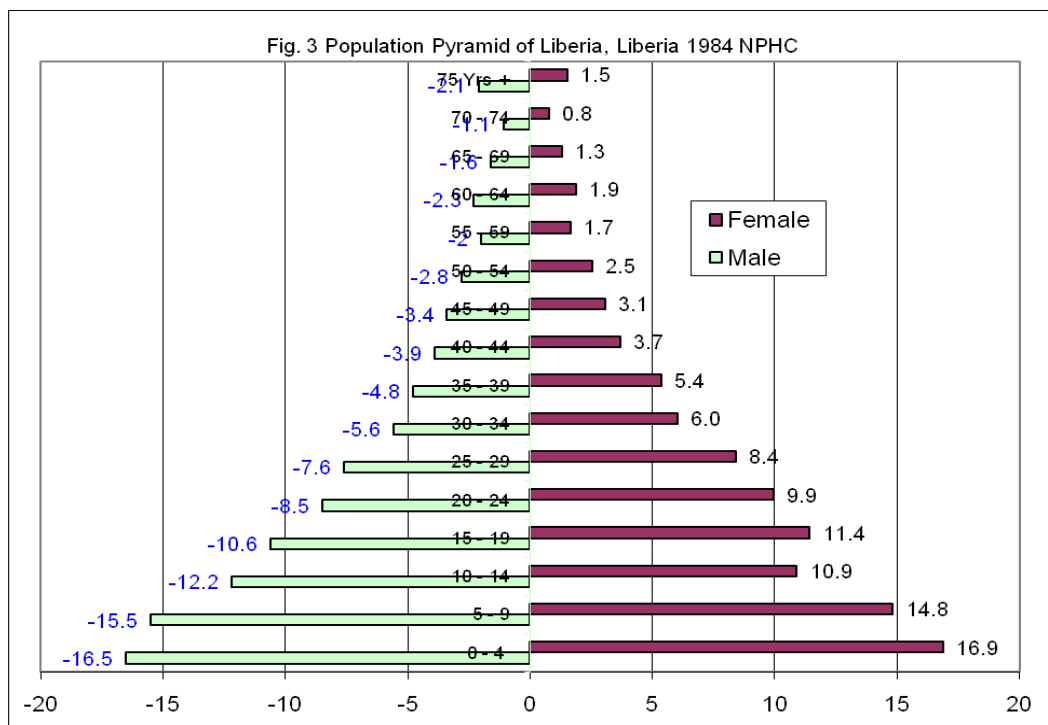
Using the Zelnik one-third age ratio method, it was discovered that most of the age data substantially deviated from 100, which could be based on the trend of mortality or migration between 1974 and 1984. The substantial fluctuations of age ratios in the total population were observed for nearly half of the five-year age groups (Table 2.4). The analysis of age ratios by

urban-rural residence revealed lesser fluctuations (or less deviations from 100) in urban than rural areas, except in the age group 25-29.

Table 2.4: Zelnik Age Ratios by Rural and Urban Residence, Liberia 1984								
	Liberia			Urban			Rural		
Age	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
0 - 4	-	-	-	-	-	-	-	-	-
5 – 9	105	104	105	101	100	103	107	107	107
10 - 14	93	98	89	96	99	93	92	97	86
15 - 19	105	102	107	103	101	105	106	104	109
20 - 24	99	97	101	103	101	106	95	93	98
25 - 29	105	106	104	107	109	105	103	103	104
30 - 34	93	95	92	93	96	90	94	93	94
35 - 39	105	102	108	102	100	104	107	103	109
40 - 44	95	97	92	92	97	85	96	98	95
45 - 49	102	103	100	102	103	102	101	103	100
50 - 54	103	102	106	96	94	98	106	105	108
55 - 59	85	87	83	89	91	87	84	86	82
60 - 64	117	117	117	108	106	111	119	120	119
65 - 69	99	98	101	102	99	105	98	98	99
70 - 74	67	69	64	68	71	65	67	68	64
75 +	-	-	-	-	-	-	-	-	-
Total	2,101,628	1,063,127	1,038,501	816,124	423,979	392,145	1,285,504	639,148	646,356

In Appendix 2B, the Ramachandran method was used to compute the age ratios for 1984, where there were lesser deviations from 100 in a little less than half of the age groups. Also, the age ratios for the urban centers were more accurate than those for rural areas.

By applying the United Nations age ratio computation method (Table 2.5), it was found that the trend of the ratios were not different from those of Zelnik and Ramachandran, i.e., the age ratios for total population were a little higher than those in the urban and rural areas, with urban ratios lower than those for the rural areas. The fluctuations in age ratios could be accounted for by both the inaccurate age reporting and migration in the period prior to the conduct of the 1984 census.

The analysis of age ratio score using the various (Zelnik, Ramachandran and United Nations) methods of age ratio computations in Tables 2.4 and 2.5 and Appendix 2B showed that age data were not very useful due to the inaccuracy of the age reporting (i.e., substantial deviations from 100).

The age ratio scores were very high and rendered the age data useless (see Table 2.6). This was so because age data are very accurate if they fell below 20; useable with care when if fell within 20-39; deficient (but can be used with caution) if they fell between 40 and 60 and useless when the age ratio scores were above 60. In addition, the age ratio scores at the national level were lower than those in both urban and rural localities, with the rural scores lower than those in urban centers. As indicated in Table 2.6, the overall result of age reporting in Liberia during the 1984 census was poor. Of the various methods shown in Table 7, the Ramachandran method yielded lower results as compared to the United Nations' and Zelnik's scores.

Table 2.5: United Nations Age Ratios by Urban and Rural Residence, Liberia 1984									
	Liberia			Urban			Rural		
Age	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
0 - 4	-	-	-	-	-	-	-	-	-
5 - 9	106	105	107	100	98	102	110	109	110
10 - 14	89	95	83	92	97	88	87	94	79
15 - 19	106	102	110	103	100	106	108	104	113
20 - 24	97	94	100	103	100	107	92	88	95
25 - 29	106	107	105	110	112	107	103	103	104
30 - 34	89	91	88	88	92	84	90	89	90
35 - 39	106	101	110	101	98	105	109	104	113
40 - 44	91	95	87	87	94	78	93	96	91
45 - 49	101	103	99	102	102	102	101	104	98
50 - 54	104	101	107	92	90	96	108	106	110
55 - 59	78	81	75	83	85	80	77	79	74
60 - 64	126	125	127	111	107	116	130	130	129
65 - 69	97	95	99	101	97	106	96	95	98
70 - 74	57	59	54	58	61	55	56	58	54
75 +	-	-	-	-	-	-	-	-	-
Total	2,101,628	1,063,127	1,038,501	816,124	423,979	392,145	1,285,504	639,148	646,356

The analysis, therefore, investigated the extent of age heaping in the census of 1984 by the application of Myer's age heaping index which showed high age heapings. In the general population, the preference was for ages that ended in zero and five which recorded net deviations of seven and five percent respectively. Ages one and seven, in excess of over two percent of their expected chances of occurrences, also showed some spikes in the distribution (Appendix 2C). The overall Myer's blended index for female was significantly more than for males. This may be an extent of the educational differentials between the sexes. Uneducated people normally do not know their dates of birth and ages and females had a lower than 20 percent literacy rate in 1984.

Table 2.6: Summary Age Ratio Scores for Liberia, 1984			
Type of Ratios	Liberia	Urban	Rural
Zelnik Age Ratio	61.4	83.4	66.6
Ramachandran Age Ratio	59.0	82.4	62.5
United Nations Age Ratio	61.9	91.4	74.5

Though males and females showed preferences for ages zero and five, there were many more females inclined to give ages that ended in zero than males. Males also showed a slightly higher preference for ages that ended in five than females. However, with respect to the secondary preferences figures one, three and seven, it was always higher for the females than their male counterparts.

The age reporting in the 1974 census was also analyzed to see if there were any consistent trends in the behaviour of the respondents. There were significant differences. The overall index for the population declined from 17.18 to 11.27 which reflected as a dropped from 13.98 to 10.25 for males and from 14.47 to 13.63 for females (Appendices 2C and 2D). This showed that there was

an improvement in the reporting of age by both sexes over the inter-censal period although the accuracy of the males still remained higher than females and the gap between their reporting accuracies seemed to have widened with time. The better age reporting may have been due to a combination of factors like improved census recruitment and training of enumerators and increasing levels of education and awareness about the importance of age.

The main preference in 1974 was for digits ending in three, and zero and seven were secondary preferences with respect to the sexes. Each of them showed a strong inclination for digits ending in zero. Whilst males preferred in addition digits one, three and five, females were inclined to digits eight seven and five.

The accuracy of age reporting was also evaluated by use of Whipple's Index (WI) according to which an age index under 105 is said to be highly accurate; 105-109.9 fairly accurate; 110-124.9 approximately, 125-174.9 is considered rough and an age accuracy index of 175 and above is considered very rough. In Appendix 2D, the Whipple's index for ages ending in five and zero, and the two digits combined were seen to be rough in 1984 but reporting for digits ending in five was better than for those ending in zero. Male reporting carried index values of 158 but these were consistently better than female reporting indices (Table 2.7).

Generally, age reporting in 1974 was better than in 1984, although the data of both censuses were rough. The age accuracy index for Liberia declined from 1974-1984 for digits ending in fives, zeroes and both. On the other hand, the index for ages ending in zero improved from very rough in 1974 to rough in 1984. Females reported more reliable ages in 1974 than in 1984, as ages ending in five were approximately accurate (115) in 1974 and but were rough (169) in 1984. The analysis also revealed that while all of the Whipple's Index for males were rough in 1984, most of the digits for the same year were very rough for females (Table 2.7).

Table 2.7: Whipple's Indices by Sex, Liberia 1974-1984								
	Total			Male			Females		
Age Group	1984	1974	74-84	1984	1974	74-84	1984	1974	74-84
Ages ending in 0	169	178	-9	158	197	-38	180	165	15
Ages ending in 5	164	137	27	158	168	-11	169	115	54
Ages ending in 0 and 5	166	157	9	158	183	-25	174	140	35

According to the census survival ratio (CSR) method of error determination in census data, a ratio of 1.0 shows no error while more than or less than one indicates the existence of errors in either the initial census or the last one. Applying this rule to the 1984 data, it was realized that all of the five-year age groups for the two census contained age misreporting (i.e., under-reporting and over-reporting). For example, using the forward census survival rate method, it was seen that only the age group 30-34 years was accurate in 1984 and ages 10-14 years, 15-19 years, 25-29 years and 65-69 years reported fairly accurate (Table 2.8). The rest of the age data was inaccurately reported, which could be due to age preference, under-estimation or over-reporting in the age data of the censuses of 1974 and 1984.

Table 2.8: Census Survival Ratios, Liberia 1974-1984					
Five Year Age groups		Total Population		Census Survival Ratios	
1974	1984	1974	1984	Forward	Backward
0-4	10-14	227725	242437	1.0646042	0.9393162
5-9	15-19	223927	230694	1.0302197	0.9706668
10-14	20-24	163338	193635	1.1854865	0.8435355
15-19	25-29	159046	167963	1.0560655	0.9469109
20-24	30 34	121519	122514	1.0081880	0.9918785
25-29	35-39	120655	107034	0.8871079	1.1272586
30 34	40-44	104746	79899	0.7627881	1.3109801
35-39	45-49	93290	68429	0.7335084	1.3633109
40-44	50-54	66973	55478	0.8283637	1.2071993
45-49	55-59	57034	38630	0.6773153	1.4764173
50-54	60-64	46211	43405	0.9392785	1.0646469
55-59	65-69	29517	30398	1.0298472	0.9710178
60-64	70-74	33835	19199	0.5674302	1.7623314
65-69	75+	21107	37520	1.7776093	0.5625533

2.3   Age and Sex Structure

2.3.1   General Sex Ratios

The overall sex ratio was 102.4 in 1984, implying an excess of 24,626 males. The sex ratio for urban places was 108.1 with a male surplus of 31,834 and rural areas experienced a female majority of 7,208 and a sex ratio of 98.9.

The trend in the sex ratio showed that it was 98.2 in 1962 and 102.0 in 1974. The corresponding inter-censal differences were a female surplus of 9,267 in 1962 and a male surplus of 14,850 in 1974. The increase in the general sex ratio between 1962 and 1974 was considered dramatic but the ratio of males to females had remained constant over the period between the 1974 and 1984 censuses.

Put against the 1974 census data, the general sex ratio in 1984 was seen to decline in tandem with a small increment in the sex ratio at birth. This implied that the surplus of males over females at age zero seemed to be reducing but the proportion and surplus that they had in the population at large remained undiminished (Figure 2.4). Perhaps the recent trend has been a tendency for an increasing proportion of males in the population.

Fig8. Sex Ratio Per 100 females for 1974 an 1984, Liberia 1984 NPHC
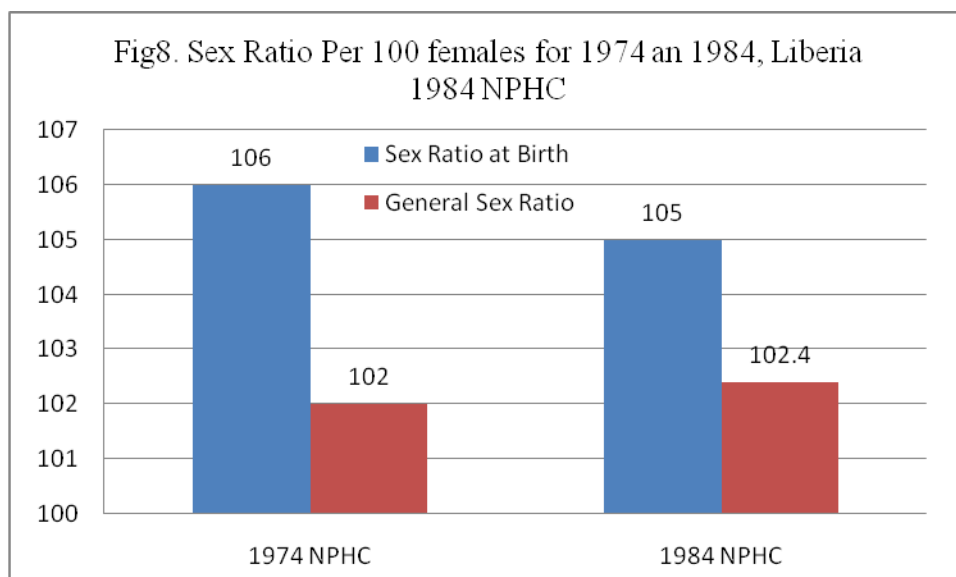
2.3.2   Single Year Age-Sex Ratios

The abundance of males in the population was seen to start at birth. The sex ratio at birth was 105. The sex ratio ranged from 79 at age 30 to 167 at age 71. Sex ratios were in excess of 100 for ages 4-15, 31-34, and above 40. Conversely, there were low sex ratios at ages 1-3, 16-26 and 35-40. Some of these, like at ages 18, 20, 22-23, 25, 28, 30, 35 and 38, were considered very low (Table 2.9). The predominance of females below 40 years of age had serious implications for fertility and population growth of the country.

Table 2.9: Sex Ratio by Single Years of Age, Liberia 1984							
Age	Sex ratio	Age	Sex Ratio	Age	Sex Ratio	Age	Sex Ratio
0	105	19	89	38	83	57	153
1	99	20	82	39	96	58	118
2	98	21	93	40	90	59	133
3	98	22	85	41	122	60	102
4	101	23	88	42	133	61	133
5	105	24	97	43	122	62	130
6	104	25	85	44	143	63	128
7	104	26	96	45	107	64	166
8	102	27	105	46	127	65	126
9	106	28	84	47	143	66	137
10	112	29	105	48	107	67	140
11	111	30	79	49	121	68	113
12	120	31	101	50	96	69	120
13	114	32	108	51	125	70	129
14	115	33	111	52	131	71	167
15	106	34	113	53	106	72	159
16	99	35	89	54	130	73	151
17	96	36	96	55	115	74	159
18	87	37	109	56	131	75	140
						Liberia Total	102

2.3.3   Five Year Age-Sex Ratios

Aggregated five years sex ratios were also examined to see whether the systematic patterns of male-female weights in the population would be altered by the grouping procedure. The overall ratio remained 102.4 and the disaggregated ratios were 108.1 for urban and 98.9 for rural areas (Table 2.10).   At the national level, the ratios ranged from 92.4 at ages 35-39 to 139.6 for the oldest survivors in the population. Females were dominant in the age range 15 to 39. The male dominance in numbers was seen at the rest of the age groups but the sex ratio at ages 0-4 suggested a relatively gross undercount.

Despite the closeness of the sex ratios at ages 0-4, 15-19 and 60-64, there were distinct rural-urban differences uncovered. The range of 68.3 for the urban and 75.3 for the rural areas summarized the disparity in sex ratios between them. In the urban areas, except at ages 0-9 and 15-24, the litany of the male excess was familiar (Table 2.10). In the rural areas, there was an overly superabundance of females in the reproductive areas. The coincidence of this female predominance in the countryside, characteristically of childbearing ages and being substantially young, explained the high fertility regime in the population. The demographic growth dynamics of the Liberian population was probably given inertia for further growth.

Table 2.10: Age-Specific Sex Ratios by Rural and Urban Residence, Liberia 1984			
Age Group	Liberia	Urban	Rural
0 - 4 yrs	100.2	99.5	100.7
5 - 9	104.0	97.9	107.9
10 - 14	114.7	106.4	121.1
15 - 19	94.8	95.1	94.6
20 - 24	87.8	95.6	81.1
25 - 29	92.8	112.1	78.0
30 - 34	95.7	129.5	75.8
35 - 39	92.4	132.3	74.3
40 - 44	109.4	170.8	88.3
45 - 49	115.1	163.4	99.5
50 - 54	111.8	148.8	102.0
55 - 59	124.9	147.8	118.8
60 - 64	123.4	122.9	123.5
65 - 69	124.7	112.6	127.6
70 - 74	144.9	122.6	149.6
75 Yrs+	139.6	104.8	145.7
Total	102.4	108.1	98.9

2.3.4   Mean Age of Population

The mean age shows a measure of central tendency of a population and gives an idea of whether a population is young, transitional or aged. In 1984, the mean age was 22.4 years. This showed a very youthful age structure. Males were older by about nine-and-half months (Figure 2.5). Rural dwellers registered average ages of about 4 years and two months higher than their urban counterparts. Urban males were three-and-half years younger than rural males whereas rural

females recorded ages that were about five years older than urban females. Furthermore, whilst urban males were 1.8 years older than the females, the same gap was 0.4 years in rural areas.

Fig9. Mean Age (in years) of Population by Sex and Rural and Urban Residence, Liberia 1984 NPHC
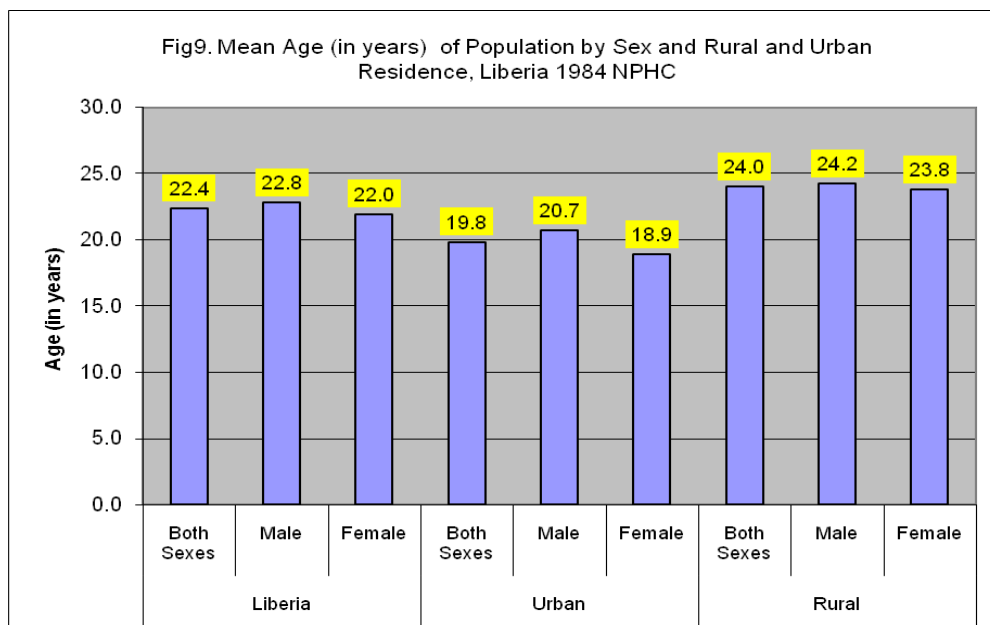
2.4 Population in Broad Age Groups

The differences between the sexes seemed to have diminished when the comparison involved broader bands of ages (Figure 2.6). But as it has already been demonstrated, the population of Liberia was very youthful with 43 percent under 15 years and 4 percent 65 years and over. With this youthful age structure, the population was susceptible to high levels of growth and dependency because only 53 percent of the population was in the economically active age group. As a consequence, the economically inactive population of 1984 was such that for every 100 persons in economically active ages (i.e., 15-64 years), there were corresponding 90 dependents for both sexes; 94 dependents per 100 males and 86 dependents per 100 females.

Fig11. Percentage of Population by sex and Broad Age Group, Liberia NPHC 1984
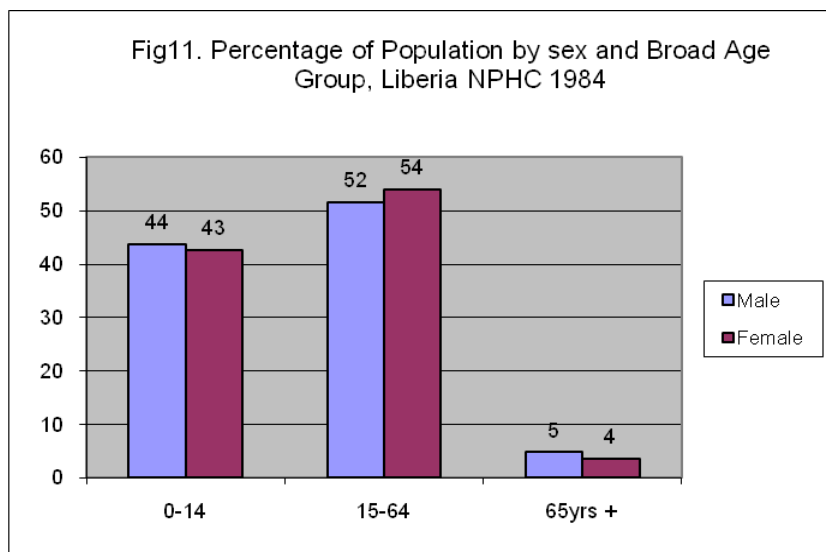
Over the years, there had been shifting age balances among the population in broad age groups and between the urban and rural populations, on the one hand, and within the rural-urban subpopulations themselves. As shown in Figure 2.7, the proportion of working age people dropped by 2.7 percent within 1974 to 1984 and this seemed to have been redistributed among the other broad age groups. The drop was even higher at 3.0 percent for both rural and urban areas. With the child and aged populations growing fastest, especially in the rural areas, the burden of providing socio-economic support to these enlarging segments of the population by the working age population seemed to have increased. Also, the huge under-15 year population signified that government had enormous responsibilities in meeting the basic needs of an increasingly young population.
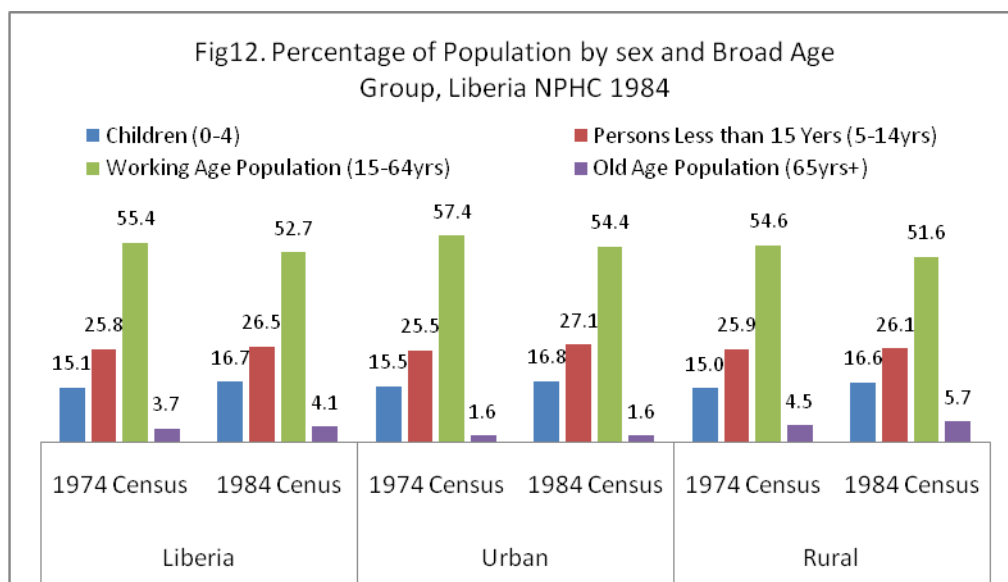
2.5 Conclusion and Recommendations

2.5.1 Summary of Major Findings

The population of Liberia was 2.1 million in 1984. The population increased by 47.9 percent from 1962 of 1974, and further grew by 38.8 percent from 1974 to 1984. The population was generally young, with a broad based population pyramid. There were high sex ratios signifying more males than females; with the general sex ratio of 102 for 1974 and 102.4 for 1984. It was also realized that there were more males babies born in Liberia than females as indicated by the sex ratios at birth of 106 and 105 in 1974 and 1984 respectively. The rapid growth of the population was depicted by the mean age of 23 years in 1974 and 22 years in 1984; and an annual population growth rate of 3.4 percent in 1974 and 3.3 percent in 1984.

The youthfulness of the population was further confirmed by a 43 percent under-fifteen population and a four percent old age population, which constituted the basis for the high dependency ratio of 90 per 100 persons in the economically active age (i.e., 15-64 years) in 1984. Moreover, the sex analysis of the ratio was 94 dependents per 100 males and 86 dependents per 100 females in the economically active ages.

The age data of Liberia were very poor, with minimum joint age ratio scores of 59 for Liberia, 82.4 for urban centers and 62.5 for rural areas. Universally, the maximum acceptable joint score is between is 40-60. However, the pattern of age heaping in Liberia improved from 1974 to 1984 where it dropped from 17.18 percent in 1974 to 11.27 percent in 1984. Males improved their age reporting pattern more than females during the period under review, with a percentage difference of 3.7 and 0.8 respectively.

From the age preference data of Liberia, it was realized that the preference for ages ending in zero dropped by -9 percent from 1974-1984, an improvement in the preference for ages ending in zero. In addition, the preference for ages ending in 5 declined by 27 percent for the inter-census period while those ending in five and zero dropped by 9 percent. It was realized from the analysis that the age preference of males for all digits declined as that of females increased during the inter-census period. Differential education of the sexes was cited as a possible contributor to the observed differences in age reporting.

The inaccuracy of age reporting was particularly true of the infant and child populations. The extent of underreporting was calculated at about 45 percent. This greatly affected the estimation of the crude birth rate.

2.5.2 Policy Recommendations

With the high population growth and the youthful nature of Liberia's population, it was important to improve the social and economic status of women in order to reduce the natural fertility regime and its subsequent high population growth rate. The subsequent high economic dependency syndrome that arose from the youthful structure required rigorous human capacity building and job creation schemes. The high level of age misreporting could be addressed through an aggressive and decentralized educational policy that would have increased the literacy level of women.

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APPENDICES

Ages (years)	Both Sexes Percent	Male Percent	Female Percent	Age (years)	Both Sexes Percent	Male Percent	Female Percent	Ages (years)	Both Sexes Percent	Male Percent	Female Percent
0	3.7	3.7	3.7	26	1.5	1.4	1.5	52	0.4	0.5	0.4
1	2.3	2.3	2.4	27	1.3	1.3	1.3	53	0.4	0.4	0.4
2	3.4	3.3	3.4	28	1.8	1.6	2.0	54	0.5	0.6	0.5
3	3.8	3.7	3.8	29	1.3	1.4	1.3	55	0.6	0.6	0.6
4	3.5	3.5	3.6	30	2.2	1.9	2.5	56	0.4	0.4	0.3
5	3.2	3.3	3.2	31	0.9	0.9	0.9	57	0.2	0.2	0.2
6	3.2	3.2	3.2	32	1.3	1.3	1.3	58	0.4	0.4	0.4
7	2.9	2.9	2.9	33	0.7	0.8	0.7	59	0.3	0.3	0.2
8	2.9	2.9	2.9	34	0.7	0.7	0.7	60	0.9	0.9	0.9
9	2.7	2.7	2.6	35	1.7	1.6	1.8	61	0.2	0.2	0.2
10	2.8	2.9	2.7	36	0.9	0.8	0.9	62	0.3	0.3	0.2
11	1.8	1.9	1.8	37	0.6	0.7	0.6	63	0.3	0.3	0.2
12	2.6	2.9	2.4	38	1.0	0.9	1.1	64	0.4	0.5	0.3
13	2.2	2.3	2.0	39	0.9	0.8	0.9	65	0.6	0.7	0.5
14	2.1	2.2	2.0	40	1.8	1.7	1.9	66	0.2	0.2	0.1
15	2.3	2.4	2.3	41	0.5	0.5	0.4	67	0.1	0.2	0.1
16	2.2	2.1	2.2	42	0.7	0.8	0.6	68	0.3	0.3	0.3
17	1.8	1.7	1.9	43	0.5	0.5	0.4	69	0.2	0.2	0.2
18	2.6	2.4	2.8	44	0.4	0.4	0.3	70	0.4	0.4	0.3
19	2.1	1.9	2.2	45	1.3	1.3	1.3	71	0.1	0.1	0.1
20	2.6	2.4	2.9	46	0.4	0.5	0.4	72	0.2	0.3	0.2
21	1.6	1.5	1.7	47	0.4	0.4	0.3	73	0.1	0.1	0.1
22	1.8	1.6	1.9	48	0.7	0.7	0.7	74	0.1	0.1	0.1
23	1.6	1.5	1.7	49	0.5	0.5	0.4	75+	1.8	2.1	1.5
24	1.6	1.6	1.7	50	1.0	1.0	1.1	All	100	100	100
25	2.1	1.9	2.3	51	0.3	0.3	0.2				

Appendix 2A: Percentage Distribution of Population by Single Years of Age, and by Sex, Liberia 1984

Appendix 2B: Ramachandran Age Ratios by Urban and Rural Residence, and by Sex, Liberia 1984								
	Liberia			Urban			Rural		
Age	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
0 - 4	-	-	-	-	-	-	-	-	-
5 - 9	103	102	103	100	99	101	105	105	105
10 - 14	94	98	91	96	98	94	93	97	89
15 - 19	103	101	105	101	100	103	104	102	106
20 - 24	99	97	100	102	100	103	96	94	98
25 - 29	103	104	103	105	106	103	102	101	102
30 - 34	94	95	93	94	96	91	95	94	95
35 - 39	103	101	105	101	99	103	104	102	106
40 - 44	95	97	93	93	97	88	96	98	95
45 - 49	101	102	99	101	101	101	100	102	99
50 - 54	102	100	103	96	95	98	104	103	105
55 - 59	88	89	86	91	92	89	87	88	85
60 - 64	111	111	112	105	103	107	113	113	113
65 - 69	99	98	100	101	99	103	98	97	99
70 - 74	72	74	70	74	76	71	72	74	70
75 +	-	-	-	-	-	-	-	-	-
Total	2,101,628	1,063,127	1,038,501	816,124	423,979	392,145	1,285,504	639,148	646,356

Appendix 2C: Myer's Index for Age Heaping by Sex, Liberia 1984									
	Both sexes			Male			Female		
Terminal Digits	Blended Sum	Percent Distribution	Deviation from 10	Blended Sum	Percent distribution	Deviation from 10	Blended Sum	Percent Distribution	Deviation from 10
0	1617615	16.89	6.89	749313	15.20	5.20	868302	17.28	7.28
1	679817	7.10	2.90	324861	6.59	3.41	334956	6.67	3.33
2	952033	9.94	0.06	490263	9.95	0.05	461770	9.19	0.81
3	768582	8.02	1.98	390027	7.91	2.09	378555	7.54	2.46
4	829319	8.66	1.34	441247	8.95	1.05	388072	7.72	2.28
5	1377932	14.39	4.39	677827	13.75	3.75	700105	13.94	3.94
6	877011	9.16	0.84	443793	9.00	1.00	433218	8.62	1.38
7	736630	7.69	2.31	382668	7.76	2.24	356662	7.10	2.90
8	788315	8.23	1.77	556670	11.29	1.29	623601	12.41	2.41
9	951138	9.93	0.07	472599	9.59	0.41	478539	9.53	0.47
Total	9,578,392	100	22.55	4,929,268	100	20.49	5,023,780	100	27.27
	MI for total population = 11.27			MI for males =10.25			MI for females = 13.63		

Appendix 2D: Myer's Index for Age Heaping by Sex, Liberia 1974								
	Both sexes			Male			Female		
Terminal Digits	Blended Total Population	Percent distribution	Deviation from 10	Blended Male Population	Percent distribution	Deviation from 10	Blended Male Population	Percent distribution	Deviation from 10
0	1335546	15.78	5.78	639837	17.30	7.30	695547	18.02	8.02
1	521900	6.17	3.83	243827	6.59	3.41	278097	7.21	2.79
2	671792	7.94	2.06	342358	9.26	0.74	329434	8.54	1.46
3	1496955	17.68	7.68	231222	6.25	3.75	308559	8.00	2.00
4	610848	7.22	2.78	330571	8.94	1.06	280312	7.26	2.74
5	1032737	12.20	2.20	525671	14.21	4.21	507066	13.14	3.14
6	621462	7.34	2.66	314451	8.50	1.50	325119	8.42	1.58
7	506424	5.98	4.02	270779	7.32	2.68	267849	6.94	3.06
8	974536	11.51	1.51	461124	12.47	2.47	513404	13.30	3.30
9	692541	8.18	1.82	338904	9.16	0.84	353637	9.16	0.84
Total	8,464,741	100	34.35	3,698,744	100	27.96	3,859,024	100	28.94
	MI for total population = 17.18			MI for males =13.98			MI for females = 14.47		

CHAPTER 3: ETHNIC COMPOSITION AND RELIGIOUS AFFILIATION

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CHAPTER 3: ETHNIC COMPOSITION AND RELIGIOUS AFFILIATION

Ibrahim M. Sesay and T. Edward Liberty

3.0   Background

3.0.1   Introduction: Definition and Importance of Ethnicity and Religion

The United Nations (2008:138) directs that for census purposes, religion may be defined as either:

(a)   religious or spiritual belief of preference, regardless of whether or not this belief is represented by an organized group, or

(b)   affiliation with an organized group having specific religious or spiritual tenets. Each country that investigates religion in its census should use the definition most appropriate to its needs and should set forth, in the census publication, the definition that has been used.

On the other hand, ethnicity is difficult to define. In broad terms, the United Nations (2008:139) considers that it is based on a shared understanding of territorial origins (regional or national) and history of a given community or ethnic group. Shryock et al. (1976:145) believes that an ethnic group is a subset of a race that may possess certain physical, cultural, linguistic and other differences that are relatively persistent over time. Increasing intermarriage among various groups in some countries create a multi-ethnic class of persons over generations. Hence, ethnicity is as complex as to be multidimensional and should be considered more as a process than a static concept, and so ethnic classification should be treated with movable boundaries.

Since 1970, the United Nations has persistently listed the twin topics of ethnicity and religion as "other useful topics" in its Principles and Recommendations for Population and Housing Censuses. In the African region, because of the use of "tribe" to denote ethnicity and given the sensitivity and ugly effects of tribal consciousness in national politics, governments were warned to be cautious in using a question on ethnicity in the 1970 and 1980 rounds of censuses. But since these topics represented groups in the national populations, some of the censuses continued to collect information on them because policymakers were interested in such data.

Ethnic and ethnic groups are noted to have differing characteristics such as marriage patterns, mean ages at marriage and proportions who ever marry. To the extent that whatever the circumstances their existence generates different demographic characteristics and different geographic distributions, demographic statistics have often identified these groups as variables to be interpreted or as appropriate explanatory variables.

Since data collection by countries on ethnic and religious groups are done using different methodologies and for different ends, and because ethno-cultural composition could vary widely from country to country, no internationally relevant criteria or classification has been recommended; as with the International Standard Classification of Occupations (ISCO) codes or as for trade statistics and agricultural products.   The varied definitions and criteria employed across the globe, therefore, renders the data of limited use for international comparability.

The needs for data on religion, and the sensitivity and suitability of posing a question to respondents are some of the considerations and national circumstances that condition the decision to collect and disseminate information on religion. The responding public should be informed of the potential uses and needs of this information and special care taken to demonstrate that data protection and disclosure control measures are in place.

3.0.2 Nature, Scope and Limitations of Data

The available data were as tabulated in 1986. No electronic or raw datasets could be found. Some errors were introduced during data entry of the retrieved hard copy which could not lend itself to photocopying. Such errors were detected and corrected during the analysis.

3.0.3 Method of Analysis

The analytical methods involved simple nonparametric statistics as the analysis did not employ statistical methods that required assumptions about the form of the underlying distributions. Hence, simple proportions and ratios were used in the descriptive analysis.

3.1 Ethnic Composition of the Population

3.1.1 Age-Sex Structure of Major Ethnic Groups

The ethnic landscape of Liberia, as shown by data from the 1984 census (Table 1), comprised 97.81 percent of the population and 2.19 percent with no ethnic affiliation. There were 16 well-defined ethnic groups and a number of other Liberian and African tribes. These could be divided into four broad categories:

(i)   Most populous – These were the Kpelle and Bassa who accounted for one in three persons counted in the census;

(ii)   Moderately populous – The Grebo, Gio, Kru and Mano contributed about another third of the population;

(iii)   Less populous – With just over a quarter of the count, the Lorma, Madingo, Kissi, Gola, Vai and Krahn were considered less populous, and

(iv)   Minorities – The rest of the people of Belle, Dey, Gbandi and Mende ethnic groups together with other Liberian and African tribes and persons with no ethnic or tribal affiliation all made up the remainder of eight percent of the population.

When these ethnic groups were analyzed by broad age groups, the distribution patterns of most of them showed that there was no significant difference between their proportion in the total national population and their respective proportions in the age groups of less than 15 years, 15-24, 25-34, 35-44 and 45 years and over (Table 3.1). But the age-sex structure of seven of these subgroups of the population showed features different from this general picture. The Gbandis, Gios and Golas had disproportionately higher percentages of their numbers aged 45 years and over. If this trend continued, it would have increased their proportions of aged in the national population; making the Gbandis and Golas having to grapple with the problems of an aging population.

The Kissi, Madingo, Mende and other African tribesmen had more proportions of their people in the 25-44 age groups than at the national level. All being equal, social processes like family formation and childbearing and rearing would have been prevalent among these groups, exerting more economic and other pressures on them for the satisfaction of competing demands and responsibilities concomitant with such developments.

Table 3.1: Ethnic Affiliation of the Population by Age

ETHNIC GROUP	TOTAL	A G E (Y E A R S)				
		00 – 14	15 - 24	25 - 34	35 - 44	45+
BASSA	13.85	13.34	14.06	13.67	14.59	15.28
BELLE	0.51	0.54	0.48	0.45	0.47	0.56
DEY	0.36	0.34	0.34	0.36	0.37	0.46
GBANDI	2.82	2.92	2.75	2.60	2.62	3.09
GIO	7.84	7.66	7.95	7.71	7.69	8.76
GOLA	3.96	3.84	3.65	3.85	4.23	4.81
GREBO	8.96	9.53	9.50	7.60	8.22	8.55
KPELLE	19.42	19.89	19.23	19.07	19.30	19.36
KISSI	4.03	4.08	3.73	4.54	4.28	3.44
KRAHN	3.78	3.84	3.73	3.51	3.94	3.93
KRU	7.33	7.30	7.71	6.83	7.12	7.79
LORMA	5.65	5.81	5.71	5.51	5.27	5.63
MANDINGO	5.10	5.48	4.86	6.05	5.19	3.46
MANO	7.10	7.28	7.29	6.93	6.63	7.00
MENDE	0.78	0.77	0.75	1.03	0.79	0.65
VAI	3.57	3.75	3.42	3.61	3.40	3.40
OTHER LIBERIAN TRIBES	1.15	1.15	1.12	1.20	1.22	1.17
OTHER AFRICAN TRIBES	1.60	1.43	1.66	2.62	1.94	0.82
NO ETHNIC AFFILIATION	2.19	1.04	2.06	2.87	2.70	1.86
TOTALS	100.00	100.00	100.00	100.00	100.00	100.00

Persons with no ethnic affiliation recorded a paltry 1.04 percent of the population less than 15 years old. This was less than half their relative weight in the total population (Table 3.1). The indications were that the level of fertility among this group was declining over the period since 1969. A continuation of the observed trend would have resulted in making the persons with no ethnic affiliation becoming an insignificant minority in the country.

The Kpelle and Grebo were seen to have very youthful populations with higher than average percentages than they held in the total population. This signaled a rise in recent fertility trends and would have further contributed to their already dominant position among the ethnic groups. In addition, the Grebos and Bassas had a population complexion that was likely to prioritize the situation and condition of adolescents among their numbers.

3.1.2   Educational Differentials

Data on ethnic affiliation of the population five years of age and over by highest grade completed can be found in Appendix 3A. Of the 1,751,007 respondents, 67.32 percent (or 1,178,876) answered that they had never completed any grade in school. This was an alarming statistic. It

showed that 32.68 percent of the population five years and over was literate. This translated to 26.38 percent of the total population counted at the census. Given that 56.7 percent of the illiterate population (668,024) was females, this situation was more appalling for them than their male counterparts.

In analyzing the ethnic groups by educational statuses, the proportion of an ethnic group in the population of school going age and over was put against its proportion in the respective educational categories. Where the former was higher than the latter, the ethnic group was seen not to fair on favourably and vice versa. When the ethnic groups were analyzed according to this criterion, nine out of the 16 ethnic groups (Bassa, Dey, Gbandi, Gio, Gola, Kpelle, Kissi, Madingo and Mano had a higher percentage of people with no grade completed than their proportion in the population five years and over. This put them in a particularly disadvantageous position in education which would translate to possibility of securing a high paying job and living a higher standard of life. With the exception of the Belle with similar proportions in the reference populations, the rest of the ethnic groups were found to be better off educationally.

Analysis of the educated population showed some interesting features. Certainly the most highly educated population subgroup was those with no ethnic affiliation. They comprised a mere 2.13 percent of the reference population but their proportions at the various levels of education completed increased in leaps and bounds as the levels progressed upwards (Appendix 3A). It was fascinating to note that they could constitute 34, 20 and 12 percent respectively of the post graduate, college and vocational education levels; far in excess of their insignificant proportion of the population at risk of ever being to school. This group probably included foreign born populations of the expatriate stock in the country at the time of the census.

The ethnic group with some distinction amongst the rest was the Kru. Persons of this ethnic group had similar educational advantages as shown by their contribution of more than ten percent at all levels except at the post graduate level. In addition, the minority Mende and Vai ethnic groups were favourably placed at all levels of education above primary school level. The Madingo showed prominence in educational levels that were not applicable to the school system in Liberia at the time of the census. Their contribution of 30.95 percent to this category was probably due to widespread Arabic (and quoranic education) among members of this ethnicity. At the college and post graduate levels, there were significant minorities of the Madingo.

The other African tribes exhibited educational traits very similar to the Madingo ethnic group. This was probably because the vast majority of these tribesmen (about 95 percent) came from countries contiguous or in the neighbourhood of Liberia and with nearly similar socio-cultural traits as the Madingo. The rest of the ethnic groups recorded decreasing proportions (far below their share of the reference population) at increasing levels of education.

3.1.3   Ethnic Composition and Labour Force Characteristics

Labour force data from the 1984 census showed that agriculture, which was the main stay of the economy, employed seven out of every ten workers in the country. About one tenth of the workers were production and related workers, transport equipment operators and labourers. A little less than one in every 14 employed persons were sales workers. A small but significant

proportion of persons responded that they were in occupations that could not be easily categorized. These had about the same weight in the population of persons who worked in the census reference period as professionals and service workers (Table 3.2).

The data exhibited certain features which clearly brought out ethnic differentials in the various occupations. The highest proportions of professional, technical and related workers, and administrative and managerial class workers were persons with no ethnic affiliation, notwithstanding their meager percentage of the national population. Their distribution across the occupational spectrum showed that the more white collar a job was, the more their proportion and vice versa. Only 0.3 percent of them was in agriculture and related undertakings. These people were mostly in the urban areas and better educated and qualified and, therefore, monopolized these very lucrative jobs. The assumption was that these were in the highest socio-economic class of society.

Table 3.2: Ethnicity by Labour Force Participation

	O C C U P A T I O N A L C A T E G O R I E S							
ETHNICITY	ALL OCC.	PROF.	ADMIN.	CLER.	SALES	SERV.	AGRIC.	PROD.	UN ID.
BASSA	12.8	11.8	11.4	13.5	12.8	16.2	12.5	13.2	17.4
BELLE	0.5	0.5	0.5	0.4	0.2	0.7	0.6	0.3	0.5
DEY	0.4	0.4	0.2	0.5	0.4	0.2	0.4	0.4	0.6
GBANDI	3.3	2.6	2.0	2.5	2.1	1.8	3.8	2.5	2.2
GIO	8.5	4.4	5.0	4.6	3.1	8.9	10.2	4.4	5.5
GOLA	4.0	3.9	3.8	4.5	2.1	2.6	4.1	3.8	7.7
GREBO	7.5	11.4	9.6	11.0	5.5	8.8	7.7	5.6	6.0
KPELLE	22.3	10.5	11.0	12.0	10.1	14.5	26.2	14.1	19.0
KISSI	4.8	2.4	1.6	2.6	4.8	2.8	5.1	5.8	3.0
KRAHN	3.5	3.0	5.6	4.3	1.6	8.2	3.6	3.0	2.4
KRU	5.3	12.5	12.1	14.9	6.6	11.3	3.9	6.5	7.1
LORMA	5.8	5.9	4.0	6.2	4.2	9.1	6.0	4.9	5.2
MANDINGO	5.1	2.3	2.1	1.6	17.5	1.7	3.2	14.2	4.8
MANO	7.1	5.2	4.7	4.1	3.0	5.4	8.3	4.1	5.3
MENDE	0.8	1.8	0.4	1.4	0.9	0.5	0.6	1.5	1.4
VAI	2.9	5.2	4.6	6.0	3.9	2.9	2.1	5.2	5.7
OTHER LIBERIAN TRIBES	1.1	1.4	1.7	1.4	0.8	1.7	1.0	1.3	1.0
OTHER AFRICAN TRIBES	2.0	3.4	1.4	1.3	11.3	0.9	0.7	5.0	2.0
NO ETHNIC AFFILIATION	2.1	11.5	18.2	7.3	9.2	1.8	0.3	4.3	3.1
TOTAL	669,330	27,054	4,486	10,818	45,196	23,665	468,675	64,949	24,487
PERCENT	100.0	4.0	0.7	1.6	6.8	3.5	70.0	9.7	3.7

Key:
ALL OCC.	All occupations
PROF.	Professional, Technical and Related Workers
ADMIN.	Administrative and Managerial Workers
CLER.	Clerical and Related Workers
SALES	Sales Workers
SERV.	Service Workers
AGRIC.	Agriculture, Animal Husbandry, Forestry Workers, Fishermen and Hunters
PROD.	Production and Related Workers, Transport Equipment Operators and Labourers
UN ID.	Workers Reporting Occupations Unidentifiable

As came out of the discussion on education, the Kru were the only main ethnic group that exhibited the qualities of the persons reported of having with no ethnic affiliation. They dominated the clerical services. But unlike the latter, there were sizable proportions of them in the services and agricultural pursuits.

The Kpelle and Bassa accounted for 35 percent of the workforce, thanks to their populousness. The Kpelle were predominantly agriculturists and one in every four agricultural worker was of their ethnic group. Most of these agriculturists were rural residents. The Bassa, on the other hand, dominated in the services and professions where they ranked second after the Kru.

The Madingo constituted only 5.1 percent of the national population and total workforce yet it was interesting to note that they dominated the sales and production related jobs. The other African tribes also recorded over one-tenth of the sales workers even though they numbered only one-fiftieth of the national population.

The most numerous group of Grebo employees were in the professions and clerical workforce but Krahn workers were in the services as was the minority Belle. The Dey, Vai and Gola were mostly clerical, the Gio and Gbandi were agriculturists, Mende were mainly professionals and Kissi in production whilst the Mano were mostly in agriculture.

3.1.4   Urban and Rural Residence of Ethnic Groups

The distribution of population by urban and rural residence always gives insight into some of the population statistics we observe. If a given set of people are more rural, it would be likely that they may carry more rural than urban traits in terms of some life experience variables. Therefore, this analysis included the urban-rural residence pattern of the various ethnic groups in Liberia in 1984 to unravel some of the reasons for the behavior of the data.

As only 816,124 individuals were counted in localities designated as urban (Table 3.3), the population was distinctly rural with 61.2 percent rural dwellers (Table 3.4). The sex distribution revealed that there were more males (52.0 percent) in the urban areas than females (Table 3.3) whereas the converse was true of the rural areas (Table 3.4). In the urban localities, there was a near equality of proportion of the sexes for the Belle, Dey, Grebo, Krahn, Kru, Mano, Mende, Vai and other Liberian tribes but the other half of the urban ethnic groups recorded more males than females (Table 3.3).

In Table 3.4, the simplistic male-female divide in the urban areas was not repeated in the villages. A three-way pattern was observed. Ethnic groups with nearly equal percentages of the sexes included Belle, Dey, Gbandi, Gio, Gola, Kissi, Lorma, Mano, Mende, Vai and other Liberian and African tribes and persons with no ethnic affiliation. A second group of tribes concerned those for which there were more females than males. These were Bassa, Krahn and Kpelle; the latter had an exceeding female superabundance. The third group was the Grebo, Kru and Madingo amongst whom males were in the majority (Table 3.4).

In analyzing the geographic residence pattern by broad age categories, distinct urban-rural features emerged. The respective population proportions were similar for ages below 15 and 35-44. However, there were greater numbers of people in the 15-34 age groups in the urban than rural areas and the reverse was true for persons 35 years and over. In essence, much older people

Table 3.3: Urban Population by Ethnicity, and by Sex and Broad Age Groups

ETHNICITY	S E X	A N D	B R O A D	A G E	G R O U P		
	TOTAL	MALE	FEMALE	00-14	15-24	25-34	35-44	45+
BASSA	15.4	7.9	7.6	6.7	3.7	2.4	1.3	1.3
BELLE	0.4	0.2	0.2	0.2	0.1	0.1	0.0	0.0
DEY	0.3	0.1	0.1	0.1	0.1	0.0	0.0	0.0
GBANDI	2.4	1.3	1.1	1.1	0.6	0.4	0.2	0.2
GIO	4.5	2.3	2.2	1.9	1.2	0.8	0.3	0.3
GOLA	2.8	1.5	1.3	1.3	0.7	0.4	0.2	0.2
GREBO	8.3	4.2	4.1	3.7	2.0	1.2	0.7	0.6
KPELLE	12.7	6.6	6.1	5.8	3.2	2.1	0.9	0.7
KISSI	4.1	2.2	1.9	1.8	0.9	0.7	0.4	0.3
KRAHN	3.5	1.8	1.7	1.5	0.9	0.5	0.3	0.2
KRU	11.6	5.9	5.8	4.9	2.7	1.7	1.0	1.4
LORMA	6.6	3.5	3.2	3.0	1.5	1.0	0.5	0.6
MANDINGO	7.8	4.2	3.6	3.5	1.7	1.4	0.7	0.5
MANO	5.1	2.6	2.5	2.3	1.2	0.8	0.4	0.4
MENDE	0.9	0.5	0.4	0.4	0.2	0.2	0.1	0.1
VAI	4.2	2.1	2.1	1.8	1.0	0.7	0.3	0.3
OTHER LIBERIAN TRIBES	1.1	0.6	0.5	0.5	0.3	0.2	0.1	0.1
OTHER AFRICAN TRIBES	3.3	1.8	1.4	1.3	0.7	0.7	0.3	0.2
NO ETHNIC AFFILIATION	4.9	2.7	2.2	2.1	0.9	0.9	0.5	0.4
TOTAL	816,124	423,979	392,145	358,345	192,860	133,516	66,852	64,551
PERCENT	100.0	52.0	48.0	43.9	23.6	16.4	8.2	7.9

were found in the rural areas (about 18 percent of the population was 45 years and over) whereas the urban population was more youthful with 23.6 percent adolescent of 15-24 years (Tables 3.3 and 3.4).

Considering the respective percentages of rural and urban populations of the various ethnic groups throughout the age spectrum, the Kissi and amorphous category of other Liberian tribes were seen to have roughly equal proportions of urban and rural populations. The Kru exhibited the greatest affinity for urban dwelling as almost twice as more Kru lived in the towns and cities than in the villages.   Other ethnic groups with higher proportions of urban inhabitants were Bassa, Lorma, Madingo, Mende, Vai, other African tribes and people of no ethnic affiliation (Tables 3.3 and 3.4). This last group of people was about two percent of the total population yet they accounted for about five percent of the urban dwellers. In the rural areas, the Gio, populous Kpelle and minority Dey counted two of their number for each one in the urban centres. Others with more rural proportions were Belle, Gbandi, Gola, Grebo, Krahn and Mano.

Furthermore, the most significant amounts of older persons in urban areas were registered among the Bassa and Kru (Table 3.3). In the rural areas, the proportions of older persons were not only higher, they also involved quite some more ethnic groups. These were Kpelleh (4.0 percent), Bassa (2.6 percent), Gio (1.8 percent) and Grebo (1.5 percent) (Table 3.4).

Table 3.4: Rural Population by Ethnicity, and by Sex and Broad Age Groups

ETHNICITY	TOTAL	MALE	FEMALE	00-14	15-24	25-34	35-44	45+
		S E X	A N D	B R O A D	A G E	G R O U P		
BASSA	12.8	6.3	6.5	5.1	2.3	1.6	1.3	2.6
BELLE	0.6	0.3	0.3	0.3	0.1	0.1	0.0	0.1
DEY	0.4	0.2	0.2	0.2	0.1	0.1	0.0	0.1
GBANDI	3.1	1.5	1.6	1.3	0.5	0.4	0.3	0.6
GIO	9.9	4.9	5.0	4.1	1.8	1.2	0.9	1.8
GOLA	4.7	2.3	2.4	1.9	0.8	0.6	0.5	1.0
GREBO	9.4	4.8	4.6	4.3	1.8	0.9	0.8	1.5
KPELLE	23.7	11.6	12.1	10.2	4.3	3.0	2.2	4.0
KISSI	4.0	2.0	1.9	1.7	0.6	0.6	0.4	0.7
KRAHN	4.0	1.9	2.1	1.7	0.7	0.5	0.4	0.8
KRU	4.6	2.4	2.2	2.0	0.8	0.5	0.4	0.9
LORMA	5.0	2.5	2.6	2.2	0.9	0.6	0.4	0.9
MANDINGO	3.4	1.8	1.6	1.6	0.5	0.5	0.3	0.4
MANO	8.4	4.2	4.2	3.6	1.6	1.0	0.7	1.4
MENDE	0.7	0.4	0.3	0.3	0.1	0.1	0.1	0.1
VAI	3.2	1.6	1.6	1.4	0.5	0.4	0.3	0.6
OTHER LIBERIAN TRIBES	1.2	0.6	0.6	0.5	0.2	0.1	0.1	0.2
OTHER AFRICAN TRIBES	0.5	0.3	0.2	0.2	0.1	0.1	0.1	0.1
NO ETHNIC AFFILIATION	0.5	0.3	0.2	0.2	0.1	0.1	0.1	0.1
TOTAL	1,285,504	639,148	646,356	548,484	231,470	156,961	120,081	228,508
PERCENT	100.0	49.7	50.3	42.7	18.0	12.2	9.3	17.8

3.2 Religious Affiliation of the Population

3.2.1 Age-Sex Differentials in Religious Affiliation

The distribution of respondents by age and sex according to their religious convictions can be found in Table 3.5. It was noted that apart from the age group 60-64, the general age reporting followed largely the expected pattern of declining proportions at each successive age interval. The erratic age reporting of Muslims between ages 10 and 29 was the only serious disruption seen of a religious subgroup.

The age distribution showed that each of the religious subgroup was as youthful as the national population and but for the under fives of the no religious group, the overwhelming majority were males. The overall percentage of population under 15 years of age was 43.15 with a range of 3.37 years representing the percentage difference between the majority Christians and the minority Muslims.

At the other extreme, about 4.2 percent of the people were over 64 years old. The no religious group contributed a substantial proportion to this population and although there was a general male surplus, they and the Muslims recorded a sex ratio of 153 to 159 indicating that the males were one-and-a-half times more plentiful.

A little over half of the population was of working age. This average picture was contributed to more by the minority Muslims. Adolescents and adults within the 15 to 39 age bracket reflected

the only segments of the religious groups in which females were more in number than males. The lowest sex ratios of about 80 in the 15-64 age band were in the Muslim and no religiously affiliated groups. The explanation of the scenario of a male predominance below age 15 continuing after age 40 (Table 3.5) into the last syllable of recorded age was difficult to find.

Table 3.5: Population by Age, and by Religious Affiliation and Sex

| AGE | RELIGIOUS AFFILIATION | | | | | | | |
| | ALL RELIGIONS | | CHRISTIANS | | MUSLIMS | | NONE OR OTHER | |
	PERCENT	SEX RATIO	PERCENT	SEX RATIO	PERCENT	SEX RATIO	PERCENT	SEX RATIO
0-4	16.68	100.2	16.34	100.7	17.45	100.4	17.35	98.5
5-9	14.93	104.0	15.14	103.1	14.18	106.3	14.73	105.7
10-14	11.54	114.7	12.54	114.1	9.02	112.8	9.73	118.7
15-19	10.98	94.8	11.81	99.0	9.74	80.6	8.86	87.7
20-24	9.21	87.8	9.63	90.9	9.33	81.5	7.62	80.1
25-29	7.99	92.8	7.91	94.7	9.67	98.2	7.03	80.4
30-34	5.83	95.7	5.65	96.0	6.98	117.8	5.63	78.3
35-39	5.09	92.4	4.84	90.8	5.89	118.9	5.41	79.4
40-44	3.80	109.4	3.62	108.6	4.06	140.4	4.28	94.1
45-49	3.26	115.1	3.08	114.1	3.24	144.5	3.93	102.8
50-54	2.64	111.8	2.44	110.7	2.51	133.2	3.47	104.4
55-59	1.84	124.9	1.70	121.1	1.77	139.5	2.41	127.2
60-64	2.07	123.4	1.85	120.8	1.85	132.7	2.75	106.0
65-69	1.45	124.7	1.26	122.1	1.46	134.1	2.11	125.6
70-74	0.91	144.9	0.79	137.2	0.92	153.2	1.35	158.8
75+	1.79	139.6	1.40	127.5	1.93	158.6	3.07	153.3
ALL AGES	2,101,628	102.4	1,422,751	102.6	290,828	106.2	388,049	98.9

3.2.2   Marital Status Differentials

Of the 1,437,135 individuals counted in the population 10 years of age and over, slightly over two-thirds were Christians, one-seventh Muslims and 18 percent with no religious affiliation. Half (714,270) of them were married and about 43 percent were single (Table 3.6). The percentage of widows, and divorced and separated persons were about equal at about four

percent. There were 51.3 percent of males that were single as against 34 percent of females. Conversely, there were more ever married females than males.

Table 3.6: Religious Affiliation of the Population, 10 Years of Age and Over, by Marital Status

MARITAL STATUS	ALL RELIGIONS	CHRISTIANS	MUSLIMS	NONE OR OTHER
Never Married	42.8	46.2	35.1	35.7
Married	49.7	46.7	58.8	53.9
Widowed	3.8	3.3	3.3	5.9
Divorced or Separated	3.7	3.8	2.8	4.4
TOTAL COUNT	1,437,135	974,861	198,839	263,535
PERCENT OF COUNT	100.0	67.8	13.8	18.4

Christians had the highest percentage of never married persons, most of whom were males, and almost one in nine persons more than for each of the other religious groups. About three-fifths of Muslims and 54 and 47 percent respectively of people with no religious affiliation and Christians were married (Table 3.6). In the sex disaggregated data (not included), the proportion of married females in each of the religious groups was far higher than males; by 19 percent for Muslims and 10 and 12 percent respectively for Christians and persons with no religious affiliation. Part of the observed differences in the amount of single and married persons could be attributed to socio-cultural characteristics associated with the various religious groups.

The percentages of widowed individuals were not only the same for Muslims and Christians, their male-female ratios were also similar. This showed that with respect to widowhood, there was no systematic difference between the two religious groups. There was, however, a significant difference between these and persons who reported to have no faith in Islam and Christianity. The 5.9 percent registered of these respondents was almost twice higher than persons with religious beliefs, and this high percentage reflected the strong female showing of close to nine percent in the subpopulation.

With only 2.8 percent ever separated or divorced, Muslims were the most stable in marital unions (Table 3.6). Put against the others, Christians were seen to be about one-third more unstable and non-religious persons over one and half times more unstable than Muslims in marital unions. It was not easy to pinpoint why the differentials in the stability of the various religious groups existed with respect to marital statuses. This may be because the database was limited and could not allow some in-depth analysis to unravel the facts. Notwithstanding, it could be inferred that the differentials were not accidental.

3.2.3   Ethnic Differentials and Religious Affiliation

The preference of the different ethnic groups for the three main religious captured in the 1984 data has been displayed in Table 3.7. The overall sex ratio was 102.4 and the distribution of the religious groups around this mean followed a normal distribution. The sex ration ranged from 93 amongst the Dey to 132.8 amongst the other African tribes. Apart from the Krahn with a very low sex ratio also, the Bassa, Gbandi, Gio, Gola, Kpelle, Mano and Vai had nearly equal numbers of members of the two sexes. The sex ratio was high for the remaining ethnic groups

but this was particularly so for the Madingo and Mende as main ethnic groups, and other African tribes and persons with no ethnic affiliation.

The Bassa, Grebo, Kpelle and Kru were mainly Christians. Their percentage of the Christian population was higher than that of their respective proportions in the general population and they together were 63.4 percent of all Christians. Although they collectively had almost even numbers of men and women, the Grebo and Kru showed male dominance but females were more amongst the Bassa and Kpelle Christians. Christianity was also important among the Gio, Mano, Krahn and Lorma people, who were together 21.4 percent of all Christians (Table 3.7).

Table 3.7: Population by Ethnicity, and by Religious Affiliation and Sex

| ETHNICITY | RELIGIOUS AFFILIATION | | | | | | | |
| | ALL RELIGIONS | | CHRISTIANS | | MUSLIMS | | NONE OR OTHER | |
	PERCENT	SEX RATIO	PERCENT	SEX RATIO	PERCENT	SEX RATIO	PERCENT	SEX RATIO
BASSA	13.85	99.8	18.07	98.9	0.56	97.8	8.36	108.1
BELLE	0.51	101.7	0.63	101.4	0.16	120.4	0.34	97.9
DEY	0.36	93.4	0.23	107.1	1.25	82.7	0.18	92.5
GBANDI	2.82	99.4	1.70	118.3	7.25	91.4	3.62	83.4
GIO	7.84	99.6	7.14	100.7	0.60	102.3	15.83	97.6
GOLA	3.96	99.1	2.52	115.4	5.00	87.8	1.49	92.6
GREBO	8.96	103.0	12.15	102.9	0.33	77.5	3.73	106.0
KPELLE	19.42	99.4	22.97	98.1	4.35	88.2	17.70	108.1
KISSI	4.03	109.5	3.55	114.2	2.22	102.9	7.14	103.0
KRAHN	3.78	97.4	4.67	97.8	0.28	110.6	3.13	94.8
KRU	7.33	103.1	10.18	102.5	0.21	98.3	2.24	112.6
LORMA	5.65	102.0	4.55	117.6	1.06	111.0	13.12	84.7
MANDINGO	5.10	113.8	0.27	120.9	34.40	113.8	0.86	107.6
MANO	7.10	99.4	5.00	105.1	0.49	104.8	19.79	94.3
MENDE	0.78	120.9	0.45	123.1	3.25	119.1	0.17	127.4
VAI	3.57	100.7	1.06	110.0	19.89	98.3	0.51	104.3
OTHER LIBERIAN TRIBES	1.15	105.4	1.57	104.1	0.14	128.5	0.41	120.0
OTHER AFRICAN TRIBES	1.60	132.8	1.09	104.7	5.73	166.8	0.34	135.4
NO ETHNIC AFFILIATION	2.19	121.5	2.22	107.3	3.55	159.7	1.03	165.2
ALL TRIBES	2,101,628	102.4	1,422,751	102.6	290,828	106.2	388,049	98.9

The distribution of Muslims was more skewed than Christians. Madingo and Vai accounted for 8.8 percent of the national population but were 54.3 percent of all Muslims. The Gbandi, other African tribes, Gola and Kpelle with 22.3 percent were also important sections of the Muslim community. Muslim males were predominant amongst the Madingo and other African tribes.

The noticeable thing about the none or other religious group was their low sex ratio. Two thirds were Mano, Kpelle, Gio and Lorma. If the Bassa were added, three quarters of this subpopulation would have been accounted for.

3.2.4   Fertility Differentials and Religious Affiliation

Data on total fertility rates and mean age at childbearing by women of different religious affiliations are graphically shown in Figure 3.1. For the nation as a whole, the fertility rates for Christian and Muslim women were equal and half a child more than those for women with no religious affiliation. Muslim women had a higher fertility rate in the rural areas whereas the fertility of their Christian counterparts was higher in the urban centres. Women who did not believe in Christianity and Islam recorded even lower fertility in the urban places than the rest of the women.

With respect to the mean age at childbearing, Christian women recorded the highest ages at the national level, and in rural and urban areas. What was not clear was how total fertility rates of Muslim and Christian women were the same at the national level even with these disparities. On the other hand, women with no religious affiliations had mean childbearing ages of about 0.3 years younger than the rest of the women. Thus, they started childbearing earlier but ended up with smaller completed family sizes than Christian and Muslim women.

Figure 3.1: Total Fertility Rates and Mean Age of Childbearing by Religious Affiliation and Place of Residence, Liberia 1984
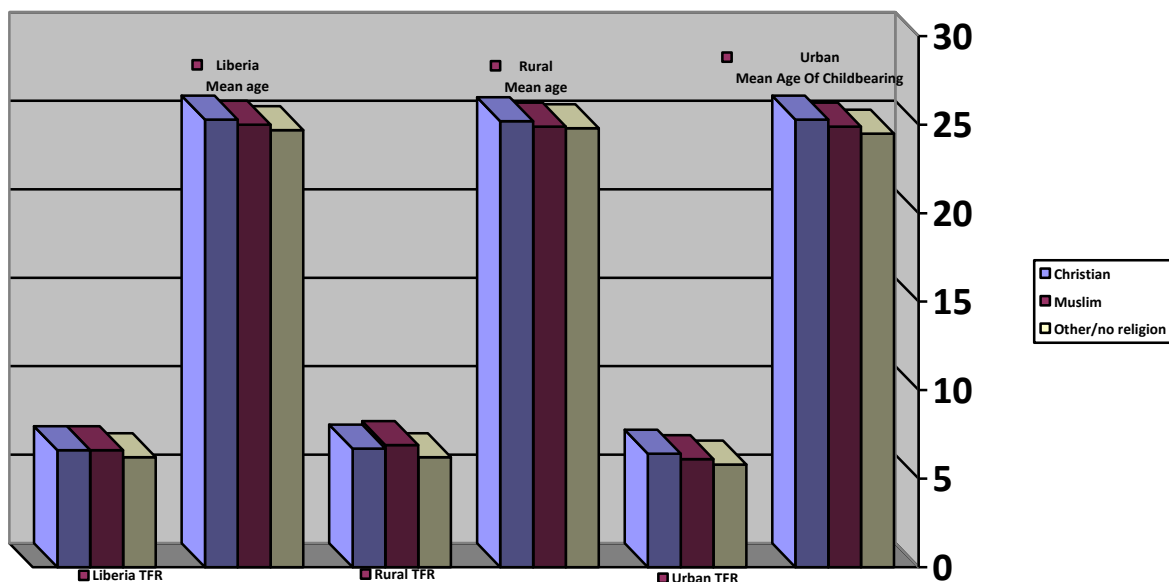
In examining fertility differentials by parity (Table 3.8), it came out that the almost 67 percent of all women who were Christians constituted a little over three-quarters of the childless females. Muslim women and others of no religious affiliations were seen to have lesser percentages of childlessness people even below their proportions in the female population by roughly four percent apiece. In addition, at each parity level, the percentage of Christian women bearing children was less than their percentage in the female population. For the rest of the women, the reverse was true. There was, therefore, some confusion about how the data persistently showed the women with no religious affiliation as having the lowest total fertility rate.

Figure 3.8: Percent of Parity Distribution of Women by Age, 1984

Religious Group	Percent of Female Population	P A R I T Y							
		0	1	2	3	4	5	6	7 +
Christian	67.71	75.65	65.22	65.26	65.10	64.78	63.47	64.75	66.04
Muslim	13.49	9.48	15.63	15.47	15.02	15.01	15.45	13.61	13.22
None or Other	18.80	14.87	19.15	19.27	19.88	20.21	21.07	21.64	20.74
TOTALS	709,593	173,175	125,161	83,749	67,486	55,345	49,827	37,179	117,671

3.3   Conclusion and Recommendations

3.3.1   Summary of Major Findings

The data were retrieved from some archived documents and was not as complete as to enable a clearer understanding of the ethnic and religious situation. For example, the definition of religion used in the census was not available because relevant documentation such as the training manuals was not at hand. Hence, this analysis did not follow the United Nations stipulation of setting forth the definition that was used.

About 98 percent of the 1984 population of Liberia was ethnically affiliated. There were 16 major ethnic groupings across the country. A little over 22 percent of the people were of the Kpelle ethnic group, the most populous. One tenth was Bassa and a further third were Grebo, Gio, Kru and Mano.

The age pattern of the ethnic groups was not significantly different from the national age distribution but there were some inherent differences of details among the ethnic groups. Gbandi, Gio and Gola had disproportionately higher proportions of persons older than 45 years whilst Kissi, Madingo and Mende had much higher percentages of people 25-44 years old. Kpelle and Grebo had more youths but Bassa had more adolescents.

Sex ratios were generally low for the population at ages 15-39. As over half the people were married and at young ages, there was a higher prospect of high fertility perpetrating into the future because of the childbearing activities of these young people. There was a near equality of the sexes in urban areas for almost all the ethnic groups. In the rural areas, however, this simplistic pattern was not repeated.

The three main religious groups were Christians (about 68 percent), Muslims (about 12 percent) and persons of no religious affiliation (about 20 percent). Muslims and Christians recorded equal total fertility rates (6.6) although their urban and rural distributions differed. Persons with

no religions were seen to have lower fertility levels and the lowest mean age at childbearing in the population. It was impossible to explain this phenomenon.

Nine out of the 16 ethnic groups were seen to be disadvantaged with respect to the education variable. The population with no ethnic affiliation were the most set of educated persons as shown by 34, 20 and 12 percent respectively of their population counted as completed post graduate, college and vocational levels of education. This superior education translated into better job placements with this same group of persons dominating in the professional and administrative cadres of employment.

Among the rest of the ethnic groups, the Kru had appreciably similar educational and employment advantages. Occupational differentials revealed that lower education and more rural residence meant higher proportions in agriculture, production and the services sectors. Conversely, populations with higher levels of education and more urban residence were in white collar jobs.

3.3.2   Policy Recommendations

The essence for collection of data on ethnicity and religion should be emphasized in the census publicity campaign to make the population become aware of the use to which the data would be put to. Care should be taken to address mainly programmatic issues in the analysis of the statistics on ethnic data and implementation of recommendations should be done with the seriousness that it deserves.

The 1984 census revealed that certain ethnic homelands were disadvantaged with respect to some socio-economic variable which were seen to be intertwined. Chief amongst them was the education variable. Policies geared towards the development of human resources in the rural areas through the opening of institutions of learning could have solved most of the problems of socio-economic differentials implicit in the results of the analysis.

As fertility in the country was high, the high levels of rurality, low education (especially of females) and early marriages could have combined to reinforce a high fertility regime. Family planning services and products could have been expanded and comprehensive rural development pursued to avert the negative consequences of this scenario.

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APPENDICES

ETHNIC AFFILIATION	TOTAL		NO GRADE COMPLETED	SOME GRADE COMPLETED	PRIMARY SCHOOL LEVEL	HIGH SCHOOL LEVEL	VOC. SCHOOL LEVEL	COLLEGE LEVEL	POST GRADE LEVEL	GRADE NOT APPLICABLE
	NUMBER	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
TOTAL	1,751,007	100.00	1,178,876	572,131	297,968	223,104	8,392	19,288	5,727	17,652
BASSA	246,919	14.10	14.92	12.41	13.00	12.85	11.19	9.70	7.79	1.87
BELLE	8,882	0.51	0.50	0.52	0.58	0.48	0.46	0.38	0.47	0.10
DEY	6,351	0.36	0.38	0.33	0.33	0.34	0.27	0.27	0.09	0.32
GBANDI	49,553	2.83	2.94	2.61	2.49	2.77	2.40	2.46	2.01	3.18
GIO	137,486	7.85	8.08	7.41	8.55	7.03	5.16	2.63	1.41	1.29
GOLA	69,168	3.95	4.23	3.37	3.10	3.57	3.74	3.58	3.14	4.96
GREBO	158,836	9.07	7.50	12.31	13.31	12.46	9.19	8.39	6.74	0.97
KPELLE	337,130	19.25	21.93	13.74	15.13	13.04	12.49	8.49	6.20	8.02
KISSI	70,461	4.02	4.64	2.76	2.96	2.70	2.55	1.95	1.24	1.52
KRAHN	66,282	3.79	3.59	4.19	4.52	4.30	2.75	2.38	1.69	0.61
KRU	130,848	7.47	5.90	10.71	10.25	12.22	10.15	10.07	7.19	1.35
LORMA	99,647	5.69	5.48	6.12	6.22	6.44	6.05	5.57	4.50	1.60
MANDINGO	86,114	4.92	5.29	0.40	3.58	2.71	2.61	5.77	5.08	30.95
MANO	123,106	7.03	7.10	6.88	7.68	6.67	7.53	3.17	2.15	1.33
MENDE	13,494	0.77	0.71	0.90	0.59	1.05	2.05	1.74	1.75	2.44
VAI	61,620	3.52	3.38	3.80	3.03	4.03	4.83	6.05	5.64	10.43
OTHER LIBERIAN TRIBES	20,406	1.17	1.07	1.37	1.43	1.43	1.16	0.89	0.80	0.33
OTHER AFRICAN TRIBES	27,395	1.56	1.37	1.97	0.99	1.60	3.53	6.41	8.07	15.45
NO ETHNIC AFFILIATION	37,309	2.13	1.00	4.46	2.27	4.30	11.89	20.11	34.03	13.27

Appendix 3A: Ethnic Affiliation of the Population, 5 Years of Age and Over, by Highest Grade Completed, Liberia 1984

CHAPTER 4: LITERACY AND EDUCATION

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CHAPTER 4: LITERACY AND EDUCATION

James W. Mayson

4.0   Background

Education is one of the most important social endowments of a country's population. A nation depends on its educational system to supply the skilled manpower required for social and economic development (Mayson, J. W., 1990: 5). Fostering an effective educational system for harnessing its human resource requirement requires sufficient socio-economic information. Any socio-economic information collected to become useful must be adequately analyzed to enhance realistic inferences. Realistic inferences promote reliable recommendations and decisions, which are essential for any meaningful development planning.

The 1984 Population and Housing Census collected information on the country's educational system which has not been analyzed. Due to the unanalyzed status of these data, it was difficult to base subsequent educational information on them.

This analysis will break that barrier. It measures and determines the true picture of the entire school system existing in Liberia in 1984, and the way it progressed and impacted society over the years previous to 1984. It will also make subsequent analyses of the educational system much easier.

4.0.1   Introduction: Importance of Data on the Education Sector

The educational system of Liberia is replete with several problems. Problems affecting the system range from lack of school facilities, educational staff and materials and lack of proper organization.

These problems affect the educational system in various ways including enrollment and learning progress. Inadequacy of learning facilities basically poses problems of low school enrollments and academic performance. In much of the country, there were very few schools, especially in the rural areas. Prior to 1984, there were fewer or no public senior high schools in the rural areas of the country.

The lack of sufficient schools also resulted to overcrowded classrooms, which marred the quality of instructions received by the students, leading to low scholastic progression (ib. id: 31). Added to this was the shortage of qualified instructional staff and materials.

However, the intensities of these problems have not been investigated, because of the failure to collect reliable school information and analyze them. The 1974 and 1984 Population and Housing Censuses are the best attempts so far made. These should have been complemented by censuses in 1994 and 2004, and several educational surveys and administrative data recordings, but these events failed to happen because of the Liberian Civil War of 1989 - 2003. This analysis is therefore only a means of providing a picture of what was obtained in the educational system of Liberia 24 years ago, which may be better or worse than present day's realities.

4.0.2 Methodology

The analysis is focused on measuring the educational attainment of the total population and the differentials between the rural and urban sectors and the sexes. It is organized in three broad categories of measures: educational input, educational progression and educational output.

Measures of educational input include actual enrollment in school or in any grade or level of school, with types of school, etc, and with enrollment expectation. Here, the analysis utilizes rates such as crude enrollment rates and specific rates for age, sex, grade and level for the total as well as the rural and urban populations.

Sex ratios at enrollment are also used to establish the disparities between males and females at school attendance. The measurement of enrollment differentials is extended between the rural and urban populations and between levels of school.

Educational Progression is primarily measured by school retention. Censuses are however not likely to be a useful source of retention statistics, unless they are taken at frequent intervals of time between one to two years. Thus, the utility of the 1984 data is unquestionably limited for the purpose of directly estimating school retention of the population. The analysis therefore utilizes the age and level specific drop-out rates from the distribution of "Population 5 years of Age and Over, not Attending School During 1983 According to Highest Grade Competed" at each level, to construct an educational progression life table from a synthetic cohort of 100,000 students assumed to have entered school together.

Additionally, the analysis features scholastic retardation and acceleration by using rates to measure urban/rural and sex differentials of educational progression of the population.

Educational output is measured by the literacy of the population. The analysis attempts to estimate the literacy of the rural and urban populations by the crude illiteracy and its age-specific illiteracy rates for the total population by sex. Educational output is also measured by grade attainment rates, educational attainment rates and the mean and median years of school completed by the total population.

4.1 Educational Input of the Population

Educational input of the population is measured by its school enrollment. The United Nations defines school enrollment as "enrollment in any regular educational institution, public or private, for systematic instruction at any level of education during a well-defined and recent time period" (United Nations, 1967: 58) . Accordingly, the time of reference for the below enrollment analyses is the period between February, 1983 and February 1, 1984, the latter being the first day of the 1984 census in Liberia.

4.1.1 Crude and Age Specific Enrollments

The first and foremost commonly used measures of educational input are the crude and age-specific enrollment rates. Table 4.1 shows the crude enrollment rates for the total population, and

for the urban and rural sectors as 21.31 percent, 31.20 percent, and 15.03 percent, respectively. They are defined as total enrollments per total population.

This table also uses the age-specific enrollment rates to measure sex differentials of school population. It shows the differences in the rates of enrollment between males and females for the total population and for the urban and rural sectors of the country. On the average, total male enrollments exceed total female enrollments by 12.71 percent in the total population, 11.05 percent in the urban population, and 12.94 percent in the rural population. This shows that there were more male than female educational enrollments between 1983 and 1984.

Table 4.1: The Age-Specific and Crude Enrollment Rates by Sex and Residence, Liberia 1984

AGE	URBAN			RURAL			TOTAL		
	Percent Male	Percent Female	Excess Male over Female	Percent Male	Percent Female	Excess Male over Female	Percent Male	Percent Female	Excess Male over Female
5-9	40.98	37.71	3.27	15.90	12.62	3.28	25.18	22.47	2.71
10-14	83.36	66.51	16.85	54.44	34.19	20.25	66.12	48.26	17.86
15-19	80.60	51.39	29.21	59.02	26.74	32.28	68.37	37.39	30.98
20-24	54.72	26.63	28.09	43.93	11.89	32.04	49.35	18.86	30.49
25-29	25.79	12.06	23.73	20.39	4.54	15.85	23.22	7.80	15.42
30+	8.56	4.42	4.14	3.54	1.05	2.49	5.26	1.95	3.31
Total	42.78	31.76	11.05	24.54	11.60	12.94	31.84	19.13	12.71
CER %	31.20			15.03			21.31		

4.1.2   Sex Ratios at School Enrollment

Comparable measures of enrollment between the sexes, ages and geographic settings are also essential in the analysis of educational differentials of the population. Table 4.2 thus measures such disparities by applying the sex ratio at school enrollment. It estimates the age and sex differentials at enrollment for the total population and for the urban and rural sectors. It reports that there were about 117 males per 100 female enrollees of the total enrollments at ages 5-9 years and 106 and 136 per 100, correspondingly in the urban and rural sectors in 1984.

The ratio becomes alarmingly high as 276 per 100 at age group 25-29 years for the total school enrollments and 239 and 350 for urban and rural schools respectively at age group 25-29 years. This shows that whereas male enrollments were slightly higher than female in primary schools, female enrollments became a lot smaller as the age progressed. This could be due to more female dropouts than male at higher levels of education during the twelve month period preceding the 1984 Census. The age differentials of sex ratios show 56 percent more males than females in the

Table 4.2: Sex Ratio at School Enrollment by 5-year Age Groups and Residence of the
Population, Liberia 1984

AGE	URBAN		RURAL		TOTAL	
	Percent	Age Differentials	Percent	Age Differentials	Percent	Age Differentials
5-9	106.35		136.07		116.51	
10-14	133.33	26.94	192.80	56.73	157.12	40.61
15-19	149.17	15.84	208.70	15.90	173.36	16.24
20-24	199.38	50.21	299.68	90.98	229.75	56.39
25-29	239.69	40.31	350.40	50.72	276.14	46.39
30+	269.70	30.01	330.94	19.46	293.80	17.66
Total	148.24		208.48		171.08	

Note: *The column labeled "Age Differentials" are generated by subtracting the percentages in the
previous age groups from the next higher age groups for each sector.*

total school enrollment between age groups 15-19 and 20-24 years, as well as 50 percent and 91
percent between the same age groups in the urban and rural enrollments respectively (Table 4.2);
showing that the sex ratios at school generally increased. It also indicated more males than
females in higher education.

Table 4.3 measures the urban and rural enrollment differentials of the population. It shows that
total urban male enrollments exceeded total rural male enrollments by 18.24 percent, and urban
total female enrollments exceed total rural female enrollments by 20.13 percent. This might be
due to the less availability of school facilities in the rural than the urban sectors of the country in
1984 (Table 4.3).

Table 4.3: Urban-Rural Differentials of School Enrollment of the Population
By 5-Year Age Group and Sex, Liberia 1984

Age	MALE			FEMALE		
	Urban	Rural	Excess Urban Over Rural	Urban	Rural	Excess Urban Over Rural
5-9	40.98	15.90	25.08	37.71	12.62	25.09
10-14	83.36	54.44	28.92	66.51	34.19	32.32
15-19	80.60	59.02	21.58	51.39	26.74	24.65
20-24	54.72	43.93	10.79	26.63	11.89	14.74
25-29	25.79	20.39	5.40	12.06	4.54	7.52
30+	8.56	3.54	5.02	4.42	1.05	3.40
Total	42.78	24.54	18.24	31.73	11.60	20.13

4.2   Educational Progression of the Population

Educational progression "provides a basis for seeing to what extent population groups persist in school and to what extent continuation in school is related to normal grade progression" (Shryock, Henry S., et. al.,1976: 180). This section measures or analyzes school retention and dropout, as well as scholastic retardation and acceleration of the country. "School retention refers to the continuation of persons enrolled in school from one grade or level to another or from one age to an older age (ib. id.). Dropping out of school is the direct opposite of school retention. Educational progression may be measured by various methods such as the gross and net enrollment rates, scholastic retardation and acceleration rates, as well as other methods like the life table.

4.2.1   Gross and Net Educational Enrollments

The gross enrollment ratios (GER) and net enrollment ratios (NER) are measures for both educational input and progression. They measure enrollment, as well as educational retention, dropout, and scholastic retardation or acceleration. The GER describes the ratio of the total population enrolled in a particular level of education, e.g. the elementary level, to the number of enrollees in the age group normally expected of that level of school. For instance, according to Table 4.4, GER for males in elementary schools in the total population was the total number of elementary enrollees in all age groups, 376,728, divided by the enrollments in elementary school at age group 5-11 years, which was a normal age group for primary school in Liberia. The value of this operation is 201.50 percent.

Repeating this operation for the female population, it can also be seen from Table 4.4 that the corresponding GER for females was 107.01 percent. Higher GER at a particular educational level shows that there were more enrollees on that educational level who were in ages higher than normally expected for that level of education. This may have indicated low educational progression for GER above 100 percent in elementary school and below 100 percent in higher education. It, however, showed high enrollments at that educational level also.

In much the same way, the net enrollment ratio is the number of enrollees in the age group normally expected for a particular level of education to the total number enrollees in that age group. It shows that the higher the NER, the higher the educational progression on that level, and the lower NER, the lower the educational progression, and vice versa. In theory, the NER for elementary school males, according to Table 4.4, was 47849 divided by 186965 times 100, equals 25.59 percent. This shows that of the total enrollment in elementary school, 25.59 percent were in the right ages for that educational level. Similarly, in calculating for the junior high school, the answer was 6.19 percent. The corresponding NERs for females were 20.80 percent for elementary, 4.75 percent for junior high and 2.97 percent for senior high schools, and 1.38 percent for higher education. This showed that educational progression was generally low in Liberia around the year 1984.

It has been said above that GER measures the intensity of school enrollment, while NER measures educational progression. GER is used extensively in Appendix A to compare school enrollments of the total school population with both urban and rural school populations. It also differentiates male enrollments in urban schools from those in rural schools.

Specifically, Appendix 4A shows that estimates of the GER for both sexes at elementary school enrollments of the total school population were 80.63, compared with 255.76 percent for the urban area (Appendix 4D), and 60.04 percent for the rural population (Appendix 4G). The three tables also show 83.63 percent, 110.02 percent, and 56.80 percent, respectively, for the junior high school level. GER was higher in the urban area, indicative of more school enrollments, as a result of the availability of more schools and school facilities in the urban than rural areas.

Following the same line of analysis, GER for males was compared with that of females. In the urban area, GER for males was 131.58 percent in the elementary school, 155.35 percent in the junior high school, and 153.46 percent in the senior high school, compared with 100.76 percent, 83.46 percent and 57.16 percent for females, respectively. This showed less educational participation of females than males in Liberia in 1984.

Appendices 4A to 4G also show the differences in NER for the total school enrollments, as well as for urban and rural schools. NER for both sexes for the total elementary school population was 23.22; differentiated as 38.64 in the urban area and 14.20 in rural areas. When examined NERs for other levels of education, for the urban schools significantly exceeded those for the total and rural populations. (Appendices 4A to 4G contain the GERs and NERs for both sexes of the total population and for the urban and rural sectors).

Table 4.4: Gross and Net Educational Enrollment Ratios of the Total Population by Age, Sex and Educational Level, Liberia 1984

School Age	Total Male	None	Enrollment Per Educational Level				Total Female	None	Enrollment Per Educational Level			
			Elem.	Jr. High	Sr. High	Higher Educ.			Elem.	Jr. High	Sr. High	Higher Educ.
5-11 Elem.	186965	139116	47849	0	0	0	182582	144613	37969	0	0	0
12-14 Jr.	75267	24455	46152	4660	0	0	65330	33066	32264	3105	0	0
15-18 Sr.	114676	28695	62449	17852	5151	529	114246	57616	41730	11172	3392	336
19+ Higher Educ.	788606	412702	220278	56483	74872	24271	601015	462902	83422	20414	26005	8272
All Age Groups	1165514	604968	376728	78999	80023	24800	166278	698197	195385	34691	29397	8608
Net Enrollment Ratio (NER) %			25.59	6.19	4.49	3.08			20.80	4.75	2.97	1.38
Gross Enrollment Ratio (GER) %			201.50	105.00	69.78	3.14			107.01	53.10	25.73	1.43

4.2.2   Scholastic Retardation and Acceleration of the Population

Scholastic retardation and scholastic acceleration are defined as the relationship between an enrollee's age and the grade in which he/she is enrolled. A student is scholastically retarded if the grade in which he/she is enrolled is below the grade which he/she is normally expected for

his/her age. A student is scholastically accelerated if the grade in which he/she is enrolled corresponds with or is above the grade in which he/she is normally expected to enroll.

Tables 4.5, and Appendices 4H and 4I estimate the scholastic retardation rates for Liberia for the total population and the urban and rural sectors. The overall scholastic retardation rate for both sexes of the total population is 93.96 percent. The last column of Table 4.5 shows the difference in scholastic retardation rates between male and female enrollees, with males being 1.66 percent more academically retarded than females on the average.

Table 4.5: Scholastic Retardation Rates of the Total Population by Age and Sex, Liberia 1984

	Scholastic			Retardation				Excess
	M A L E			F E M A L E				Male
	N u m b e r			N u m b e r			Both	over
		Lower		Enrolled	Lower		Sexes	Female
Age	Enrolled	Graders	Percent		Graders	Percent	(Percent)	(Percent)
Under 7 Years	34006	30137	88.62	26637	23340	87.62	88.12	1.00
7	29885	27359	91.55	21978	20082	91.37	91.46	0.18
8	29375	27272	92.84	20536	19038	92.71	92.77	0.13
9	28229	26657	94.43	18086	16983	93.90	94.17	0.53
10	26551	24617	92.72	15840	14652	92.50	92.61	0.22
11	30324	29396	96.94	16521	15846	95.91	96.43	1.03
Total Elementary	178370	165438	92.75	119598	109941	91.93	92.34	0.83
12	25868	24706	95.51	12563	11847	94.30	94.90	1.21
13	26872	26111	97.17	114112	10971	96.14	96.65	1.03
14	25255	25539	97.27	10716	10264	95.78	96.53	1.49
Total Jr. High	78995	76356	96.66	34691	33082	95.36	96.01	1.30
15	19196	18463	96.18	7586	7179	94.63	95.41	1.55
16	14558	14078	96.70	5782	5421	93.76	95.23	2.94
17-18	46267	45478	98.29	16013	15439	96.31	97.30	1.98
Total Sr. High	80021	78019	97.50	29399	28039	95.37	96.44	2.13
All Age Groups	337386	319813	94.79	183688	171062	93.13	93.96	1.66

Scholastic acceleration, on the other hand, is the obverse of scholastic retardation. Table 4.7, Appendices 4J and 4K also estimate the scholastic acceleration of the country, showing female enrollees of the total school population in Table 4.6 as 1.66 percent more accelerated than male enrollees on the average. In other words, male enrollees were less accelerated than female enrollees, as indicated by the negative figures in the column. There are different patterns of scholastic retardation and acceleration in the urban and rural sectors of the population. For instance, urban females are 43.13 percent more accelerated (Appendix 4K) than urban males, while rural females are 2.18 percent more accelerated than rural males (Table 4.7).

Table 4.6: Scholastic Acceleration Rates of the Total Population by Age and Sex, Liberia 1984

	Scholastic			Acceleration				Excess
	M A L E			F E M A L E				Male
	N u m b e r			N u m b e r			Both	over
		Normal			Normal		Sexes	Female
Age	Enrolled	Graders	Percent	Enrolled	Graders	Percent	(Percent)	(Percent)
Under 7								
Years	34006	3869	11.38	26637	3297	12.38	11.88	-1.00
7	29885	2526	8.45	21978	1896	8.63	8.54	-0.18
8	29375	2103	7.16	20536	1498	7.29	7.23	-0.13
9	28229	1572	5.57	18086	1103	6.10	5.83	-0.53
10	26551	1934	7.28	15840	1188	7.50	7.39	-0.22
11	30324	928	3.06	16521	675	4.09	3.57	-1.03
Total								
Elementary	178370	12932	7.25	119598	9657	8.07	7.66	-0.83
12	25868	1162	4.49	12563	716	5.70	5.10	-1.21
13	26872	761	2.83	114112	441	3.86	3.35	-1.03
14	25255	716	2.73	10716	452	4.22	3.47	-1.49
Total Jr.								
High	78995	2639	3.34	34691	1609	4.64	3.99	-1.30
15	19196	733	3.82	7586	407	5.37	4.59	-1.55
16	14558	480	3.30	5782	361	6.24	4.77	-2.94
17-18	46267	789	1.71	16013	592	3.69	2.70	-1.98
Total Sr.								
High	80021	2002	2.50	29399	29399	4.63	3.56	-2.13
All Age								
Groups	337386	17573	5.21	183688	183688	6.87	6.04	-1.66

4.2.3   Other Measures of Educational Progression

Educational progression is also described by a school life table. A life table is designed essentially to measure mortality, but it is employed in a variety of ways including, but not limited to, making projections of population size and characteristics. The life table is used to project the educational characteristics of the country. It determines the educational progression of the country by measuring its school life expectancy.

Table 4.7 is designed to measure the school life expectancy at enrollment by applying the age-specific drop-out for the population between February, 1983 and February, 1984 to a synthetic cohort of 100,000 students. Table 4.7 only constitutes the life table for the total population. The last right column of this table contains the school life expectancy at each age, and the uppermost figure in the last right column represents the expected amount of years a person must normally spend in school from the time of enrollment up to the time of completion, subject to the drop-out rates between 1983 and 1984. For the total population, the expected school life was about 19.17 years.

Also, column 4 of the table indicates that of the total of 100,000 students starting school together, about 57 percent would still be retained in any category of schooling at the age of 30 years and above. Life tables for urban and rural schools are found in Appendices 4L and 4M

respectively. The life expectancy for urban schools was 20.16 years while that of the rural schools was 18.18 years, indicating longer school life in the urban than the rural areas. This could be due to higher dropout or educational acceleration rates in the rural than the urban areas.

Table 4.7: Complete Life Table of the Total School Population by Application of Age-Specific Dropout Rates between 1983 and 1984 in Liberia

Period of School Life Between Exact Years	Proportion Dropout	Probability of Dropping Out	Number Attending at Beginning of Age Interval	Number Dropping Out in Age Interval	Person-Years of School	Total Person Years of School	Average Remaining of School Life Expected
(x - x+n)	nbx	nPx	(Ax)	ndx	nYx	Tx	(eº)
5-6 years	0.0452	0.0442	100,000	4418	97791	1916504	19.17
6-7 years	0.0414	0.0406	95,582	3877	93643	1818713	19.03
7-8 years	0.0350	0.0344	91,705	3153	90129	1725070	18.81
8-9 years	0.0335	0.0329	88,552	2913	87096	1634941	18.46
9-10 years	0.0283	0.0279	85,639	2391	84443	1547845	18.07
10-11 years	0.0219	0.0216	83,247	1802	82347	1463402	17.58
11-12 years	0.0125	0.0124	81,446	1011	80940	1381056	16.96
12-13 years	0.0179	0.0177	80,435	1424	79723	1300115	16.16
13-14 years	0.0135	0.0134	79,011	1057	78482	1220392	15.45
14-15 years	0.0128	0.0127	77,954	992	77458	1141910	14.65
15-16 years	0.0164	0.0162	76,962	1249	76337	1064452	13.83
16-17 years	0.0152	0.0150	75,713	1138	75143	988115	13.05
17-18 years	0.0129	0.0128	74,574	952	74098	912972	12.24
18-19 years	0.0219	0.0216	73,622	1593	72826	939974	11.39
19-20 years	0.0179	0.0178	72,029	1279	71390	766048	10.64
20-21 years	0.0268	0.0264	70,751	1871	69815	694658	9.82
21-22 years	0.0161	0.0160	68,880	1101	68329	624842	9.07
22-23 years	0.0194	0.0192	67,778	1299	67129	556513	8.21
23-24 years	0.0180	0.0178	66,479	1183	65888	489385	7.36
24-25 years	0.0192	0.0190	65,296	1239	64676	423497	6.49
25-26 years	0.0285	0.0281	64,057	1801	63157	358821	5.60
26-27 years	0.0191	0.0189	62,256	1179	61667	295664	4.75
27-28 years	0.0172	0.0170	61,077	1039	60558	233997	3.83
28-29 years	0.0254	0.0251	60,039	1508	59285	173439	2.89
29-30 years	0.0191	0.0189	58,531	1104	57979	114155	1.95
30+ years	0.0445	0.0436	57,426	2502	56176	56176	0.98

4.3 Educational Output of the Population

4.3.1 Literacy of the Population

Educational output, first and foremost, refers to the literacy of the population. "Literacy, according to the United Nations, is defined as the ability of a person to both read and write, with understanding, a short simple statement on his everyday life (Shryock et al, 1976: 182). A person who cannot meet this criterion is regarded as illiterate. Table 4.2 estimates the total literacy rate for the country for both sexes as 31.37 percent, with 41.96 percent for males and

20.15 percent for females. The corresponding illiteracy rates are therefore 68.63 percent for both sexes, 58.04 percent for males and 79.85 percent for females.

Male literacy rates were significantly higher than those of females at all ages, with the exception of ages 10 to 14years, where the difference is less than 6 percent. This could be due to the fact that the ages 10-14 years are active school ages, where drop-out rates are more uniformly distributed between boys and girls. The literacy rate at that age level represent children who have accelerated in primary or junior high schools up to the point of becoming capable of reading and writing simple communications with understanding.

Also, females of ages 70-74 were slightly higher than that of the two preceding age groups (60-64 and 55-59), which was not a normal picture of population distribution. There was also no clear reason for this. However, it was likely that most survivals in that age group were literate females who were informed about avoiding life-threatening situations that could have had deadly effects on that cohort of women.

Table 4.21: Literacy Rates of the Total Population by Age and Sex, Liberia 1984

Age	Both Sexes			Male			Female		
		Literate			Literate			Literate	
	Total	Number	Percent	Total	Number	Percent	Total	Number	Percent
Year									
10-14	242437	67215	27.72	129509	39401	30.42	112928	27815	24.63
15-19	230635	112971	48.97	112272	68582	61.09	118422	44389	37.48
20-24	193635	89153	46.04	90530	58833	64.99	103105	30320	29.41
25-29	167963	64107	38.17	80839	46724	57.80	87124	17383	19.95
30-34	122514	39588	32.31	59926	30914	51.59	62588	8674	13.86
35-39	107034	26497	24.76	57395	21052	36.68	55639	5445	9.79
40-44	79899	16720	20.93	41749	13934	33.38	38150	2786	7.30
45-49	68429	12385	18.10	36619	10374	28.33	31810	2011	6.32
50-54	55478	7593	13.69	26283	6244	21.32	26195	1349	5.15
55-59	38630	4914	12.72	21454	4122	19.21	17176	802	4.67
60-64	43405	3775	8.70	23978	3036	12.66	19427	739	3.80
65-69	30398	2355	7.75	16868	1907	11.31	13530	448	3.31
70-74	19199	1505	7.84	11361	1145	10.08	7838	360	4.59
75+	37520	2048	5.46	21859	1581	7.23	15661	467	2.98
Total	1437235	450826	31.37	733642	307849	41.96	709593	142988	20.15

4.3.2   Educational Attainment

4.3.2.1 Grade Attainment Rates

A further measure of the educational output is the educational attainment of the country. "Educational attainment, according to the United Nations, is the highest grade completed within the most advanced level attended in the educational system of the country where the education was received (United Nations, 1967: 45). For this purpose, a grade is defined as a stage of instruction usually covered in the course of a school year.

Appendix 4N shows that the overall grade attainment rate for males was 5.21 percent, while that of female was 1.86 percent of the total population. Results in this table differ from those in previous tables of educational retardation/acceleration. Grade attainment is a measure of educational output, and so it measures the final academic performance of the population, where age is of little or no importance. What is measured is the total academic achievement of any group of population, at the general school age. Here, males obtain more advanced grades or educational levels than females, even though their acceleration rates may be lower. Educational attainment is, however, measured not by the number of calendar years which a person has spent in school, but by the highest grade which he was able to complete. Hence, the grade attainment rates and educational attainment ratios are the cardinal measures of educational attainment in any country.

Also, the age-specific grade attainment rates as contained in Appendix 4N are defined as the ratio of persons at age "a" who complete exact grade "g", to all persons in age "a". This table measures the age-specific grade attainment rates for the total male and female populations in Liberia.

4.3.2.2 The Educational Attainment Ratios and Mean and Median Years of School Completed

Educational attainment is also measured by relating the population with some grade attainment to the population with no grade attainment. The result of this operation is the grade attainment ratio. Also important in measuring educational output is the mean and median years of school completed. The mean years of school completed may be defined as the arithmetic average of the years completed by all persons in a population. In contrast, the median is a positional measure showing at what educational level the middle person in a distribution is located.

Appendix 4O shows estimates of the educational attainment ratio of the population at each educational level, as well as the mean and median years of school completed in 1984. It is noted in the table that the mean years of school so far completed in the school age in Liberia during the years preceding the 1984 Census was 7.13 for males and 3.86 for females. This showed that males stayed longer in school than females. Added to the grade attainment analysis above, it was clear that males had greater academic achievement, but less educational progression than females in Liberia for the years preceding the 1984 Census. This meant that males may have been progressing at slower rates than females, yet they made greater educational advancements than females.

Appendix 4O also shows that the central value of the distribution of the number of school years completed by males (median years of school completed) was 0.34, compared to 0.14 for females. Even though males have greater median years of school completed, majority of the population, together, had less than 0.25 years or three months of school around 1984. This alarmingly showed gross educational deficiency of the country in 1984.

4.4   Other Socio-economic Factors Affecting Education

4.4.1   Employment Status and Educational Level

There is close positive relationship between the employment status and educational level of the population. Employment in the context of this analysis means the giving or procuring or contribution of needed services for financial and social benefits to the participant and the population. The categories of individuals regarded as employed include employers and paid employees of the labour force. The analysis excludes the self employed workers because this category usually has very little dependence on the educational qualification of the individual worker.

Employment rates for both males and females for the total as well as the urban and rural populations in 1984 are estimated in Tables 4.9, and Appendices 4P and 4Q. In Table 4.9, completion of primary level of schooling had the lowest employment rates for both males and females (45.16 percent for males and 15.12 percent for females). Employment rates for the population progressed with the level of education, with vocational education and college and post graduate levels having the highest rates for both males and females. This suggests that the more educated, the higher the employment rate.

This positive relationship is true for both the urban and rural populations. However, employment rates vary very significantly between the rural and urban populations. Appendix 4P estimated 71.50 percent and 28.96 percent employment rates for urban males and females, respectively, at the primary school level, while Appendix 4Q measures 26.52 percent and 7.54 percent for rural males and females, respectively, for the same level of education. This disparity is shown by the total urban employment rates of 81.92 percent and 69.56 percent for males and females, as compared to 42.55 percent and 20.81 percent, respectively, for the rural population. This could be due to the limitation of job opportunities in the rural areas for the period preceding the 1984 census.

4.2   Educational Attainment and Number of Children Born

It is normally believed that birth level of a woman has negative effects on her educational attainment. The birth level of a woman is measured by the number of children ever born to women in the population under study.   Child birth has a negative relationship with the level of education because pregnancies of young girls, especially before college, usually disrupt their continuous school enrollment, and, in some cases, put abrupt ends to their academic pursuit.

In a population such as that of Liberia in 1984, which reported very low educational achievements for females, it is useful to investigate all the possible contributing factors to the phenomenon. The analysis thus utilizes Tables 4.10, and Appendices 4R and 4S to determine whether or not childbearing had any effect on the poor educational achievements of women for the year ending in February, 1984.

Table 4.24: Gainful Employment of the Total Population by Educational Level and
Grade Completed, Liberia 1984

Educational Level & Grade Completed	M A L E			F E M A L E		
	Total	Employers & Paid Employees	Rate	Total	Employers & Paid Employees	Rate
Primary	28887	13045	45.16	7188	1087	15.12
1	1667	514	30.83	753	65	8.63
2	2788	988	35.44	1044	107	10.25
3	4175	1702	40.77	1272	166	13.05
4	5286	2357	44.59	1286	172	13.37
5	6245	2955	47.32	1309	206	15.74
6	8726	4529	51.90	1524	371	24.34
Junior High	26199	16386	62.54	3525	1494	42.38
7	7651	4293	56.11	1143	374	32.72
8	9385	5872	62.57	1207	531	43.99
9	9163	6221	67.89	1175	589	50.13
Senior High	38732	31665	81.75	7734	6245	80.75
10	6353	4547	71.57	932	542	58.15
11	4494	3373	75.06	693	482	69.55
12	27885	23596	84.62	6109	5221	85.46
Vocational (13)	4610	4096	88.85	1112	923	83.00
College	8507	7027	82.60	2172	1811	83.38
14	1868	1517	81.21	428	343	80.14
15	1886	1593	84.46	413	344	83.29
16	766	501	65.40	194	102	52.58
17	3987	3416	85.68	1137	1022	89.89
Post Graduate						
(18)	3513	2957	84.17	865	763	88.21
Total	209,260	140,193	66.99	42,350	22,197	52.41

According to Table 4.10, of all the children ever born to the total female population 10 to 45 years of age, women with primary education contributed only 1.44 percent, while women with vocational and college educations had 5.59 percent and 2.34 percent respectively. Appendices 4R and 4S reported trends for the urban and rural populations that were very similar to that of the total population. This suggests that low academic achievements of females for the years preceding the 1984 Census was not necessarily due to high rate of childbearing. Factors such as the lack of educational facilities, coupled with some cultural factors, may have been responsible for the low educational achievement of women.

4.3   Conclusion and Recommendations

4.3.1   Summary and Conclusion

The analysis has measured and established the levels of tree broad categories of the educational process – educational input, educational progression and educational output – for the educational characteristics of the 1984 population of Liberia. The analysis of educational characteristics of the population is very essential in accounting for demographic behaviors, because education is

one of society's most important characteristics for existence and function. Education influences a number of other major population variables as well. Such variables may include fertility, mortality, labor force, income, marriages, etc.

Table 4.10: Total Population of Educated Women 10 to 45 years of Age by Children Ever Born, Liberia 1984

Educational Level	Female Population	C H I L D R E N E V E R B O R N									
		1 - 2		3 - 4		5 - 6		7 - 8		9+	
		No.	%	No.	%	No.	%	No.	%	No.	%
Primary	98702	29343	29.73	7473	7.57	3490	3.54	1565	1.59	1419	1.44
Secondary	64088	24882	38.82	11591	18.09	5268	8.22	2377	3.71	2006	3.13
Vocational	2040	724	35.49	524	25.69	274	13.43	135	6.62	114	5.59
College & Above	6571	2789	42.44	1430	21.76	533	8.11	216	3.29	154	2.34
Total	171,401	57,738	33.69	21,018	12.26	9,565	5.58	4,293	2.50	3,693	2.15

The results derived from Liberia's 1984 population data by the application of measures under each category of the educational process describe in some minimum ways the level and extent of educational participation and how schooling impacted the population in 1984. It will serve as a foundation for the analysis of the country's subsequent educational data.

4.3.2   Recommendations

The true picture of the country's educational input, progression and output cannot be clearly revealed by the use of scanty population data. The data used for this analysis is from a census which was taken ten years away from the previous 1974 census. There had been no other sources of school data such as educational surveys and administrative registers to close the wide gap between the above two censuses.

When educational data are too far apart such as this, it is difficult to make projections and obtain results reliable for informed decisions. Therefore, it is recommended that the collection of statistics on the population include educational surveys, occurring at most two years apart during the inter-censal periods. The administrative records of schools should be compiled, preserved and used for research and analysis.

Moreover, enrollment statistics in Liberia do not follow a uniform trend that allows the detection of content or coverage errors. Some countries such as the United States with free and compulsory education follow the "no child left behind" policy, which allows a pupil to get promoted to grades according to his or her age. This means that a 15 year old is compelled to attend grade 10 regardless of his or her academic performance in grade nine. Data from such a system are easy to use for projection and estimating educational progression.

On the other hand, there are countries which, even though they encourage pupil's enrollment at the appropriate age, base their educational progression exclusively on academic performance. Data from this system may be used to establish some pattern which could be used to predict the educational progression and output of the country.

However, Liberia has a mixture of "no child left behind" (in some private schools) and what may be referred to as the "academic merit system," which makes it very difficult to use census data to project the educational characteristics of the country. Now, therefore, it is recommended that the educational system of Liberia be harmonized to lend itself to statistical efficiency.

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APPENDICES

Appendix 4A: Gross and Net Education Enrollment of the Total
       Population by age and Educational Level

School Age	Both Sexes	Enrollment Per Educational Level			
		Elementary	Junior High	Senior High	Higher Education/ College
5 - 11 Elementary	369543	85814	0	0	0
12 – 14 Junior High	135937	70651	7765	0	0
15 – 18 Senior High	200906	65770	29024	8543	864
19+ Higher Education	1056669	75733	76897	100875	32543
All Age Groups	1824237	297968	113686	109418	33407
Net Enrollment Ratio (NER) %	-	23.22	5.71	4.25	3.08
Gross Enrollment Ratio (GER)%		80.63	83.63	54.46	1.83

Note: The figures under both sexes also include the no educational level
       category.

Appendix 4B: Gross and Net Educational Enrollment of the Urban Male
       Population by age and Educational Level

School Age	Total Males	Enrollment Per Educational Level			
		Elementary	Junior High	Senior High	Higher Educ/ College
5 - 11 Elementary	66669	27852	0	0	0
12 – 14 Junior High	29213	21554	2868	0	0
15 – 18 Senior High	37577	16912	10994	2142	311
19+ Higher Educ.	280753	21403	31520	55524	19725
All Age Groups	363386	87721	45382	57666	20036
Net Enrollment Ratio (NER) %		41.78	9.82	5.70	7.03
Gross Enrollment Ratio (GER)%		131.58	155.35	153.46	5.51

Appendix 4C: Gross and Net Educational Enrollment of the Urban Female
Population by age and Educational Level

School Age	Total Females	Enrollment Per Educational Level			
		Elementary	Junior High	Senior High	Higher Educ/ College
5 - 11 Elementary	69746	24858	0	0	0
12 - 14 Junior High	28840	17427	2206	0	0
15 - 18 Senior High	43423	13837	7903	2771	258
19+ Higher Educ.	205080	14155	13960	22046	6926
All Age Groups	274342	70277	24069	24819	7184
Net Enrollment Ratio (NER) %		35.64	7.65	6.38	3.38
Gross Enrollment Ratio (GER)%		100.76	83.46	57.16	2.62

Appendix 4D: Gross and Net Educational Enrollment of the Total Urban
Population by age and Educational Level

School Age	Both Sexes	Enrollment Per Educational Level			
		Elementary	Junior High	Senior High	Higher Educ/ College
5 - 11 Elementary	136415	52710	0	0	0
12 – 14 Junior High	63127	44055	5074	0	0
15 – 18 Senior High	82597	7903	18897	2771	969
19+ Higher Educ.	590222	195409	45540	22048	26651
All Age Groups	771363	348899	69451	24819	27620
Net Enrollment Ratio (NER) %		38.64	8.04	3.35	4.52
Gross Enrollment Ratio (GER) %		255.76	110.02	30.05	3.58

Appendix 4E: Gross and Net Educational Enrollment of the Rural Male
Population by age and Educational Level

School Age	Total Males	Enrollment Per Educational Level			
		Elementary	Junior High	Senior High	Higher Educ/ College
5 - 11 Elementary	120296	19997	0	0	0
12 – 14 Junior High	41111	19938	1509	0	0
15 – 18 Senior High	78202	22037	6858	1412	205
19+ Higher Educ.	260121	28683	39244	19346	4546
All Age Groups	332077	90655	47611	20758	4751
Net Enrollment Ratio (NER) %		16.62	3.67	1.81	1.75
Gross Enrollment Ratio (GER)%		75.36	115.81	26.54	1.43

Appendix 4F: Gross and Net Educational Enrollment of the Rural Female
Population by age and Educational Level

School Age	Total Females	Enrollment Per Educational Level			
		Elementary	Junior High	Senior High	Higher Educ/ College
5 - 11 Elementary	120296	13104	0	0	0
12 - 14 Junior High	36490	11732	899	0	0
15 - 18 Senior High	95687	12990	3269	621	141
19+ Higher Educ.	338265	11492	6651	3867	1346
All Age Groups	404737	49318	10819	4488	1487
Net Enrollment Ratio (NER) %		10.89	2.46	0.65	0.40
Gross Enrollment Ratio (GER)%		41.00	29.65	4.69	0.37

Appendix 4G: Gross and Net Educational Enrollment of the Total Rural
Population by age and Educational Level

School Age	Both Sexes	Enrollment Per Educational Level			
		Elementary	Junior High	Senior High	Higher Educ/ College
5 - 11 Elementary	233125	33101	0	0	0
12 - 14 Junior High	77884	31670	2691	0	0
15 - 18 Senior High	117164	35027	10127	2033	490
19+ Higher Educ.	685523	40175	31417	23303	15598
All Age Groups	800692	139973	44235	25366	16088
Net Enrollment Ratio (NER) %		14.20	3.46	1.74	2.28
Gross Enrollment Ratio (GER)%		60.04	56.80	21.65	2.01

Appendix 4H: Scholastic Retardation Rates of the Urban Population by Age and Sex, Liberia 1984

AGE	SCHOLASTIC RETARDATION						Both Sexes	Excess Males Over Females
	MALE Number			FEMALE NUMBER				
	Enrolled	Lower Graders	Percent	Enrolled	Lower Graders	Percent	Percent	Percent
Under 7 years	17101	14820	86.66	15300	13111	85.69	86.18	0.97
7	14612	13140	89.93	12553	11303	90.04	89.98	(0.12)
8	14057	12922	91.93	11837	10928	92.32	92.12	(0.39)
9	13431	12638	94.10	10393	9713	93.46	93.78	0.64
10	13073	8764	67.04	9636	8879	92.14	79.59	(25.11)
11	15447	12609	81.63	10558	10084	95.51	88.57	(13.88)
Total Elementary	87721	74893	85.38	70277	64018	91.09	88.24	(5.72)
12	14028	13389	95.44	8364	7881	94.23	94.84	1.22
13	15125	14667	96.97	7799	7502	96.19	96.58	0.78
14	16229	15796	97.33	7906	7575	95.81	96.57	1.52
Total Jr. High	45382	43852	96.63	24069	22958	95.38	96.01	1.24
15	12832	12393	96.58	5923	5634	95.12	95.85	1.46
16	10209	9913	97.10	4694	4421	94.18	95.64	2.92
17 – 18	36222	35659	98.45	124202	13798	11.11	54.78	87.34
Total Sr. High	59263	57965	97.81	134819	23853	17.69	57.75	80.12
All Age Groups	192366	176710	91.86	229165	110829	48.36	70.11	43.50

Appendix 4I: Scholastic Retardation Rates of the Rural Population by Age and Sex, Liberia 1984

Age	MALE Number Enrolled	Lower Graders	Percent	FEMALE NUMBER Enrolled	Lower Graders	Percent	Both Sexes Percent	Excess Males Over Females Percent
Under 7 years	16905	15317	90.61	11337	10229	90.23	90.42	0.38
7	15273	14219	93.10	9425	8779	93.15	93.12	(0.05)
8	15318	14350	93.68	8699	8110	93.23	93.45	0.45
9	14798	14019	94.74	7693	7270	94.50	94.62	0.23
10	13478	12541	93.05	6204	4773	76.93	84.99	16.11
11	14877	14469	97.26	5963	5762	96.63	96.94	0.63
Total Elementary	90649	84915	93.67	49321	44923	91.08	92.38	2.59
12	11840	11317	95.58	4199	3966	94.45	95.02	1.13
13	11747	11444	97.42	3613	3469	96.01	96.72	1.41
14	10026	9747	97.22	2810	2689	95.69	96.46	1.52
Total Jr. High	33613	32508	96.71	10622	10124	95.31	96.01	1.40
15	6364	5173	81.29	1661	1563	94.10	87.69	(12.81)
16	4349	4165	95.77	1088	1000	91.91	93.84	3.86
17 - 18	10045	9819	97.75	1829	1749	95.63	96.69	2.12
Total Sr. High	20758	19157	92.29	4578	4312	94.19	93.24	(1.90)
All Age Groups	145020	136580	94.18	64521	59359	92.00	93.09	2.18

Appendix 4J: Scholastic Acceleration Rates of the Urban Population by Age and Sex, Liberia 1984

AGE	MALE NUMBER Enrolled	Normal Graders	Percent	FEMALE NUMBER Enrolled	Normal Graders	Percent	Both Sexes (Percent)	Excess Males Over Females (Percent)
Under 7 years	17101	2281	13.34	15300	2189	14.31	13.82	(0.97)
7	14612	1472	10.07	12553	1250	9.96	10.02	0.12
8	14057	1135	8.07	11837	909	7.68	7.88	0.39
9	13431	793	5.90	10393	680	6.54	6.22	(0.64)
10	13073	4309	32.96	9636	757	7.86	20.41	25.11
11	15447	2838	18.37	10558	474	4.49	11.43	13.88
Total Elementary	87721	12828	14.62	70277	6259	8.91	11.76	5.72
12	14028	639	4.56	8364	483	5.77	5.16	(1.22)
13	15125	458	3.03	7799	297	3.81	3.42	(0.78)
14	16229	433	2.67	7906	331	4.19	3.43	(1.52)
Total Jr. High	45382	1530	3.37	24069	1111	4.62	3.99	(1.24)
15	12832	430	3.35	5923	289	4.88	4.12	(1.53)
16	10209	296	2.90	4694	273	5.82	4.36	(2.92)
17 – 18	36222	1289	3.56	124202	110404	88.89	46.22	(85.33)
Total Sr. High	59263	2015	3.40	134819	110966	82.31	42.85	(78.91)
All Age Groups	192366	16373	8.51	229165	118336	51.64	30.07	(43.13)

Appendix 4K: Scholastic Acceleration Rates of the Rural Population by Age and Sex, Liberia 1984

	Scholastic Acceleration							
	M A L E			F E M A L E			Both Sexes	Excess Male Over Female
	N U M B E R			N U M B E R				
Age	Enrolled	Normal Graders	Percent	Enrolled	Normal Graders	Percent	(Percent)	(Percent)
Under 7 years	16905	1588	9.39	11337	1108	9.77	9.58	(0.38)
7	15273	1054	6.90	9425	646	6.85	6.88	0.05
8	15318	968	6.32	8699	589	6.77	6.55	(0.45)
9	14798	779	5.26	7693	423	5.50	5.38	(0.23)
10	13478	937	6.95	6204	1431	23.07	15.01	(16.11)
11	14877	408	2.74	5963	201	3.37	3.06	(0.63)
Total Elementary	90649	5734	6.33	49321	4398	8.92	7.62	(2.59)
12	11840	523	4.42	4199	233	5.55	4.98	(1.13)
13	11747	303	2.58	3613	144	3.99	3.28	(1.41)
14	10026	279	2.78	2810	121	4.31	3.54	(1.51)
Total Jr. High	33613	1105	3.29	10622	498	4.69	3.99	(1.40)
15	6364	1191	18.71	1661	98	5.90	12.31	12.81
16	4349	184	4.23	1088	88	8.09	6.16	(3.86)
17 – 18	10045	226	2.25	1829	80	4.37	3.31	(2.12)
Total Sr. High	20758	1601	7.71	4578	266	5.81	6.76	1.90
All Age Groups	145020	8440	5.82	64521	5162	8.00	6.91	(2.18)

Appendix 4L: Complete Life Table of the Urban School Population by Application of Age-Specific Dropout Rates Between 1983 and 1984 in Liberia

Period of School Life Between Exact Years	Proportion Dropout	Probability Of Dropping Out	Number Attending At Beginning Of Age Interval	Number Dropping Out in Age Interval	Total Person-Years of School	Average Remaining of School Life Expected
(X-X+n)	nbx	nPx	(Ax)	ndx	Tx	e0
5 - 6 years	0.04519	0.0442	100000	4419	2015521	20.16
6 - 7 years	0.03830	0.0376	95581	3592	1917731	20.06
7 - 8 years	0.03360	0.0330	91989	3040	1823946	19.83
8 - 9 years	0.02928	0.0289	88949	2567	1733477	19.49
9 - 10 years	0.02465	0.0243	86382	2103	1645811	19.05
10 -11 years	0.02114	0.0209	84279	1763	1560481	18.52
11 - 12 years	0.01000	0.0100	82516	821	1477083	17.90
12 - 13 years	0.01321	0.0131	81695	1072	1394978	17.08
13 - 14 years	0.01008	0.0100	80623	809	1313819	16.30
14 - 15 years	0.00972	0.0097	79814	772	1233601	15.46
15 - 16 years	0.01344	0.0134	79042	1055	1154173	14.60
16 - 17 years	0.01266	0.0126	77987	981	1075658	13.79
17 - 18 years	0.01298	0.0129	77006	993	998162	12.96
18 - 19 years	0.02192	0.0217	76013	1648	921653	12.12
19 - 20 years	0.01988	0.0197	74364	1464	846464	11.38
20 - 21 years	0.03052	0.0301	72901	2191	772832	10.60
21 - 22 years	0.02054	0.0203	70709	1438	701027	9.91
22 - 23 years	0.02652	0.0262	69272	1813	631036	9.11
23 - 24 years	0.02554	0.0252	67459	1701	562671	8.34
24 - 25 years	0.02731	0.0269	65757	1772	496063	7.54
25 - 26 years	0.03732	0.0366	63986	2344	431192	6.74
26 - 27 years	0.02742	0.0270	61642	1667	368378	5.98
27 - 28 years	0.02615	0.0258	59974	1548	307570	5.13
28 - 29 years	0.03495	0.0343	58426	2007	248370	4.25
29 - 30 years	0.02668	0.0263	56419	1485	190947	3.38
30+ years	0.40581	0.3374	54934	54934	135271	2.46

Appendix 4M: Complete Life Table of the Rural School Population by Application of Age- Specific Dropout Rates Between 1983 and 1984 in Liberia

Period of School Life Between Exact Years	Proportion Dropout	Probability Of Dropping Out	Number Attending At Beginning Of Age Interval	Person- Years of School	Total Person- Years of School	Average Remaining of School Life Expected
(x – x+n)	nbx	nPx	Ax	nYx	Tx	E$_o$
5 - 6 years	0.04517	0.0442	100000	97791	2007524	18.18
6 - 7 years	0.04294	0.0420	95583	93574	1909733	18.00
7 - 8 years	0.03360	0.0330	91565	90052	1816159	17.85
8 - 9 years	0.02928	0.0289	88539	87261	1726107	17.52
9 - 10 years	0.02465	0.0243	85984	84937	1638846	17.08
10 - 11 years	0.02114	0.0209	83890	83013	1553909	16.54
11 - 12 years	0.01000	0.0100	82135	81727	1470896	15.93
12 - 13 years	0.01321	0.0131	81318	80785	1389169	15.11
13 - 14 years	0.01008	0.0100	80251	79848	1308385	14.32
14 - 15 years	0.00972	0.0097	79446	79062	1228536	13.48
15 - 16 years	0.01344	0.0134	78678	78152	1149474	12.63
16 - 17 years	0.01266	0.0126	77627	77139	1071322	11.90
17 - 18 years	0.01298	0.0129	76651	76156	994183	11.07
18 - 19 years	0.02192	0.0217	75662	74842	918027	10.23
19 - 20 years	0.01988	0.0197	74022	73293	843185	9.59
20 - 21 years	0.03052	0.0301	72565	71474	769892	9.41
21 - 22 years	0.02054	0.0203	70383	69668	698418	9.12
22 - 23 years	0.02652	0.0262	68952	68050	628750	8.32
23 - 24 years	0.02554	0.0252	67147	66301	560700	7.55
24 - 25 years	0.02731	0.0269	65454	64572	494400	6.85
25 - 26 years	0.03732	0.0366	63691	62524	429827	6.75
26 - 27 years	0.02742	0.0270	61357	60527	367303	5.99
27 - 28 years	0.02615	0.0258	59698	58927	306776	5.14
28 - 29 years	0.03495	0.0343	58157	57158	247849	4.26
29 - 30 years	0.02668	0.0263	56159	55420	190691	3.40
30+ years	0.40581	0.3374	54680	134744	135271	2.47

Appendix 4N: Grade Attainment Rates of the Total Population by Age, Sex and Educational Level

Age & Sex	Total Popn.	None	Primary						Secondary					
			1	2	3	4	5	6	1	2	3	4	5	6
Male														
5 years +	887602	376750	34006	29885	29375	28229	26551	30324	25868	26872	28255	19196	14558	46257
5 - 24	492271	269348	32685	27402	25385	22829	20080	20777	17152	15699	14719	10593	7782	11192
25+	395331	250504	1321	2483	3990	5400	6471	9547	8716	11173	11539	8603	6776	35075
Rates %														
5 years +	100.00	42.45	3.83	3.37	3.31	3.18	2.99	3.42	2.91	3.03	3.18	2.16	1.64	5.21
5 - 24	100.00	52.89	6.64	5.57	5.16	4.64	4.08	4.22	3.48	3.19	2.99	2.15	1.58	2.27
25+	100.00	63.37	0.33	0.63	1.01	1.37	1.64	2.41	2.20	2.83	2.92	2.18	1.71	8.87
Female														
5 years +	863405	668024	26637	21978	28536	18088	15840	16521	12563	11412	10716	7584	5782	16031
5 - 24	488270	335432	25850	20683	18836	16139	13507	13272 787	10015	8465	7697	5315	3923	6109
25+	375138	332529	1295	1701	1947	2333	3349		2548	2947	3019	2269	1858	9922
Rates %														
5 years +														
5 - 24	100.00	77.37	30.9	2.55	3.31	2.09	1.83	1.91	1.46	1.32	1.24	0.88	0.67	1.86
25+	100.00	68.70	5.29	4.24	3.86	3.31	2.77	2.72	2.05	1.73	1.58	1.09	0.80	1.25
	100.00	88.66	0.21	0.35	0.45	0.52	0.62	0.89	0.68	0.79	0.80	0.60	0.50	2.64

Appendix 4O: Educational Attainment Ratios of the Total Population by Age and Sex

Age & Sex	School Age Pop.	None	Primary	Secondary	College/ Vocational	Median yrs of school Completed	Mean yrs of School Completed
Male							
5 years +	862376	519852	178370	159016	14138	0.34	7.13
5 – 24	490223	260348	149158	77134	3583	0.44	6.80
25+	372253	250504	29212	81882	10655	0.24	9.00
Female							
5 years +	856860	668024	119598	64088	5150	0.14	3.86
5 – 24	537237	335432	158286	41525	1994	0.30	5.45
25+	369617	332592	11306	22563	3156	0.06	2.75
Ratio (% Male							
5 years +	x	100.00	34.92	31.13	2.77	x	x
5 – 24	x	100.00	57.29	29.63	1.38	x	x
25+	x	100.00	11.66	32.69	4.25	x	x
Female							
5 years +	x	100.00	17.90	9.59	0.77	x	x
5 – 24	x	100.00	47.19	12.38	0.59	x	x
25+	x	100.00	3.40	6.76	0.95	x	x

Appendix 4P: Gainful Employment of the Urban Population by Educational Level and
Grade Completed, Liberia 1984

Educational Level & Grade Completed	M A L E			F E M A L E		
	Total	Employers And Paid Employees	Rate	Total	Employers And Paid Employees	Rate
Primary	11967	8557	71.50	2545	737	28.96
1	466	297	63.73	147	32	21.77
2	893	593	66.41	254	71	27.95
3	1509	1039	68.85	401	110	27.43
4	2109	1515	71.83	436	117	26.83
5	2754	1985	72.08	536	140	26.12
6	4236	3128	73.84	771	267	34.63
Junior High	14907	11822	79.31	2199	1182	53.75
7	3920	3019	77.02	633	284	44.87
8	5230	4160	79.54	735	410	55.78
9	5757	4643	80.65	831	488	58.72
Senior High	29480	25429	86.26	6699	5636	84.13
10	4279	3495	81.68	698	460	65.90
11	3164	2612	82.55	522	411	78.74
12	22037	19322	87.68	5479	4765	86.97
Vocational (13)	3388	3094	91.32	895	795	88.83
College	7151	6056	84.69	1829	1608	87.92
14	1516	1294	85.36	354	305	86.16
15	1562	1344	86.04	357	314	87.96
16	611	431	70.54	130	93	71.54
17	3462	2987	86.28	988	896	90.69
Post Graduate (18)	2931	2496	85.16	731	662	90.56
Total	130398	106822	81.92	27439	19121	69.69

Appendix 4Q: Gainful Employment of the Rural Population by Educational Level and
Grade Completed, Liberia 1984

Educational Level & Grade Completed	M A L E			F E M A L E		
	Total	Employers & Paid Employees	Rate	Total	Employers & Paid Employees	Rate
Primary	16920	4488	26.52	4643	350	7.54
1	1201	217	18.07	606	33	5.45
2	1895	395	20.84	790	36	4.56
3	2666	663	24.87	871	56	6.43
4	3177	842	26.50	850	55	6.47
5	3400	970	28.53	773	66	8.54
6	4490	1401	31.20	753	104	13.81
Junior High	11292	4564	40.42	1326	312	23.53
7	3731	1274	34.15	510	90	17.65
8	4155	1712	41.20	472	121	25.64
9	3406	1578	46.33	344	101	29.36
Senior High	9252	6238	67.42	1035	609	58.84
10	2074	1052	50.72	234	82	35.04
11	1330	761	57.22	171	75	43.86
12	5848	4423	75.63	630	456	72.38
Vocational (13)	1222	1000	81.83	217	128	58.99
College	1356	971	71.61	343	203	59.18
14	352	223	63.35	74	38	51.35
15	324	249	76.85	56	30	53.57
16	155	70	45.16	56	30	53.57
17	525	429	81.71	149	126	84.56
Post Graduate (18)	588	461	78.40	134	101	75.37
Total	78771	33520	42.55	14903	3101	20.81

Appendix 4R: Educated Women of the Urban Population 10 to 45 years of Age by Children Ever Born, Liberia 1984

Educational Level	Female Population	CHILDREN EVER BORN									
		1 - 2		3 - 4		5 - 6		7 - 8		9+	
		No.	%	No.	%	No.	%	No.	%	No.	%
Primary	56389	15044	26.68	4298	7.62	2042	3.62	930	1.65	820	1.45
Secondary	48888	19038	38.94	9203	18.82	4187	8.56	1832	3.75	1488	3.04
Vocational	1661	612	36.85	430	25.89	212	12.76	105	6.32	84	5.06
College & Above	5523	2333	42.24	1212	21.94	455	8.24	183	3.31	120	2.17
Total	112,461	37,027	32.92	15,143	13.47	6,896	6.13	3,050	2.71	2,512	2.23

Appendix 4S: Educated Women of the Rural Population 10 to 45 years of Age by Children Ever Born, Liberia 1984

Educational Level	Female Population	CHILDREN EVER BORN									
		1 - 2		3 - 4		5 - 6		7 - 8		9+	
		No.	%	No.	%	No.	%	No.	%	No.	%
Primary	42313	14298	33.79	3175	7.50	1448	3.42	635	1.50	599	1.42
Secondary	15200	5844	38.45	2388	15.71	1081	7.11	545	3.59	518	3.41
Vocational	379	112	29.55	94	24.80	62	16.36	30	7.92	30	7.92
College & Above	1048	456	43.51	218	20.80	78	7.44	33	3.15	34	3.24
Total	58,940	20,710	35.14	5,875	9.97	2,669	4.53	1,243	2.11	1,181	2.00

CHAPTER 5: HOUSEHOLD AND HOUSING

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CHAPTER 5: HOUSEHOLD AND HOUSING

Ibrahim M. Sesay and Larry P. Younquoi

5.0. Background

5.0.1. Introduction: Concepts of Household and Housing

The family is usually considered as the basic unit of society. It comprises the mother, father and children. But in Africa, a family may include, in addition, sociological children and relatives. In demography, however, the concept of family is replaced with that of household which includes the nuclear family and relatives as well as persons who are not necessarily related. The concept of household is very crucial in ascertaining the welfare of a population. Defined as a group of people that constitute a social unit, dwelling under the same roof and composed of a family (Webster, 1991), a household seeks the general welfare of its members by providing physical as well as social protection for its constituents. For the 1984 Population and Housing Census of Liberia, a household comprised those who constantly shared basic necessities of life such as food and dwelling.

It is meaningless to speak of household without referring to housing, which is defined as shelter, lodging and dwelling provided for people. The type and number of housing is important in determining the welfare level of a group of people. For instance, when the quantity of housing is less than the population, it deprives some people from being housed. As such, they are exposed to the vagaries of the weather and hazardous creatures.

5.0.2. Importance of Data on Households and Housing

Data on households are important for the national economy because they reveal the potential demand for items which are consumed on the basis of one per household and the demand for housing means additional demand for shelter provision (Shryock et al, 1976: 174). Since most of the population is often found in households, the concentration of demographic phenomena at the household level makes it imperative for studies of household composition and structure to be given prominence in all data analysis. The results of such analysis can be considered the building blocks for social equity development planning.

The most basic social needs of mankind are often food, clothing and shelter. According to Sesay (1992:1), "the objective of housing provision has a direct relevance to development …" and "the considerable importance of housing, … contrasts sharply with the policies of governments in developing countries". The high capital input requirements of the housing sector and the competition it receives from other equally important sectors of the economy usually leaves the former orphaned in the prioritization schemes in most countries despite the fact that all social and economic undertakings occur in the housing environment.

The aspirations of a people and level of their well-being are reflected in the housing environment. When people become better educated and more civilized, they strive for better housing conditions. The more conducive the housing situation, the better the health status and

propensity to produce that a nation would be. Adequate quality housing, therefore, receives more than proportionate returns on investment indirectly through its contribution to facilitation of growth processes that are observed in other sectors of the economy dependent on it.

All nations experience a housing supply shortage. Therefore, homelessness is a universal phenomenon. But the continuous paltry allocation of resources to the sector in less developed nations and the lack of adequate information about the housing sector compound the housing deficit situation. However, realizing the enormity of the problem, the United Nations in the 1980 round of censuses encouraged member states to include a housing module in the census questionnaires.

Government of Liberia followed this up with the 1984 Population and Housing Census. It is pathetic that as a consequence of the nation's recent history, it was impossible to analyze the census results at the time. Hence, this analysis of the housing data from the 1984 census is expected to serve the following purposes:

(a)   Benchmark the household and housing situation in Liberia in the mid-eighties by bridging a yawning data gap in making public some basic information, and

(b)   Provide a meaningful basis for trend analysis of the 2008 National Population and Housing Census data which household and housing policy makers can use to respond to post-war development challenges in the sector.

5.0.3. Nature, Scope and Limitations of Data

The data come from the housing module in the 1984 Population and Housing Census. The two questions posed to the respondents were on the structure and type of household. Thus, current standard queries on housing tenure, facilities and amenities in the housing units, access to community level infrastructure like hospitals, water supply, schools, etc., and dominant construction materials, and sources of fuel and energy were not asked.

The scope of the analysis was limited because the raw data were never available. The retrieved data were in tabular form and it was not possible for further crosstabs to be generated from the variables. The analysis was done bearing in mind that the data were 24 years old and therefore very basic indicators were derived as parameters that could be used in time series analysis of the 2008 census results.

Data quality also posed some limitations to the study. There were some inconsistencies in the tables that rendered the analysis difficult. For example, in Table 11 of the retrieved data, the number of households was 338,953 but the numbers of economically active and inactive heads of household (286,937 and 52,015 respectively) was short of that total by one head of household. However, when the subcomponents of population of these heads were considered by gender, the result supported the fact that the error was from the total count as tallied.

As can be demonstrated further, the total population was 2,101,628. The population enumerated in "private households" was 2,094,252 and those in "group quarters" was 7,761. Here, the subcomponents added up to 2,102,013. This returned an excess of 385 persons that could not be accounted for elsewhere in the data.

In another section of the retrieved data (Table 16), the household heads were tabulated by urban and rural residence. For the urban data, there were no wives in the male headed households but wives existed in female headed households. Thus, the conclusion was that the sex of the heads was interchanged at the tabulation stage.

Given these inconsistencies, the analysis would at best be mere pointers that were indicative of underlying phenomena that could not have been adequately unraveled due to the limitations of data. However, the data were adjudged not to be so bad as to abandon the exercise. Policy makers, researchers and other interested parties are advised to treat the findings and conclusions within the framework of the data handicaps.

5.0.4. Method of Analysis

The method of analysis employed the use of simple percentages, rates and ratios. The analysis was done at three levels of geography; namely, national, urban and rural. Due regard was given to gender disparities in household headship, labour force participation and other allied socio-economic attributes that facilitated the elucidation of the subject matter. The main subthemes investigated with the purpose of providing a clear understanding of the household characteristics and housing situation in Liberia concerned the analysis of the household demographic characteristics, socio-economic attributes and housing situation.

5.1. Household Demographic Characteristics

5.1.1. Population in Households

The questionnaire used in the 1984 census separated the households into two – "private households" and "group quarters". The term "private household" was applied to normal households as are generally understood in censuses in sub-Saharan Africa. "Group quarters" referred to so-called institutional populations like boarding schools, military camps, boarding houses, hotels or hostels, persons living in 'bush societies', hospitals and other medical establishments, and prisons. They also included persons with no fixed addresses and Liberian officials working abroad. Shryock et al (1976) justified the distinction between households and group quarters by asserting that although the concept of the 'normal' population of an area may be a bit chimerical, it is true that the presence of a relatively large 'nonnormal' population will distort the demographic composition and vital rates so as to obscure comparisons with other areas not containing such a population.

There were 2,094,252 persons enumerated in 338,953 households across Liberia in 1984 (Appendix 5A). The distribution of households had a mean size of 6.18 and a mode of three person households. The corresponding means for urban and rural areas were 5.82 and 6.40 respectively (an excess of over half a person per household in the rural areas) and the modes were one and four person households respectively. However, in terms of the population in the households, the rural area median population recorded was eight; one person more for this statistic than for the nation or urban areas in 1984.

About a tenth of the households were single person households (the vast majority of which were in the urban centres) and they accounted for less than two percent of the population in households. Apart from these, 51.58 percent of the households had between two and six persons, and they together held 34.36 percent of the population. At the other extreme, households of ten persons and over were 19.1 percent of all households but the proportion of the population that they contained was 40.89 percent (Appendix 5A).

When this information was aggregated, it was seen in Table 5.1 that at the national level, small size (2-4 persons) and large size households (8 or more persons) were the most common household sizes in Liberia; each accounted for over 30 percent of the amount of households (Table 5.1). Medium size households with 26.94 percent of households were also important in the distribution. In terms of household population, large size households were found to be housing the majority of the household population, followed by medium size households (5-7 persons).

Table 5.1: Distribution of Households by Size and Population, 1984

SIZE OF HOUSEHOLD	HOUSEHOLDS		POPULATION	
	NUMBER	PERCENT	NUMBER	PERCENT
1 PERSON	33,473	9.87	33,473	1.60
2-4 PERSONS	109,911	32.43	330,709	15.79
5-7 PERSONS	91,310	26.94	539,993	25.78
8+ PERSONS	104,259	30.76	1,190,077	56.83
TOTAL	338,953	100.00	2,094,252	100.00

5.1.2   Population in Group Quarters

In the 1984 census, 7,761 persons were captured living in group quarters (Table 5.2). This represented 0.37 percent of the national population. There were 5,555 females (71.58 percent) and 2,206 (28.42 percent) males in such living arrangements. The vast majority of the females in the group quarters (4,762 or 61.36 percent of all persons in group quarters) resided in so-called bush societies. The high percentage of these respondents can be attributed to the timing of the census (February 1984), which coincided with the time of the year when initiations into the secret societies were on.

A further 14 percent of persons in group living quarters were accounted for by boarding schools. Most of these were missionary operated institutions in the country. Although the data showed a male majority in boarding schools, the biggest difference in the proportions of the sexes in these quarters was with respect to persons who were living in prisons. The vast male majority signaled that more of the criminals in society were males (Table 5.2).

There were some noticeable disparities between rural and urban areas in terms of occupancy of group quarters. The most popular quarter in the urban areas was "persons with no fixed abode" who accounted for 36.39 percent of all residents in group quarters, followed by "boarding schools" with 18.18 percent (Appendix 5G). ("Persons with no fixed abode" were actually homeless people who slept under bridges, on market stalls, in the open air, abandoned and

dilapidated structures and derelict vehicles, etc. Their situation was a worrisome night sore in the cities and towns.) On the other hand, the modal frequency of persons in group quarters in the rural areas was the "bush society" which accounted for 78.67 percent, followed by prisons with 20.37 percent.

Table 5.2: Population in Group Quarters by Type of Quarters and Sex – 1984

TYPE OF GROUP QUARTERS	BOTH SEXES		MALE		FEMALE	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
BOARDING SCHOOL	1074	13.84	641	29.06	433	7.79
MILITARY CAMP	46	0.59	32	1.45	14	0.25
BOARDING HOUSE, HOTEL OR HOSTEL	132	1.7	117	5.3	15	0.27
PERSONS WITH NO FIXED ADDRESS	33	0.43	32	1.45	1	0.02
BUSY SOCIETY	4987	64.26	225	10.2	4762	65.72
HOSPITAL	329	4.24	175	7.93	154	2.77
OTHER MEDICAL INSTITUTIONS	220	2.83	129	5.85	91	1.64
PRISONS	535	6.89	509	23.07	26	0.47
LIBERIAN OFFICIALS WORKING ABROAD	11	0.16	4	0.18	7	0.13
GROUP QUARTER, N.E.C	394	3.08	342	15.5	52	0.94
T O T A L	7761	100	2206	100	5555	100

5.1.3 Household Headship

The concept of head of household describes the person collectively regarded as the head by a set of respondents. The questions in the household schedule section of a questionnaire in both censuses and surveys are normally posed to the head who would answer on behalf of the entire household. When the head is absent, survey and census procedures are known to allow for another senior member present at enumeration to answer. Most times the head of household is the bread winner for the group but sometimes the eldest member may be designated as the head of the household.

According to Table 5.3, a total of 338,952 heads of households were counted in the census. About half of the heads were between 25 and 44 years of age. The distribution showed that only about 1.5 percent of household heads were aged 10-19 years. This indicated a normal situation where persons below 20 years of age were mainly dependants and, therefore, could not stay on their own and form households. However, a small but significant proportion of the population was adolescent heads of households (6.50 percent).

Household headship was found to be higher in rural than urban areas as indicated by their respective percentages of 59.06 and 40-94 percent. The likely explanation for this was that over population and other urban pressures such as the availability of housing forced urban dwellers to postpone household formation and their assumption of headship, preferring instead to live within the arrangements of existing households.

Table 5.3: Distribution of Household Heads by Age and Urban-Rural Residence – 1984

	TOTAL		URBAN		RURAL	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
10-14 YEARS	1	0.00	0	0.00	1	0.00
15-19 YEARS	4947	1.46	2622	1.89	2325	1.16
20-24 YEARS	22028	6.50	13709	9.88	8319	4.16
25-29 YEARS	43705	12.89	26599	19.17	17106	8.55
30-34 YEARS	42953	12.67	24030	17.32	18923	9.45
35-39 YEARS	42049	12.41	20021	14.43	22028	11.00
40-44 YEARS	36577	10.79	15370	11.08	21207	10.59
45-49 YEARS	33480	9.88	12037	8.67	21443	10.71
50-54 YEARS	27473	8.11	7995	5.76	19478	9.73
55-59 YEARS	20665	6.10	5404	3.89	15261	7.62
60- 64 YEARS	21877	6.45	4362	3.14	17515	8.75
65- 69 YEARS	15485	4.57	2974	2.14	12511	6.25
70- 74 YEARS	9724	2.87	1526	1.10	8198	4.10
75 YEARS AND ABOVE	17988	5.31	2116	1.52	15872	7.93
TOTAL	338952	100.00	138765	100.00	200187	100.00

5.1.4   Trends in the Numbers and Sizes of Households

As stated earlier in Section 5.0.2, trends in the numbers and sizes of households are important determinants of demand for shelter and other items that are consumed at the household level. The analysis hereunder examined the behavior of the numbers of households as against the population in them in a trend analysis in Table 5.4.

The number of households rose from 263,333 in 1974 to 338,953 in 1984, an increase of 129 percent. This represented an upward trend as the 1962-1974 inter-censal increase was 113. In like manner, comparison of the corresponding population figures gave an increase of 141 percent but this indicated that the population trend showed a lower growth momemtum in the 1974-1984 inter-censal interval than that exhibited in the previous inter-censal period (151 percent).

Considering the percentage changes in population and households in 1984, the former exceeded the latter. Even when a trend view was taken, the increase in households since 1962 was 146 percent but the corresponding rise in population was 213 percent. This was expected as the rate of increase in household formation will always fall below that of population increase in a period when the birth rate was high (or rising) in Liberia.

5.2   Some Socio-economic Characteristics of Households

5.2.1   Relationship to the Head of Household

The relationship of members of the household to the head is often an important aspect of census taking that it is one of the first questions to be put to the respondents. Since households are the basic social units of the wider society and they comprise families and unrelated persons, understanding the relationship to the head is vital to our understanding of social relations.

Table 4: Household Sizes by Numbers of Households and Population - 1984

HOUSEHOLD SIZE	1962		1974		1984	
	Number of Households	Population	Number of Households	Population	Number of Households	Population
1	12.8	3.1	10.81	1.92	9.87	1.60
2 – 4	51.7	34.9	37.00	19.56	32.43	15.79
5 – 7	25.2	34.4	26.63	27.73	26.94	25.78
8+	10.3	27.6	25.56	50.79	30.76	56.83
TOTAL	232,522	982,290	263,333	1,484,682	338,953	2,094,252
% CHANGE	_	_	113.25	151.14	128.72	141.06

The basic data in Table 5.5 revealed that children accounted for the highest occurring relationship to heads of households in 1984. At the national level, the children of the head accounted for 41.50 percent of the relationship to the head while in the rural and urban areas it accounted for 40.27 and 42.29 percent respectively. These proportions are unmatched by other relationships, meaning that there is a need to pay a special attention to the kind of services that need to be provided for children or their well-being and future growth and progress. The category of "other relatives" accounted for 16.86, 18.17 and 16.03 percent of the relationships at the national, rural and urban levels respectively.

Table 5.5: Relationship to Head of Household by Urban-Rural Residence – Liberia, 1984

RELATIONSHIP	TOTAL		URBAN		RURAL	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Head	338952	16.13	138765	17.00	2001871	15.57
Wife	223077	10.61	83279	10.20	139798	10.87
Child	872135	41.50	328542	40.27	543593	42.29
Other wife	44389	2.11	10349	1.29	34040	2.65
Parent	19654	0.94	4607	0.56	15047	1.17
Other relative	354370	16.86	148301	18.17	206069	16.03
Ward	9145	0.44	5680	0.70	3465	0.27
Servant	30884	1.47	11831	1.45	19053	1.48
Other Non-relative	212022	10.09	84770	10.39	124252	9.67
TOTAL	2,101,628	100.00	816,124	100.00	1,285,504	100.00

It was also interesting to note the high proportion of the head in the relationship; especially in the urban area with 17.00 percent, and 16.13 percent and 15.57 percent at the national and rural levels respectively (Table 5.5). Of specific interest was the low presence of parents in the various households across the country as was indicated by their low percentage of less than a percent in the data. This pointed to the fact that as children became adults, they moved out of parental care to live independently and form their own households.

There was relatively a high proportion of "other non-relatives" in Liberian households. About one-tenth of the relationships to the head fell into this group of persons. The high presence of "non-relatives" in households was not unique to Liberia. It was considered an African trait that people consider themselves as members of an extended family so long as they hailed from the

same region, county, district, clan, town or village. Living together with such unrelated persons was, therefore, a normal part of African communalism.

The number of wards and servants was very small (less than a percent) in the population. This was probably because those who normally fall into this category in western cultures got absorbed as "other relatives" in the census (Table 5.5).

5.2.2   Sex Differentials in Household Headship

Detailed sex differentials in household headship were not investigated because the data were found to be defective. It appeared that the tabulation interchanged the places of male and female heads of households. Appendices 5B and 5C amply illustrated this fact since there were no wives and other wives in male headed households but wives were found in female headed households. Our knowledge of Liberia was that lesbianism was not reported in the 1984 census, and even if it was, the overwhelming extent of the incidence of this phenomenon in the data called for caution and made the data suspect. After transposing the sexes, the data looked like Table 5.6.

Table 5.6: Rural-Urban Distribution of Household Heads by Sex – Liberia, 1984

RESIDENCE	TOTAL	PERCENT	MALE HEADED	PERCENT	FEMALE HEADED	PERCENT
RURAL	200,187	52.57	168,607	59.43	31,580	57.15
URBAN	138,765	40.94	115,085	40.57	23,680	42.85
TOTAL	338,952	100.00	283,692	100.00	55,260	100.00

Analysis on the original data showed that females accounted for majority of the headship in the urban area (82.94 percent) as opposed to 17.06 for their male counterparts. In the rural areas, the incidence of headship among females and males was nearly even as indicated by their respective percentages of 49.72 and 50.28 percent.

In the event that data were accurate, the huge disparity in headship between females and males in the urban area was worth noting. Though there was no concrete explanation for this, one was tempted to infer that it could be due to the high level of social consciousness in the urban area. For instance, due to the high level of consciousness and independence in the urban areas, it was likely that women whose husbands might have died or separated from them would settle for their own households instead of joining others in a household or remarrying.

On the other hand, the relatively high female headship in the rural area could be explained by the departure of their male counterparts for employment elsewhere. This was buttressed by findings on a study in rural Liberia (Dorjan, 1971) which observed that there was often massive outflow of able bodied males towards labor markets in the 1960s, thereby affecting household headship formation in favor of female headship. A similar trend was observed in rural Botswana (Kossouji and Muella, 1983) when female headship experienced a surge due to the departure of males to South Africa for jobs, leaving 40 percent of rural households with females as heads.

The occurrence of relationship to the head within the households headed by males and females was also analyzed to see whether there were any significant differences between the two. Like in the case of relationship to the overall headship discussed above, the "child" dominated the relationship to female headship at all levels. For instance, at the national; urban and rural levels, children accounted for 40 to 45 percent, followed by "head" which accounted for at least 26 percent. As in the discussion when both sexes were combined, "other relatives" and "other non-relatives" constituted significant proportions of the relationship to the head. Other relatives accounted for 16.40 percent in female headed household nationwide and this worked out as 25.24 and 18.16 percent in the urban and rural areas respectively. Servants and wards accounted for less than two percent on the average.

In male headed households, the relationship of child was also prominent with at about 40 percent of all relationships. This was followed by that of "wife", 21 percent and "other relative" with 17.33 percent nationwide. The rest of the relationships followed the order of the patter observed for both sexes combined.

5.2.3   Labour Force Characteristics of Heads of Households

The discussion of labour force characteristics of heads of households received quite an exhaustive treatment in Part 6 of this monograph. The intention here was to highlight some of the age-sex participation rates and ratios that helped to put this part of the analysis into proper perspective. Thus, the 15-64 year age group was further broken into three subgroups to deepen the discussion and avoid blatant repetitions of facts already presented therein.

In Table 5.7, the economically active heads of households numbered 286,937, indicating that they were 84.65 percent of all household heads. Hence, there were 18 economically active heads of household to every non-economically active household head in 1984.

The age distribution of the economically active household heads reflected that the most economically active age groups were 25-49 for both sexes as they accounted for a little over 61 percent of their kind. The peak activity group was 30-34 for males and 35-39 for females. This notwithstanding, females become active earlier than males. The early activity of females was emphasized by the point that the only economically active head in the age group 10-14 was a female (Table 5.7). On the other hand, higher proportions of males continued economic activity from adulthood into old age as beyond age 55 male activity was higher than females for each age group.

The activity status of any population is very important in the measurement of the standard of living or economic dependence of a given community. For a more in-depth analysis, the economic activity statuses of "working", "not working" and "looking for work" of these heads were discussed using a disaggregated working age population in the age categories of 15-24, 25-39 and 40-64 (Appendix 5D). Only about six percent of the workers were adolescents. The difference of three percentage points in favour of the urban areas told the story of a lower

Table 5.7: Economically Active Heads of Households by Age and Sex, Liberia Total, 1984

AGE GROUP AND SEX	TOTAL		MALE		FEMALE	
	Number	Percent	Number	Percent	Number	Percent
10-14 YEARS	1	0.00	0	0.00	1	0.00
15-19 YEARS	2277	0.79	1643	0.65	634	1.84
20-24 YEARS	14877	5.18	12472	4.94	2405	6.99
25-29 YEARS	36435	12.70	32328	12.80	4107	11.94
30-34 YEARS	38198	13.31	33924	13.43	4274	12.43
35-39 YEARS	38075	13.27	33246	13.16	4829	14.04
40-44 YEARS	33384	11.63	29386	11.64	3998	11.63
45-49 YEARS	30631	10.68	26829	10.62	3802	11.06
50-54 YEARS	24794	8.64	21739	8.61	3055	8.88
55-59 YEARS	18399	6.41	16234	6.43	2165	6.30
60-64 YEARS	18652	6.50	16564	6.56	2088	6.07
65-69 YEARS	12472	4.35	10996	4.35	1476	4.29
70-74 YEARS	7280	2.54	6672	2.64	608	1.77
75 + YEARS	11462	3.99	10513	4.16	949	2.76
TOTAL	286,937	100.00	252,546	100.00	34,391	100.00

probability of adolescents securing jobs in the rural areas. In addition, the older a rural person, the more likely it was that he would be working because half of the rural workers were of age 40-64 years. The peak working age in the urban localities was 25-39 years.

Of the people who were not working, a little over 42 percent reported their ages as 25-39 and 56 of them were looking for jobs. People without jobs in the rural areas increased in proportion with age but it was in the 25-39 age group that those looking for work were most plentiful. The situation in the towns and cities was a bit different because though this age group dominated in the in the drive to secure work, they were the same persons that were most frequently found in job placements. Old age persons over 65 years accounted for just over a tenth of those working in the nation. The contribution of such workers in the villages and countryside contributed to this national complexion of the workforce as there were only about four percent of their counterparts in the urban milieu (Appendix 5D).

Data on non-economically active heads of households are shown in Table 5.8. The peak inactivity age groups were 20-29 for both sexes. This would have affected adolescents that were not in schools or who failed to complete schooling. The figure may be interpreted to a general difficulty to find jobs even for school and college or university graduates.

Inactivity dropped steadily from age 30 onwards but increased at the terminal ages of 75 and over (Table 5.8). The drop may have resulted because all being equal, older persons normally have more chances of securing job placements than younger individuals. This was because as persons grew into adulthood, their social networking and level of skills increased, and are factors that increased the employability of people.

The economically inactive heads were also further analyzed by economic activity statuses. The majority of these people were students and persons doing normal household chores. At the national level, those reported as "unable to work" and "retired/other" were very elderly persons (Appendix 5E). The rural-urban analysis revealed that larger proportions of students and persons that did household chores continued into old ages in the rural areas. Similarly, the proportions of persons unable to work or retired increase with age in the rural areas and each of these proportions were bigger than what it was in the urban areas (Appendix 5F).

Table 5.8: Not Economically Active Heads of Households by Age and Sex, Liberia Total, 1984

AGE GROUP AND SEX	TOTAL		MALE		FEMALE	
	Number	Percent	Number	Percent	Number	Percent
10-14 YEARS	0	0.00	0	0.00	0	0.00
15-19 YEARS	2670	5.13	1503	4.83	1167	5.59
20-24 YEARS	7151	13.75	4511	14.48	2640	12.65
25-29 YEARS	7270	13.98	4744	15.23	2526	12.10
30-34 YEARS	4755	9.14	2906	9.33	1849	8.86
35-39 YEARS	3974	7.64	2117	6.80	1857	8.90
40-44 YEARS	3193	6.14	1675	5.38	1518	7.27
45-49 YEARS	2849	5.48	1469	4.72	1380	6.61
50-54 YEARS	2679	5.15	1383	4.44	1296	6.21
55-59 YEARS	2266	4.36	1202	3.86	1064	5.10
60-64 YEARS	3225	6.20	1772	5.69	1453	6.96
65-69 YEARS	3013	5.79	1662	5.34	1351	6.47
70-74 YEARS	2444	4.70	1617	5.19	827	3.96
75+ YEARS	6526	12.55	4585	14.72	1941	9.30
TOTAL	52,015	100.00	31,146	100.00	20,869	100.00

5.3   Housing

5.3.1   Numbers and Types of Structures

With over three quarters of the structures that were counted, one-household structures were the most dominant type of accommodation in Liberia (Table 5.9). At urban and rural level, structures containing one household accounted for 59.85 and 85.04 percent respectively. Two household structures numbered about one out of every eight structures and were distributed in the order of 18.01 and 10.36 percent in the urban and rural areas respectively.

Structures with smaller numbers of households tended to accommodate a significant portion of the household population nationwide. For example, 60.74 and 16.83 percent of the population were accommodated in one-household and two-household structures respectively. At the urban and rural levels, household populations were also skewed in favour of structures with smaller numbers of household. However, whereas these accounted for nine out of every ten structures in the countryside, structures housing three households and over were not unfamiliar in the towns and cities (Table 5.9).

The analysis of the population in the structures revealed that 77.57 percent of the people lived in 90.04 percent of the structures nationwide; and these were single or two household structures. These structures were predominant in the rural areas where 89.10 percent of the dwellers were in 95.40 percent of the structures. About 40.59 percent of urban dwellers were scattered in various structures of three households or more.

This clearly explained the varied nature and complexity of the urban housing landscape. The almost one in twelve structures reported as hosting five or more urban households must have been either multi-storey buildings in high class residential areas or single storey multiple unit structures in overcrowded shanties and slum environments. More detailed analysis of this scenario would have informed policy on how to devise strategies to tackle the housing problems but this was impossible given the nature of the data.

Table 5.9: Percentage Distribution of Structures by Households and Population

ALL STRUCTURES	TOTAL		URBAN		RURAL	
	NUMBER OF STR.	POPULATION	NUMBER OF STR.	POPULATION	NUMBER OF STR.	POPULATION
1 HOUSEHOLDS	77.34	60.74	59.85	40.39	85.04	73.66
2 HOUSEHOLDS	12.70	16.83	18.01	19.03	10.36	15.44
3 HOUSEHOLDS	4.54	7.81	8.60	11.63	2.75	5.39
4 HOUSEHOLDS	2.67	5.80	6.30	10.72	1.07	2.68
5+ HOUSEHOLDS	2.75	8.82	7.24	18.24	0.78	2.84
TOTAL	234,025	2,092,450	71,590	812,418	162,435	1,280,032

Note: 1. NUMBER OF STR. means NUMBER OF STRUCTURES

5.3.2   Size of Household by Structure and Population

The housing situation was also analyzed with respect to the size of the household within the structure and how many individuals that dwelled therein. In Table 5.10, the scenario depicted was that as the household size increased, the amount of structures and population within them also increased. Large size households (with eight persons or more) accounted for more than three-quarters of all the population within the structures. Households with four individuals or less had 8.19 percent of the inhabitants but they occupied 27.73 percent of the structures. Against the case of 76.07 percent of the population residing in 48.6 percent of the structures and with eight or more persons in the households, the two extremes of the housing landscape of Liberia was clearly mapped out. The great disparity in the housing conditions of the people bespoke of a wide gap between persons of varying socio-economic statuses on a continuum from low to high.

Similar trend was observed at the urban and rural levels (60.93 and 43.21 percent respectively) as majority of the structures were found to contain large size (8 or more persons) households (Table 5.10). These were followed by structures containing medium size (5-7 persons) and small size (2-4 persons) households as indicated by the corresponding percentages of 25.69 and 25.02

in the rural areas. Like at the national level, structures in the rural and urban areas had very low percentages of one-person households, representing 4.17 percent and 6.08 percent respectively.

The population pattern in the urban and rural structures reflected the national picture. For instance, both urban and rural areas had a very significant proportion of the population (85.32 and 70.21 percent respectively) being accommodated in large size households (8 or more persons). Just as structures that contained single person households at the national level were found to accommodate a very negligible proportion of the population, so it was at the urban and rural levels where they accounted for less than one percent of the population (Table 5.10).

Table 5.10: Percentage Distribution of Size of Household by Structures and Population

SIZE OF HOUSEHOLD	TOTAL		URBAN		RURAL	
	STRUCTURE	POPULATION	STRUCTURE	POPULATION	STRUCTURE	POPULATION
1 PERSON	5.49	0.61	4.17	0.37	6.08	0.77
2 – 4 PERSONS	22.24	7.58	15.93	4.29	25.02	9.66
5 – 7 PERSONS	23.66	15.73	18.98	10.02	25.69	19.36
8 + PERSONS	48.6	76.07	60.93	85.32	43.21	70.21
TOTAL	234,166	2,101,628	71,648	816,124	162,518	1,285,504

5.4   Conclusion and Recommendations

5.4.1   Summary and Conclusion

The above analysis was conducted on the basis of two household types (private and group quarters) as identified in the questionnaire of the 1984 Population and Housing Census. It was revealed that the census enumerated 338,953 households with the total population of 2,094,252. Overall, mean size of Liberian households was 6.18 and a mode of three persons. Rural households showed a higher mean (6.40) than their urban counterparts (5.82).

The median household population recorded for rural areas was eight people, one person more for this statistics than for national or urban areas. At the national level, small (2-4 persons) and large size (8 or more persons) households were the most common household sizes in Liberia, each accounting for over 30 percent of the amount of households.

The analysis further showed that 7,761 persons were captured in group quarters. This represented 0.37 percent of the national population. Of this, there were 5,555 females (71.59 percent) and 2,206 (28.42 percent) males. The vast majority of females in the group quarters (4,762 or 61.36 percent of all persons in group quarters) were found in bush societies. The high percentage of these respondents can be attributed to the timing of the census (February 1984), which coincided with the time of the year when initiations into the secret societies were on. A further 14 percent of persons in group quarters were accounted for by boarding schools. There were some noticeable disparities between rural and urban areas in terms of occupancy of the group quarters. The most popular of the population in this category in the urban areas was "persons with no

fixed abode" which accounted for 26.39 percent of the total, followed by " boarding School" with 18.18 percent.

On the other hand, the modal frequency of persons in group quarters in the rural areas was the "bush school" which accounted for 78.67 percent, followed by prisons with 20.37 percent. Almost half of the 338,952 heads of households counted were between 25 and 44 years of age. Household headship was found to be higher in rural than urban areas as indicated by their respective percentages of 59.06 and 40.94 percent. In relation to 1974 census, the number of households rose from 263,333 to 338,953, an increase of 129 percent. Comparison o the corresponding population figures gave an increase of 141 percent.

The analysis of the data also revealed that the child accounted for the highest occurring relationship to the head (41.50 percent at the national level). In the rural and urban areas, they accounted for 40.22 and 42.29 percent respectively. The category of "other relatives" accounted for 16.86, 18.1 and 16.03 percent of the relationship at the national, rural and urban levels respectively. Of specific interest was the low presence of parents in the various households across the country as was indicated by their low percentage of less than a percent in the data. There was relatively a high proportion of "other non-relatives" in Liberian households.

The incidence of headship among females and males in rural areas was nearly even as indicated by their respective percentages of 49.72 and 50.28 percent. Like in the case of relationship to the overall headship discussed above, the "child" dominated the relationship to female headship at all levels (40-45 percent), while in male households, the relationship of child was also prominent, accounting for at least about 40 percent of all relationships.

Further, the economically active heads of household numbered 286,937 (or 84.65 percent) of all household heads. Hence, there were 18 economically active heads of households to each non-economically active head of households. The age distribution of economically active household heads reflected that the most economically active groups were 25-49 for both sexes as they accounted for a little over 61 percept of their kind. The peak activity group was 30-34 for males and 35-39 for females. However, females were found to become active earlier than males.

It was also discovered during the analysis that only 6 percent of workers were adolescents. The older a rural person, the more likely it was that he would be working because half of the rural workers were aged 40-64 years. The peak working age in urban areas was found to be 25.39 years. The majority of economically inactive heads were found to be students and persons doing normal household chores.

A further analysis of households indicated that one-household structures were the most dominant type of accommodation in Liberia as they accounted for 59.85 and 85.04 percent at the urban and rural levels respectively. Structures with smaller numbers of households tended to accommodate a significant portion of the household population nationwide.

It was further revealed that 77.57 percent of the people lived in 90.04 percent of the structures nationwide; these were mainly single or two-household structures. The analysis also observed

that as the household size increased, the amount of structures and population within them also increased. This was observed at national, urban and rural levels.

5.4.2 Policy Options

The high proportions of children in the households, as indicated by it accounting for the highest occurring relationship to heads, means that there was a need to pay special attention to the level and type of services that needed to be provided for children as far as their welfare and future growth were concerned. There were also policy implications for the low presence of parents in households, which could be attributed to the departure of children upon becoming adults, to live independently and form their own households. The agency responsible for welfare should have taken a keen interest in what was happening to these parents in the absence of their children. If the reason was economic, the Government needed to provide some incentives, such as tax waivers or welfare grants to any family or household that was prepared to keep the parents around as a social responsibility.

The nature of the data notwithstanding, there still was a need to suggest that appropriate strategies were to be derived to tackle the housing problems discovered during the analysis at both rural and urban areas. The imbalance in housing situation revealed a wide gap between some well-to-do households and the low income households. Some public resources needed to be channeled towards investigating who resided in the overcrowded structures and how ingenuous low cost residential schemes could be designed to alleviate their poor housing conditions. There was also a need to balance the timing of the activities of the secret societies with that of western education. This was necessary to ensure that the former was not carried out at the expense of the latter.

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APPENDICES

Appendix 5A: Number of Households and Population by Size of Household, 1984

SIZE OF HOUSEHOLD	HOUSEHOLDS		POPULATION	
	NUMBER	PERCENT	NUMBER	PERCENT
ALL HOUSEHOLDS	338953	100	2094252	100
1 PERSON	33473	9.88	33473	1.6
2 PERSONS	35940	10.6	71880	3.43
3 PERSONS	37055	10.93	111165	5.31
4 PERSONS	36916	10.89	147664	7.05
5 PERSONS	34226	10.1	171130	8.17
6 PERSONS	30725	9.06	184350	8.8
7 PERSONS	26359	7.78	184513	8.81
8 PERSONS	21814	6.44	174512	8.33
9 PERSONS	17693	5.22	159237	7.6
10 PERSONS	17322	5.11	173220	8.27
11 PERSONS	12763	3.77	140393	6.7
12 PERSONS	9405	2.77	112860	5.39
13 PERSONS	5971	1.76	77623	3.71
14 PERSONS	3962	1.17	55468	2.65
15 PERSONS OR MORE	15329	4.52	296764	14.17

Note: Population in group quarters not included.

Appendix 5B: Relationship to Female Heads of Households

RELATIONSHIP	TOTAL		URBAN		RURAL	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Head	283692	26.68	115085	27.14	168607	26.38
Wife	0	0	0	0	0	0
Child	460117	43.28	289214	45.25	170903	40.31
Other wife	0	0	0	0	0	0
Parent	3694	0.35	2932	0.46	762	0.18
Other relative	174390	16.40	97398	15.24	76992	18.16
Ward	5581	0.52	2294	0.36	3287	0.78
Servant	19739	1.86	12395	1.94	7344	1.73
Other Non-relative	115913	10.90	66307	10.37	49606	11.70
TOTAL	1,063,127	100	423,979	100	639,148	100

Appendix 5C: Relationship to Male Heads of Households

RELATIONSHIP	TOTAL		URBAN		RURAL	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Head	55260	5.32	23680	7.46	31580	4.89
Wife	223077	21.48	8376	2.64	139798	21.63
Child	412018	39.67	157639	49.69	254379	39.36
Other wife	44388	4.27	10349	3.26	34039	5.27
Parent	15960	1.54	3845	1.21	12115	1.87
Other relative	179980	17.33	71309	22.48	108671	16.81
Ward	3564	0.34	2393	0.75	1171	0.18
Servant	11145	1.07	4487	1.41	6658	1.03
Other Non-relative	93109	8.97	35164	11.08	57945	8.96
TOTAL	1038501	100	317242	100	646356	100

Appendix 5D: Economically Active Heads of Household by Size, Age and Occupation status

Ages	National						Rural						Urban					
	Working	%	Not Working	%	Looking for Work	%	Working	%	Not Working	%	Looking for Work	%	Working	%	Not Working	%	Looking for Work	%
TOTAL	274701	100	2779	100	9457	100	173505	100	849	100	1397	100	101196	100	1930	100	8060	100
10-14	0	0.00	0	0.00	1	0.01	0	0.00	0	0.00	1	0.07	0	0.00	0	0.00	0	0.00
15-24	15504	5.64	192	6.91	1458	15.42	7566	4.36	43	5.06	182		7938	7.84	149	7.72	1275	15.82
25-39	106270	38.69	1178	42.39	5260	55.62	52092	30.02	306	36.04	716		54178	53.54	872	45.18	4544	56.38
40-64	122179	44.48	1186	42.68	2495	26.38	86779	50.02	379	44.64	429		35400	34.98	807	41.81	2066	25.63
65+	30748	11.19	223	8.02	243	2.57	27068	15.60	121	14.25	68	4.87	3680	3.64	102	5.28	175	2.17

Appendix 5E: Total Not Economically Active Heads of Household by Size, Age and Occupation Status

Ages	National							
	Own Housework	%	Student	%	Unable to work	%	Retired /Other	%
	17002	100	18207	100	11100	100	5698	100
10-14	0	0	0	0	0	0	0	0
15-24	2578	15.16	6862	37.69	133	1.20	248	4.35
25-39	6476	38.09	8377	45.46	513	4.62	725	12.72
40-64	6096	35.85	2296	12.61	3304	29.77	2216	38.89
65+	1852	10.89	472	2.59	7150	64.44	2509	44.03

Appendix 5F: Rural/Urban Not Economically Active Heads of Household by Age, Occupation Status and Rural-Urban Residence

Age	Rural								Urban							
	Own Housework	%	Student	%	Unable to work	%	Retired/ Other	%	Own Housework	%	Student	%	Unable to work	%	Retired /Other	
	7147	100	5707	100	8576	100	3006	100	9855	100	12508	100	2524	100	2692	100
10-14	0	0.00	0	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
15-24	838	11.73	1873	32.82	76	0.89	65	2.16	1749	17.66	4989	39.89	57	2.25	183	6.80
25-39	2142	29.97	2387	41.83	247	2.88	167	5.56	4334	43.98	5898	47.15	266	10.54	558	20.73
40-64	2941	41.15	1130	19.80	2268	26.45	978	32.53	3155	32.01	466	11.72	1036	41.05	1238	45.99
65+	1226	17.15	317	5.55	5985	69.79	1796	59.75	626	6.35	155	1.24	1165	46.16	713	26.49

Appendix 5G: Percentage Distribution of Population in Group Quarters by Type of Quarters and Sex

	Nation						Urban						Rural					
	Both Sexes		Male		Female		Both Sexes		Male		Female		Both Sexes		Male		Female	
All Quarters	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Boarding school	1074	13.84	641	29.06	433	7.79	481	18.18	315	24.21	166	12.34	593	11.59	326	36.02	267	6.34
Military Camp	46	0.59	32	1.45	14	0.25	25	0.94	11	0.85	14	1.04	21	0.41	21	2.32	0	0.00
Boarding House, Hotel, or Motel	132	1.7	117	5.3	15	0.27	64	2.42	51	3.92	13	0.96	80	1.56	77	8.51	3	0.07
Persons with no fixed Address	33	0.43	32	1.45	1	0.02	963	36.39	21	1.61	942	70.04	21	0.41	21	2.32	0	0.00
Bush Society	4987	64.26	225	10.2	4762	65.72	234	8.84	117	8.99	117	8.7	4024	78.67	204	22.54	3820	90.74
Hospital	329	4.24	175	7.93	154	2.77	140	5.29	100	7.69	40	2.97	95	1.86	58	6.41	37	0.88
Other Institutions	220	2.83	129	5.85	91	1.64	442	16.7	421	32.36	21	1.56	80	1.56	29	3.20	51	1.21
Prison	535	6.89	509	23.07	26	0.47	297	11.22	265	20.37	32	2.38	93	1.82	88	9.72	5	0.12
Liberian Officials Working Abroad	11	0.16	4	0.18	7	0.13	0	0	0	0	0	0	11	0.22	4	0.44	7	0.17
Group Quarter, N.E.C	394	3.08	342	15.5	52	0.94	0	0	0	0	0	0	97	1.90	77	8.51	20	0.48
TOTAL	7761	100	2206	100	5555	100	2646	100	1301	100	1345	100	5115	100	905	100	4210	100

CHAPTER 6: EMPLOYMENT AND LABOUR FORCE

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CHAPTER 6: EMPLOYMENT AND LABOUR FORCE

David Z. Logan

6.0   Background

6.0.1   Introduction: Meaning and Importance of Concepts of Employment and Labor Force

Individuals engage in economic activities in order to attain and sustain a certain acceptable level of consumption of goods and services. Engagement in these activities not only ensures a person's livelihood but also equips an individual with the means of acquiring and sustaining the basic needs of life such as food, clothing and shelter. Most studies have revealed that employment levels to a large extent determine the production and consumption levels of any given economy. In a developing country like Liberia, it becomes imperative to constantly measure and monitor changes in the levels of economic activities.

Liberia's rapid population growth, put at 3.4 percent between 1974 and 1984 which has been brought about by high fertility and slightly decreasing mortality, translates into a youthful age structure. By 1984, Liberia's population was characterized by a large proportion of the population under age 15 years (43.1 percent) and a small proportion of elderly persons aged 65 years and above (4.1 percent). The population in the working age group, 15-64 years, constituted a further 52.7 percent. This demographic structure suggests that Liberia's population has a built-in potential for rapid growth, leading to the increased supply of the labor force which, in turn, have implications for future employment and skills training.

It has been noted that the economic and social development of any country is contingent upon the quality and quantity of its productive resources, of which labor is an important component. The two other factors of production in economics, namely, physical capital and land are indeed dependent on human capital, increasingly referred to now as the knowledge factor. Consequently, the labor force constitutes the critical agent of production. As a result of the very important position of labor in the productive process, it is imperative to know the current size and characteristics of the labor force and changes over time for possible policy interventions. This will contribute to the maximum development and utilization of their skills and expertise in the development of the nation. This chapter examines patterns of economic activity by various characteristics such as age, sex, urban/rural residence, occupation, and child labor.

6.0.2   Methodology

6.0.2.1 Scope of Analysis, Data Sources and Quality

Population census results of 1962 and 1974 provided information on Liberia's labor market as a whole and had been one main source of information for developing employment and manpower programs in the country. Similarly, the 1984 Population Census of Liberia had data on economic activity of persons aged 10 years and above for the entire country. However, due to the civil conflict, most of the census records got missing. It was only recently that the Liberia Institute for Statistics and Geo-information Services (LISGIS) gathered a few of the raw data. This analysis

of economic activity of the 1984 population was therefore limited to only a few indices including discussion of the labor force participation rates by age and sex, and by urban/rural residence, and calculation of dependency ratios.

Due to the prolonged civil crisis, there was a long delay in the analysis of the 1984 results. The original data files got missing and it became difficult to trace the complete record of the census data. Based on the data retrieved by LISGIS, only selected tables can therefore be analyzed. It is generally observed that census data in Africa are plagued by a great deal of reporting omission and recording errors. Liberia's 1984 census result is not free from these general reporting and omission pitfalls. A few of these omissions and data limitations can be found in the analysis of occupation of working population by highest grade completed (Table 6.6).

6.0.2.2 Methods of Analysis

Based on the scantly available data from the files retrieved by LISGIS from the 1984 census results, the analysis in this chapter included the computation of measures of economic activity such as measurement of employment levels, labor force participation rates and economic and child dependency ratios. The dependency ratio is calculated as the ratio of the combined child population aged 0-14 years, and the aged population, 65 years and above, to the population in the economically productive years. Similarly, child and the aged dependency ratios are computed as the proportion of children, 0-14 years, and aged (65 years and older) to the population in the economically active ages, 15-54 years. Additionally, crude, general and age-specific activity rates for various economic activities will be analyzed and the results discussed.

In the population censuses of 1974 and 1984, data pertaining to economic characteristics of the population were collected. The main topics covered were:

• Labor force participation
• Economic Dependency
• Employment and unemployment
• Employment status
• Occupation
• Industry and
• Educational attainment

The method of data analysis employed was therefore exploratory, using mainly the 1984 census data and, where applicable, and in order to show trends, the 1974 population census data was used.

6.1   Age and Sex Structure of the Labor Force

The total population of Liberia increased during the 22 years of the intervening census periods, 1962-1984. The total population increased from 1,016,433 in 1962 to 1,503,368 in 1974 and subsequently to 2,101,628 as at the 1984 census. The proportion female remained almost exactly the same (49.5 percent) in 1984 as in 1974. However, for males, the proportion increased slightly – only by one percentage point from 50.5 percent in 1974 to 50.6 percent in 1984. With such

increases in the overall population size, this meant that the economy had to expand proportionately to create the necessary employment opportunities for those who entered the labor force to find jobs.

To assess the size of the labor force, demographers typically look at the economically active population. The economically active population consists of persons aged 15-64 years who are either employed, i.e., those who worked during the reference period, and the unemployed – those actively looking for a job. According to the ILO, the active labor force is composed of – those who are working and the unemployed, and is also known as the total labor force. The actual labor force, however, refers to anyone who worked, even for only one hour, during the reference period (specified in the survey) along with those temporarily absent from work due to sickness, holidays, maternity leave, or days-off.

The labor force constituted close to 52.7 percent of the total population in 1984, out of which 33.5 percent were categorized as being economically active. Children under the age of 15, on the other hand constituted the bulk of Liberia's population – comprising about 43.1% of the total population in 1984, which typically translated into a high dependency ratio.

The size of the labor force aged 15-64 years declined slightly from 55.4 percent in 1974 to 52.7 percent in 1984. The slight decrease was also reflected both in the male and female labor force with slightly more females than males represented in the labor force. For example, in 1974, the proportion female in the labor force constituted 28.2 percent and that of males was 27.2 percent, while in 1984 the percentages were 26.6 percent for females and 26.2 percent for males respectively.

This slightly larger size of the female labor force as described above may be attributed in part to better understanding and recording of female activities as well as the numerous sensitizations about accounting for women's contribution to the labor force to be recognized. Evidence can be found in major government effort to send females to school as part of the total involvement policy of the then Government under the leadership of the Late President William R. Tolbert.

The sex composition of the general population and particularly that of the labor force is examined by calculating sex ratios (Table 6.1). According to the 1984 census results, there were more males than females in the population. A similar feature was also observed for the sex ratio of the economically active population in 1984. The observed gap in the sex ratio recorded in 1984 could be a reflection of the narrowing between male and female members of the labor force, with the number of females increasing slightly faster than males.

Table 6.1: Sex Ratios by Economic Activity, 1974-1984

Indicator	Census Years	
	1974	1984
Economically Active Pop.	96.5	97.9
Economically Inactive Pop.	109.0	107.5
Total Population	101.9	102.3

Source: Calculated using data from 1974 and 1984 National Censuses

6.2   Measurement of Economic Activity

One of the key indicators of improvement in the economic environment is that of the ability of people to obtain work in order to meet their daily needs. The demographic focus on economic activity is on the population 15 years and over, and more specifically those 15-64 years. The census determines the characteristics of this population, who in the week preceding the Census Day, were either economically active or inactive.

The *economically active* population consists of all persons of either sex who furnish the supply of labor for the production of economic goods and services. They include, (a) the regular employed people ("worked" and "had a job" but were on leave/vacation), and (b) the unemployed consisting of: (1) those who were looking for work or who wanted and were available for work, but because they believe no jobs were open were not actively searching or (2) those who had become disillusioned.

On the other hand, the *economically inactive* population includes students, homemakers, retired persons and persons whose disability prevented them from working. It is from these categorizations of the working age population that measures of labor force participation are determined.

Many countries routinely (on a quarterly or yearly basis) collect information on the working-age population and their activities, as it is an important aspect of development planning. For other countries, including Liberia, however, the decennial population census or a labor force survey is the means of collecting these data. Another means is through the household income and expenditure surveys, conducted to monitor cost of living and more recently to determine levels of poverty.

Measures that relate to the labor force or the economically active population are referred to generally as activity rates. Based on the available data, it was possible to compute crude, general and age-specific activity rates for various economic activities.

6.2.1   Crude Activity Rates

The crude activity rate (also known as crude labor force participation rate) for the country represents the number of economically active persons as a percentage of the total population. It is crude because it is influenced by age proportions of people engaged in economic activity at different levels and at different ages. The main significance of crude activity rate is that it measures the relative number of persons working in a given population, irrespective of what factors are involved. It is also a means of bringing out the effect of different levels of natural increase and migration on economic activity.

Table 6.2 indicates that between 1974 and 1984, there has been an increase in the crude activity rate, moving upwards from 41.2 percent to 68.3 percent for the population 10 years and over. In 1974, while less than 50 percent of the population fell in the economically active age group, by 1984, this had increased significantly to 68.3 percent.   Also in Table 6.2, among the

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economically active population in 1984, 32.0 percent were actually working. The representation of males was higher at 34.6 percent compared to females who constituted 33.7 percent.

Table 6.2: Crude Activity Rate for Economically Active Population, 1974 and 1984

Economically Active Persons by Sex	Crude Activity Rate (Percent)	
	1974	1984
Total (both Sexes)	41.2	68.3
Male	59.9	34.6
Female	22.3	33.7

Source: Calculated from the 1974 and 1984 Population Censuses.

6.2.2   Participation of Children

Although the 1984 census captured information on the population aged 10 years and above which includes children, only 4.3 percent were actively engaged in the labor force and were categorized as working in 1984. The International Labor Organization (ILO) specifically states that 15 years is the minimum working age. In spite of this situation, it is common knowledge that children perform many kinds of manual jobs and are increasingly involved in labor force in many developing countries, including Liberia.

6.2.3   Age-Sex Specific Activity Rates

The age-sex specific activity rates are the most widely used measures of economic activity. They are also used in projecting the labor force or economically active population. It is obtained by dividing the economically active population in a particular age-sex group by the total population in that age sex group and multiplied by 100.

Age-sex specific activity rates for 1974 and 1984 are presented in Table 6.3. It is worth noting that the rates conform to the generally known finding of near universal or complete economic activity (United Nations: 1968) by males aged 35-59. This was the case because male activity rates within the age group 35-59 were all above 90 percent. Hussmann and others also found this in their study of economically active populations (R. Hussmanns, F. Mehran and V. Verma: 1996).

For females, the activity rates were comparably low. With the exception of age groups in the range 40-54 which were 60 percent or above, the rest of the age groups were all fairly low. Additionally, participation in economic activity decreased with increasing age, especially after age 49 years.

A similar pattern is observed from the 1974 age-sex specific activity rates with higher activity rates within the middle age groups and with a decline towards the other ages for both sexes. In general, economic activity rates rose as the age of respondents increased, and reach their peak of 91.8 percent for either sex for the age group (45-49), for males and then start to gradually decline to reach a minimum of 54.1 percent at the age of 75 years and above for males. As expected, for males aged (15-19), the economic activity rate is only 21.1 percent. For females, the economic activity rates are much lower than those for men, and reach their maximum within the same age

group as their male counterparts, (45-49) and then tapers off to a low of 10.9 percent for females. Figure 6.1 below clearly shows the age-sex specific activity rates for males being higher than females.

Table 6.3: Age-Sex Specific Activity Rates, 1974-1984

Age-group	1974		1984	
	Males	Females	Males	Females
15-19	21.1	15.4	21.5	25.4
20-24	51.3	21.6	45.0	37.8
25-29	78.4	25.4	74.0	48.5
30-34	88.1	28.7	86.7	56.2
35-39	91.3	30.7	90.9	59.9
40-44	91.6	33.5	92.0	63.7
45-49	91.8	33.9	92.6	63.8
50-54	90.4	31.4	91.3	62.7
55-59	89.6	30.4	90.5	59.1
60-64	80.3	23.7	85.8	49.5
65-69	76.5	21.0	80.5	41.7
70-74	67.3	16.4	72.7	32.1
75+	54.1	10.9	59.7	24.6

Source: Calculated from data on 1974 and 1984 Censuses

6.3   Growth of the Labor Force and Dependency Ratios, 1974-1984

The average annual growth of the population remained fairly high, increasing slightly over the intercensal period 1974-1984, to reach 3.4 percent. The growth of the labor force was also about 3.3 percent within the same period. There was a slight decrease in the labor force participation rate for the female population.

Figure 6.1: Age-sex Specific Activity Rates in Percent, 1984
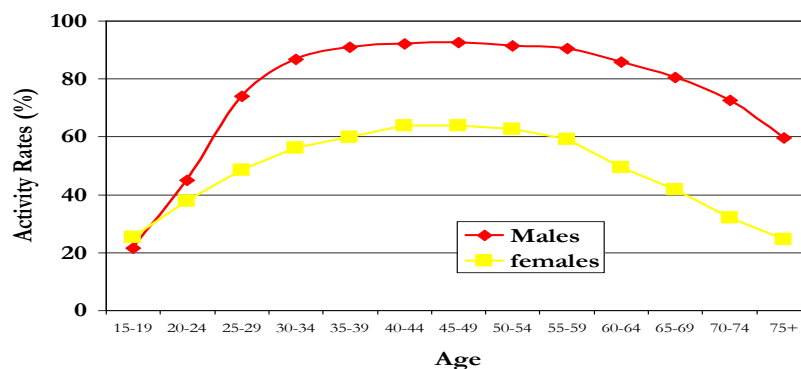
An indicator to measure the burden of dependency in the population is the economic dependency ratio. Total dependency which was 80.5 in 1974, increased slightly to 89.7 in 1984, indicating increasing burden on members of the working population (Table 6.4). Child dependency as a contribution to total dependency was very high in both censuses, indicating the increased burden of high fertility in Liberia.

Table 6.4: Age Dependency Ratios, 1974-1984

Census Years	Total Dependency Ratio	Child Dependency Ratio	Aged Dependency Ratio
1974	80.5	73.9	6.6
1984	89.7	81.9	7.8

Source: Calculated from 1974 and 1984 Population Censuses, Liberia

6.4   Occupation of the Labor Force

The size and changes of the labor force along with its composition in terms of sex, age and urban/rural differentials in the preceding sections presented the aggregate dimension of economic functionaries of the population in Liberia but information on the types of economic activities in which the labor force was engaged is needed to determine the levels and trends of structural changes over time. These types of economic activities are described by three primary classifications of workers, and they include:

   • Industry – the activities of the establishment or enterprise in which the individual works;
   • Occupation – the kind of work done by the individual; and
   • Status – whether the individual works as an employer, employee and so on (United Nations: 1996).

Ideally, the interrelations between the industry and occupation distributions and between each of these and the status distribution of the employed labor force in Liberia are necessary and worth examining in order to see how the uses of manpower in production are organized and to gain knowledge of factors and processes of changes in the structure of the labor supply and demand in the country. The data would provide the basis for economic policy and development plans; in particular, because they relate to the problem of improving the quality of manpower, raising productivity, minimizing unemployment and underemployment, and serve as a foundation for projection of labor force, and employment in various categories of the economic activities (R. Hussmanns, F. Mehran and V. Verma: 1996).

In the analysis that follows, the focus is on grouped classifications of industry, occupation and educational status. According to the 1984 census data, 70 percent of the economically active population who were working was engaged in agriculture (Table 6.5). Agriculture similarly accounted for the highest occupational category among males and females. This was followed by production and related workers and sales or services, comprising about 10 percent each of those employed. Additionally, close to 5 percent of the economically active population were engaged in the professional category. This figure was low given the critical human resource requirements needed to support Liberia's development efforts.

Table 6.5: Occupation of Economically Active Population, 1984 (in percent)

Sector	Both Sexes	Male	Female
Agriculture	70.1	60.3	83.4
Production and Related Workers	9.7	16.3	0.9
Sales/Services	10.3	10.7	9.7
Clerical	1.6	1.9	1.2
Administrative and Managerial	0.7	1.0	0.2
Professional	4.0	5.2	2.4
Others	3.6	4.6	2.2
Total	100.0	100.0	100.0

Source: Calculated from 1984 Population Census

Comparatively, there were more females engaged in agriculture (83.4 %) than males (60.3%). Males, however, were more represented in the production, administrative and professional related occupations than females. Almost the same percentage of males and females are represented in the clerical, and sales and services categories.

6.5   Education of the Workforce

The occupational and education structure and employment status of a country's workforce reflect the level of its economic development and the efficiency with which it uses and allocates its resources. If economic progress is experienced in a country, this will easily be reflected in the increased division and specialization of its labor force. In an economy where economic progress is negligible, it is typical to find the majority of the workforce employed in its primary industries. Besides, in such an economy, the work force was largely unskilled and found in various forms of self-employment activities. These activities were in the agricultural sector and other occupations characterized by low skill requirements.

Table 6.6 shows the school attendance by highest grade completed of the workforce. In 1984, among females engaged in agriculture, 88.5 percent of them had no school attendance or no grade completed compared to 76 percent of males. This indeed has serious implications like the ability to understand simple instructions for the adoption of low cost technology to improve agricultural output.

Among the professional category, close to half of males employed had obtained post- graduate education. More professional females, however, had completed post-graduate education (60 percent). There must be caution in the interpretation of this, since it could likely have been due to fewer numbers of females in this category and data error as discussed under the data quality section of the economic activity analysis.

The observance that some persons well in their retirement ages reported that they still have the need for work suggest that pensions and other welfare support mechanisms were insufficient to maintain them. Also in Table 6.6, it was very unlikely that persons of no grade completion in school could be doing clerical work, or respondents who completed primary and junior high levels of schooling could

qualify for professional jobs as indicated by the 1984 census. These may have been instances of poor data as discussed in the section on data quality

Table 6.6 Percentage Distribution of Major Occupation of Working Population by Highest Grade Completed in School, 1984

Sector	Post Graduate		College		Vocational Skills		High School		Junior High		Primary		No Grade Completed	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Agriculture	6.2	3.6	8.1	7.2	8.7	8.8	11.4	5.2	31.0	28.7	49.4	62.1	76	88.5
Production & Related Workers	11.5	2.4	12.3	2.3	31.1	2.8	21.7	3.9	30.4	4.3	25.8	2.9	12.0	0.7
Sales/Services	12.3	9.1	16.9	12.1	10.6	10.5	24.2	22.3	21.4	36.7	14.3	26.1	.4	8.3
Clerical	4.3	11.5	7.3	20.9	5.0	22.3	11.2	26.8	4.1	5.2	1.1	0.8	0.2	0.0
Administrative & Managerial	11.6	9.4	8.3	7.8	2.6	1.6	2.5	1.3	1.2	0.6	0.8	0.1	0.3	0.0
Professional	48.6	60.0	41.1	44.4	36.4	49.4	22.1	33.4	6.1	17.2	2.4	3.6	0.6	0.4
Others	5.3	3.9	5.7	4.9	5.3	4.4	6.5	5.7	5.4	6.9	5.9	4.2	4.2	1.9

Source: Calculated from 1984 Population Census

6.6   Industry and Occupation of the Workforce

Industry refers to the activity of the establishment in which the employed persons work, while occupation classifies the employed by the kind of work individuals actually perform and not necessarily what they normally do or have been trained to do. Industry and occupational distribution of a country's working population are directly related to the stage of its economic development. As an economy develops, workers are drawn from primary or extractive production into secondary occupations and later to tertiary employment.

From Table 6.7 and Figure 6.2 (below), the agriculture industry employed the majority of the working population; 63.3 percent males and 83.7 percent of the females. This was followed by community and social and personal services with 12.9 percent males and 3.9 percent females

Table 6.7: Industry of Employed Persons aged 10 years and above by Sex, 1984

Industry	Male	Females	Both Sexes
Agriculture	63.3	83.7	71.8
Mining and Quarrying	4.2	0.4	2.6
Manufacturing	2.6	0.2	1.7
Electricity and Gas	0.7	0.1	0.4
Construction	1.0	0.0	0.6
Wholesale and Retail	5.8	8.7	7.0
Transport	3.4	0.3	2.1
Finance and Insurance	0.4	0.2	0.3
Community, Social and Personal Services	12.9	4.0	9.1
Not Adequately Defined	5.7	2.4	4.2
Total	**100.0**	**100.0**	**100.0**

Source: Calculated from 1984 census

respectively. Manufacturing employed only a very small proportion of the labor force, represented by 1.7 percent of both males and females, with males represented slightly more (2.6%). On the other hand, there are more females employed in wholesale and retail trade (8.7%) than males (5.8%). Some critical industries such as mining and manufacturing accounted for a very small proportion of the employed work force in 1984.

Figure 2.0 Distribution of Employed Persons by Economic Sector/Industry Type
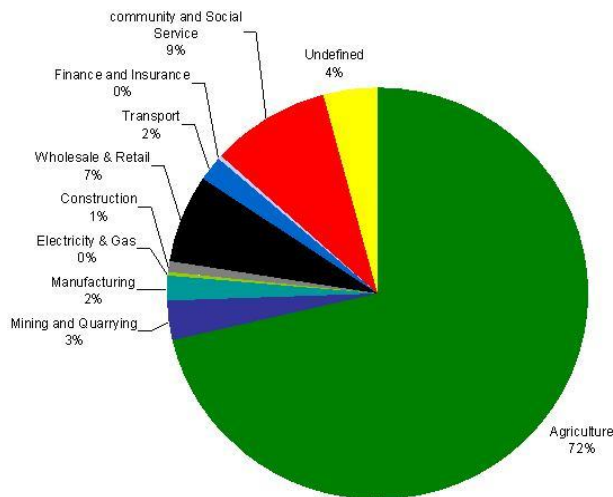
6.7   Conclusion and Recommendations

6.7.1   Summary and Conclusion

The analysis of the labor force and economically active population looked at the relationship between population growth and economic activity based on the 1984 population census results. With data permitting, detailed comparisons were made with the 1974 population census results on economic activity. The labor force grew by 3.3 percent, slightly less than the population growth of 3.4 percent, between 1974 and 1984. With such high growth, employment opportunities had to be expanded to provide livelihood for the new members who continued to join the labor force.

Activity Rates

Participation in economic activity tends to be higher for males than for females in the labor force. In Liberia, and based on the 1984 census results, the age pattern of activity rates observed for both males and females was highest for age groups 30-59 for both males and females. The

analysis showed that the rates conformed to the generally known finding of near universal or complete economic activity by males from aged 35-59. This was the case because male activity rates within the age group 35-54 were all above 90 percent.

For females, the activity rates were comparably low. With the exception of age group 40-54 which were 60 percent or above, the rest of the age groups were all fairly low. Additionally, participation in economic activity decreased with increasing age, especially after aged 49 years.

Growth of the Labor Force and Age Dependency

The labor force expanded by 3.3 percent between 1974 and 1984. This may be due to increased labor force participation rates, particularly for the female population. Using age dependency as an indicator of the burden on the work force, total dependency which was very high at 80.5 in 1974, increased to 89.7 in 1984, indicating an increasing burden on members of the working population. Child dependency as a contribution to total dependency was found to be very high in both years, indicating the increased burden of high fertility in Liberia.

Occupation of the Labor Force

Agriculture was the mainstay of the economy of Liberia with 70 percent of the economically active population who were working in 1984 engaged in agriculture. Fewer members of the labor force were engaged in other significant sectors of the economy such as mining and quarrying and construction. Agriculture similarly accounted for the highest occupational category among males and females. Additionally, only about 5 percent of the economically active populations were engaged in the professional category. This number is low given the critical human resource requirements needed to support Liberia's development efforts.

Education of Workforce

The analysis also looked at school attendance by highest grade completed of the workforce in 1984. Generally, education levels of the work force were low with about 88.5 percent of females engaged in agriculture having had no grade level completed. Seventy-six percent of their male counterparts were in a similar situation. This indeed had serious implications for the work force which was largely unable to read and understand the basis for the adoption of low cost technology to improve agricultural output, for instance.

Among the professional category, close to half of males employed have obtained post graduate education. Interestingly, the findings show more professional females, have completed post graduate education (60 percent). This could be due to fewer numbers of females in the professional category and who had completed higher education.

6.7.2   Policy Implications and Recommendations

The analysis indicates that about 70 percent of the labor force is engaged in agriculture, but overall skills level remained alarmingly low. Only 6.2 percent of males and 3.6 percent of females engaged in agriculture had post-graduate education. It is noted that as development

paradigm shifts, increasing numbers of skilled persons must leave the agriculture sector in order to increase agricultural output. In Liberia's situation, the needed skills and technology required to replace the displaced labor would be difficult to obtain, given the very low level of skills and training of the agriculture workforce. Special efforts needed to be directed towards training and upgrading the skills of the agriculture work force.

Similarly, with fewer professionals with high level training and experience, Liberia would have to rely on outside manpower to develop its vast natural resource endowment. Consequently, government would have to place special emphasis on providing professional training for the work force to the highest levels possible.

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CHAPTER 7: FERTILITY

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CHAPTER 7: FERTILITY

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7.0   Background

7.0.1   Introduction: Importance of Fertility Analysis

Fertility is defined as the child bearing performance of a woman measured in terms of the actual number of children born. The age at which the woman starts child-bearing in most of the societies, begins with the outset of ovulatory menstruation cycle or at marriage and ends with the attainment of menopause or secondary sterility; natural or voluntary, whichever is earlier. On an average, the reproductive life span of a woman is in ages 15 to 50 years but not all the women in their reproductive life can bear children as some of them are not fecund (United Nations, 1973). Fecundity of a woman is her physiological capacity to reproduce or to conceive. Some of the women do not have this physiological capacity from the beginning of their reproductive life and they are referred to as primarily sterile.

Like mortality, the process of human reproduction is also a biological process but it is more complex as it is within the limits set by the physiological factors; which is affected by social, cultural and economic and psychological factors. The number of births occurring in a population in a year is determined partly by the demographic factors such as age and sex composition of the population, the number of married women and their distribution within the reproductive age span by age, duration of marriage and the number of children already born to them; and partly by many socio-economic, cultural and psychological factors of that time, such as housing conditions, education, income, religion, occupation, their current attitude towards family size, practice of contraception and induced abortion, etc. (United Nations, 1973).

It has been documented that adequate and accurate knowledge about fertility trends and levels are essential in the development of appropriate action-oriented programs intended to re-shape the values and the normative patterns governing fertility. Moreover, the understanding of levels and trends of fertility also enables policy and decision-makers to identify and address the implications of prevailing levels of fertility as well as to influence rapid population growth. In addition, such information are vital in the provision of precise direction for the re-orientation of the existing cultural, religious and social structure which encourage large family sizes, early marriages, etc. This could provide directions for designing and implementing fertility regulation programs.

It has been observed that the persistent high fertility in Africa is strongly related to the social organizations which are conducive to early marriage followed by prolific and continual childbearing. The social system makes childbearing universal and praiseworthy for a woman to bear many children through her reproductive life. By contrast, a childless woman has no status and prestige in the community and to some extent is not allowed to speak in public and usually treated with "contempt and malicious commission" (Fortes, 1950). A childless mother is considered an outcast or as a "tree without leaves" (Monsted and Parveen, 1978).

Thus, the status of a woman depends on her fertility since childbearing is regarded as an unequivocal evidence of spiritual and ancestral kindness. This may lead to what is "natural fertility, a situation that prevails in the absence of a deliberate attempt to influence reproductive behavior" (Henry, L., 1961). Hence, it is observed that in tropical Africa, adulthood is defined by parenthood and that the birth of a child is actively sought by the young adults; following marriage in which childbearing is relatively unrestricted.

7.0.2   Evaluation of Data on Fertility

Available information revealed that 59,472 births occurred in Liberia during the 12 months prior to the census date of February 1, 1984. This gave a crude birth rate of 28.3 per 1,000 populations. However, prior to this census, Liberia had two national surveys. These included the Liberian Population Growth Surveys of 1970 and 1971 respectively. These data revealed that 77,522 and 78,301 births respectively were recorded. This suggested that the births reported in the 1984 census were under reported.

The omission and under-reporting or non-reporting of births could be attributed to high illiteracy and poor knowledge of the concept of a calendar year. In addition, retrospective information on number of children ever born by age of females was collected in the 1984 census. However, such data suffer from omission of children arising probably from memory lapse, response errors by women who do not report children who died shortly after birth, or forget to report those who were not living with them or were too old.

The 1984 data showed that on average, parity per woman by age increased with age of women in the country. This indicated that the quality of data was relatively good. The data on children ever born by age of females provided useful tools to estimate fertility. Further evaluation of the fertility data involved an observation of the population aged 0-4 and 5-9 years, which are important estimates of the level and trends of fertility (Rele, 1967). Evaluation by Srivastava (1977) revealed that under-numeration of the 0-4 year age group was 34.3 percent for males and 32.3 percent females in 1974. The under-enumeration for the age group 5-9 years was 17.9 percent for males and 17.8 percent for females in 1974. In addition, the under-enumerations for 0-4 years in 1984 were 33.2 percent of males and 30.2 percent of females. Another 18 percent of the females were under-estimated in the 5-9 year age category (Saydee, 1992).

7.0.3   Methodology

Owing to the lack of reliable information on vital registration statistics in many developing countries, including Liberia, a number of attempts have been made in the recent past by various researchers to develop indirect techniques for estimating the levels of fertility from information on age-sex distributions of populations, using retrospective data on number of children ever born and births to mothers in the last 12 months at various ages. Such data are generally available from population census and/or demographic sample surveys and are relatively of better quality than civil registration statistics in many developing countries (Brass et al, 1968 and United Nations, 1983).

For assessing the levels and trends of the fertility situation and in view of the lack of reliable data on birth records, it was proposed in this chapter to utilize some of the indirect techniques for fertility estimation. Below is a summary of the theoretical foundations of some of these instruments:

(a)   Brass' P/F Ratio Method

The method developed by Brass (1968) with revised version of multipliers suggested by the United Nations (1983) has also been used to estimate fertility measures for Liberia. The Brass technique, generally known as P/F ratio method, compares the information on children ever born by the age of women and the births in the last 12 months.

The Brass P/F ratio rests on the following underlying assumptions:

(i)   that the imprecision of the reference period of recalled number of births in the year preceding the survey or census is independent of the age of the mother. This means that the pattern of reported age–specific fertility rate is accurate even where the level may not be accurate. This can be described by a simple polynomial equation as:

$F(a) = K(a\text{-}s) (s + 33 - a)^2$; $s \leq a \leq s + 33$,

where $F(a)$ is the specific fertility rate of women aged 'a' years, 's' is the age at the outset of the reproduction and 'k' is a constant which varies with the level of fertility.

(ii)   That the reporting of the number of children ever born by younger mothers is accurate; and

(iii)   the age-specific fertility rates have remained constant over the last thirty years or so.

In case of Liberia, P_3/F_3 has been used in this analysis just as it used by the Liberia Population Group Survey (LPGS) of 1970 and 1971, and the 1974 Population and Housing Census where it derived consistent and better results.

(b)   Rele's Method

Rele (1967) showed that at a given level of mortality, there exists a linear relationship between the child woman ratio (CWR) and gross reproduction rate (GRR). This can be expressed as:

$\qquad GRR = (a_n + b_n)\ CWR$ …………………………(1).

The proportion of CWR was used to derive an intrinsic birth rate (IBR) by the use of a second degree polynomial as follows:

$\qquad IBR = (a+b)\ CWR + c * CWR^2$………………………...(2);

where 'a', 'b' and 'c' are constant coefficients derived by Rele using a selected stable population with different combinations of fertility and mortality. The intrinsic birth rate can be transformed into a crude birth using adjustment factors between the study population and the stable population.

The estimate of the gross reproduction rate and the crude birth rate for a given population are functions of the approximate value of expectation of life at birth for a country and the quality of expectation of the population particularly, the population aged 0-4 and 5-9 years respectively. The fertility estimate based on children aged 0-4 corresponds to the period five years preceding

the census and the one based on children aged 5-9 corresponds to the period 10 years preceding the census.

The expectations of life at birth for Liberia were determined from information on children ever born and children surviving to mothers in the reproductive age groups (15-49 classified by quinquennial ages), using Brass' technique (Brass, 1968) with modified multipliers suggested by the United Nations (1983). Using the Software Package (MORTPAK-LITE) developed by the United Nations (1988), the expectation of life at birth for both sexes using North Model life table has been estimated for Liberia (Saydee, 1990). The combined expectation of life at birth for both sexes obtained from the relevant data of the 1984 census in conjunction with the abridged life tables for males and females in 1971 (Liberia, 1971) were used to estimate the corresponding female expectation of life at birth. The sex ratio at birth of 106 of the 1986 Demographic and Health Survey was used (Liberia 1988). The North family of the Model life Tables by Coale and Demeny (1983) was used because experience has shown that the current demographic situation in the West African countries could be favourably compared with the condition of North European countries in the nineteenth century.

7.1   Fertility Levels and Patterns

7.1.1   Estimates of Period fertility

The estimated crude birth rate based on births prior to the 1984 census and children ever born to mothers was 54 per thousand population as in Table 7.1. Other estimates of crude birth rates for Liberia ranged from 49.5 for the periods 1964-69 to 53 per thousand population in 1979-84 by the application of Rele's method. Moreover, the crude birth rates from the Liberia Population Growth Surveys (LPGS) were 50 and 51 per thousand population for 1970 and 1971 respectively Republic of Liberia, 1970, 1971).

Table 7.1: Estimates of Crude Birth Rates, Liberia 1964-1984

PERIOD	UNITED NATIONS	RELE
1984	54	-
1979-84	-	53.0
1974-79	-	52.9
1969-74	-	49.5
1964-69	-	49.5

The high level of fertility in Liberia was attributed to the relatively low socio-economic development levels that conditioned the low status of women and low contraceptive prevalence. For instance, female school attendance was 19.1 percent compared with 31.8 percent for males in 1984. In addition, women married at relatively early ages than men. Ninety-four percent of females married before 25 years of age compared with 24 percent of the men. Hence, early marriage and the traditional socio-cultural value systems associated with childbearing affected

the status of women. Moreover, the contraceptive prevalence rate in 1986 was 8.4 percent (Republic of Liberia, 1988).

It was, therefore, observed that between 1964 and 1984, fertility was persistently high in Liberia. The estimated birth rates in Liberia were similar to those of other countries in West Africa. For example, the estimated crude birth rates in Guinea, Mali and Nigeria were 51 per thousand while, 50 per thousand population was observed for Cote d'Ivoire and 49 and 48 per thousand population were reported for Benin and Sierra Leone for 1985-90 respectively (UN, 1990).

7.1.2   Age Specific Fertility Rates

The analysis of fertility experience of women was also done using age specific fertility rates. This method of analysis overcame the inherent problems in the use of the crude birth rate by being unaffected by differences between the groups in age-sex composition of women.

The age specific fertility rates estimated for the period 1984 revealed that child bearing in Liberia started early and at a high level which was maintained with slight changes for almost 20 years from the start of the reproductive period. The age specific fertility rates were relatively high for women in the age group 15-19 at 238 per thousand females in 1984 compared with 228 per thousand females in 1974. The fertility rates by age groups of women were relatively high in 1984 compared with the 1974 census but the rate began to decline with advancement in reproductive age (Table 7.2). The mean age at childbearing remained almost unchanged for both censuses. In 1974, the mean age of childbearing was 28.5 years and by 1984, it had reduced by only 0.2 years.

Table 7.2: Age Specific Fertility Rates per 1,000 Females, 1974-1984

AGE GROUP (YEARS)	1974 CENSUS	1984 CENSUS
15-19	228	237.6
20-24	280	296.8
25-29	288	293.5
30-34	250	230.7
35-39	185	176.5
40-44	85	101.0
45-49	31	62.4
Mean age at child birth	28.5	28.3

Table 7.3 shows the total fertility rates for Liberia. In 1984, each Liberian female was expected to bear 6.9 children by the end of her reproductive life. The data revealed that total fertility rates ranged from 6.5 between 1964-1969 to 6.8 children per woman between 1979 and 1984. Similar results, for example, 6.7 children per female, were observed for the 1974 census and the Liberia Population Growth Survey in 1971. It was observed that even for sub-Saharan African situations, these estimates were on the high side. What was more was the tendency for fertility to increase even though slightly.

Table 7.3: Total Fertility Rates, Liberia 1964-1984

PERIOD	METHOD	
	UN	RELE
1984	6.9	
1979-84	-	6.8
1974-79	-	6.7
1969-74	-	6.9
1964-69	-	6.5
1974	6.7	

7.1.3   Reproductivity

The data in Table 7.4 revealed that every female in Liberia on the average reproduced 3.3 daughters by the time she completed her reproductive period in 1984. Considering the calculations of fertility from the United Nations' and Rele's methods, this statistic was seen to have remained constant during the 1964-1984 period. However, 2.1 daughters survived to replace their mothers in the next generation. The 1974 data showed the net reproduction rate of 2.3 daughters (Republic of Liberia, 1981). However, due to mortality, Liberian mothers lost 36.4 percent of the potential mothers they reproduced to replace them in the next generation.

Table 7.4: Gross and Net Reproduction Rates, Liberia 1964-1984

PERIOD	METHOD (GRR)		NRR
	UN	RELE	
1984	3.3	-	2.1
1979-84	-	3.3	-
1974-79	-	3.3	-
1969-74	-	3.4	-
1964-69	-	3.3	-
1974	3.3	-	2.3

7.1.4   Parity Analysis

The parity distribution of women showed that zero parity was 39.5 percent and 14.9 percent for women in age groups 15-19 and 20-24 respectively. These women were about twice more than the rest of the childless women in the female population. The zero parity declined steadily as age advanced (Table 5). It was also observed that 39.8 percent and 22.4 percent of women aged 15-19 and 20-24 years respectively had only one child. However, 12.6 percent of women of ages 25-29 years had one child. The percentage of women with one child declined with age. The most likely women to bear two children were in the 20-24 years age group. The percentage reduced to 17.1 percent for the age group 25-29 years and for younger women (15-19 years), the second parity was 12.5 percent.

The data further showed that for women with seven and more children, the percentage increased with increasing age. This was also the picture for women with five children. In sum, the number

of children born to women increased as they passed through their reproductive life span (Table 7.5).

The parity distribution of women for rural and urban areas as displayed in Tables 7.6 and 7.7 revealed some variations. Urban women of zero parity were higher in proportion for each age group of the reproductive years than their rural counterparts; except for terminal ages 45-49. As can be expected, the zero parity decreased steadily with age for urban and rural women and the proportions were about equal for age groups 35-39 and 40-44.

Table 7.5: Percent of Parity Distribution of All Women by Age, 1984

AGE	TOTAL	0	1	2	3	4	5	6	7 +
15-19	100.0	39.5	39.8	12.5	4.6	1.7	0.9	0.5	0.5
20-24	100.0	14.9	22.4	26.1	16.9	9.7	4.9	2.4	2.7
25-29	100.0	7.9	12.6	17.1	18.1	15.3	11.7	7.7	9.8
30-34	100.0	5.6	8.3	10.9	13.2	13.6	12.4	10.9	25.2
35-39	100.0	4.8	6.6	9.0	10.3	10.8	12.3	10.4	35.8
40-44	100.0	4.6	6.6	7.6	8.7	9.4	11.2	9.6	42.3
45-49	100.0	4.6	6.9	7.6	8.2	9.2	10.6	9.3	43.6

Moreover, it was observed that 41.9 percent and 22.2 percent of women of 15-19 and 20-24 years respectively in rural areas had single child parity compared with 37.0 percent and 23 percent for women in urban areas of same age groups. For age group 25-29 years, 13.5 percent was observed in urban compared to 11.4 percent in rural areas. In total, the percentage who reported to have ever borne one child was hardly dissimilar for both rural and urban women between the ages of 15 and 29. This was also true of women with parities three and four but the same could not be said of women of 30 years and above; especially those women who reported seven or more children.

Table 7.6: Percent of Parity Distribution of Rural Women by Age, 1984

AGE	TOTAL	0	1	2	3	4	5	6	7 +
15-19	100.0	36.7	41.9	12.9	4.6	1.8	1.0	0.5	0.5
20-24	100.0	14.0	22.2	26.7	16.9	9.8	5.0	2.4	3.0
25-29	100.0	7.4	11.4	16.7	18.5	15.6	11.8	8.0	10.6
30-34	100.0	5.3	8.1	10.3	13.0	13.7	12.3	11.0	26.3
35-39	100.0	4.7	6.4	8.5	10.0	10.7	12.4	10.5	36.8
40-44	100.0	4.6	6.5	7.5	8.4	9.3	11.2	9.5	43.0
45-49	100.0	4.4	6.8	7.3	7.8	9.0	10.4	9.2	45.1

A close observation of the general trend in Tables 7.6 and 7.7 further revealed that the fertility pattern at the national level repeated at the urban and rural levels. But although parity increased with age, the proportion of rural women involved were in excess of urban women for virtually all parity levels more than two children per women, and at ages of 20 years and above.

7.1.5 Prevalence of Childlessness

According to Shryock et al (1976, 306), "childlessness is an important subject for consideration since it has a relationship to the replacement of population. If a large proportion of women in a given population are childless, the burden of replacement falls on the remaining women in the childbearing ages of the population". In this analysis, information on women in a state of never having borne a live child (childlessness) in the period before 1984 is presented in Table 8.

Table 7.7: Percent of Parity Distribution of Urban Women by Age, 1984

AGE	TOTAL	0	1	2	3	4	5	6	7 +
15-19	100.0	43.4	37.0	11.8	4.6	1.6	0.8	0.4	0.4
20-24	100.0	15.9	23.0	25.4	16.8	10.0	4.6	2.3	2.4
25-29	100.0	8.6	13.5	17.6	17.7	14.9	11.5	7.2	9.0
30-34	100.0	5.9	8.5	12.0	13.6	13.3	12.7	10.7	23.3
35-39	100.0	4.8	6.9	10.0	11.1	11.2	12.1	10.3	33.6
40-44	100.0	4.5	7.2	8.6	9.4	10.2	11.5	9.8	38.8
45-49	100.0	5.0	7.1	8.0	9.5	9.7	11.4	9.3	40.0

Childlessness is zero parity and this has been discussed in part in the preceding subsection. For more details, the relevant aspects of Tables 7.6 and 7.7 were extracted to form Table 7.8. The table shows that prevalence of childlessness in Liberia was 14.1 percent in 1984. The lowest incidences of childlessness occurred among women 35-49 years of age.

Childlessness in the urban areas was 17.5 percent compared with 12.2 percent in the rural areas. This higher level of childlessness in the urban areas was found to occur at all ages. In addition, there was an inverse relationship between age of women and the incidence of childlessness among them. The high prevalence of childlessness in the urban areas could be associated with the quest for education, work and social and economic advancement. In the rural areas, very low incidences of childlessness were recorded especially of women older than 34 years of age. This may have been due to the rural socio-cultural pressures that encouraged the women to procreate.

Table 7.8: Percent Distribution of Childlessness by Age of Women and Place of Residence, 1984

AGE	LIBERIA	RURAL	URBAN
15-19	39.5	36.7	43.4
20-24	14.9	14.0	15.9
25-29	7.9	7.4	8.6
30-34	5.6	5.3	5.9
35-39	4.8	4.7	4.8
40-44	4.6	4.6	4.5
45-49	4.6	4.4	5.0
50-54	5.1	4.9	6.0
55-59	5.1	4.8	6.4
60+	6.2	4.4	7.5
Total	14.1	12.2	17.5

7.2   Fertility Differentials

7.2.1   Rural-Urban Differentials in Fertility

The data from the 1984 census indicated that crude fertility levels in the urban areas were higher than the rural areas. The data in Table 7.9 shows that crude birth rate of 55.7 per thousand population was observed in the urban areas compared to 53.7 per thousand population in the rural areas. However, the 1974 census data showed that the crude birth rates were 49.3 in rural compared to 48.8 per thousand population in the urban areas. Thus, the fertility situation in 1984 was a reversal of that in 1974. It was strange that urban fertility should surpass rural fertility; contrary to the conventional wisdom.

The likely explanation for this was that Liberia was probably experiencing a massive wave of rural-urban migration in which rural fertility traits found their way into the urban centres. Sesay, I.M. (1995) had posited for a similar situation in Sierra Leone that at some point in urbanization, rural fertility patterns were transferred to the urban milieu through the migration of young, virile and marriageable youths that dominated in the migration stream. In the 1984 case of Liberia, this probably signaled that the estimate of fertility (as measured by the crude birth rate) in the 1983-1984 period confirmed this scenario. In addition, the population in urban areas was very small (39 percent) and it may not have been very different from the rural population.

The crude birth rate ranged from 48.2 per thousand population in rural areas between 1974 and 1979 to 51.4 per thousand population in 1974-79. In the urban areas, crude birth rates were 48.7 per thousand population for the period 1964-69 had increased to reach 51.9 per thousand population in 1979-1984 (Table 7.9).

Table 7.9: Rural and Urban Levels and Trends of Crude Birth Rates, 1964-1984

PERIOD	RURAL		URBAN	
	UN METHOD	RELE'S METHOD	UN	RELE'S METHOD
1984	53.7	-	55.7	-
1979-84	-	49.0	-	51.9
1974-79	-	48.2	-	52.9
1969-74	-	49.7	-	48.9
1964-69	-	51.4	-	48.7
1974	49.3	-	48.8	-

Table 7.10 reveals that the fertility rates for all ages were relatively high in both censuses but declined with advancement in reproductive ages of the women. The pattern of fertility for both the urban and rural areas could be described as broad peak pattern. The age specific fertility rates were relatively high for women in the 15-19 age group in the rural areas (245.9 per thousand females) compared with 226.8 per thousand for urban women in 1984.   The corresponding fertility rates for the same age groups were relatively low in 1974.

The data also revealed that mean ages of childbearing in the rural areas was 28.7 years and 27.7 years in the urban areas in 1974. Moreover, 28.3 years was observed for rural and 28.2 years in urban areas in 1984.

The data in Table 7.11 indicated that in 1984, total fertility rate was 7.2 for rural and 6.7 females in the urban areas. This higher rural fertility correlated with the results obtained in Table 7.10 (above) and revealed that retrospective fertility indicators were higher in the rural areas.

Table 7.10: Age Specific Fertility Rates per 1,000 Rural and Urban Females, 1974-1984

	1974		1984	
AGE	RURAL	URBAN	RURAL	URBAN
15-19	221	239	245.9	226.8
20-24	279	278	304.0	287.4
25-29	294	267	300.2	284.6
30-34	255	229	236	223.9
35-39	196	140	182.2	167.8
40-44	90	56	105	93.4
45-49	30	35	66.7	52.5
Mean age at childbearing	28.7	27.7	28.3	28.2

However, put against the information in Table 7.9, current fertility levels showed that urban areas had increased fertility experiences and recorded higher crude birth rates than in rural areas.

Considering trends in the fertility analysis, the total fertility rates ranged from 6.3 children per woman in the rural areas between 1964 and 1969 to 6.9 children per woman in the 1969 to 1974 period. In the urban areas, total fertility rates ranged from 6.0 children per woman in 1979-84 to 6.9 children per female in 1969-74. The 1974 census data recorded 6.8 children per female in rural areas compared with 6.2 children per female in urban areas.

Table 7.11: Total Fertility Rates for Rural and Urban Areas by Various Methods, 1964-1984

PERIOD	UNITED NATIONS' METHOD		RELE'S METHOD	
	RURAL	URBAN	RURAL	URBAN
1984	7.2	6.7	-	-
1979-84	-	-	6.9	7.1
1974-79	-	-	6.0	6.9
1969-74	-	-	6.3	6.7
1964-69	-	-	6.1	6.4
1974	6.8	6.2	-	-

From the data, it was calculated that in 1984, 2.1 daughters in the rural and 2.2 daughters in urban areas will survive to replace their mothers in the next generation. The calculated net reproduction rate (NRR) of 2.2 daughters in rural and 2.3 daughters in urban areas for 1974, therefore, indicated that the NRR had declined slightly by 1984.

The discussion on prevalence of childlessness showed that 89.9 percent of females were recorded as having borne children at the time of the 1984 census. Thus, the almost 2.2 daughters that would have to be produced to replace the mothers of the generation before the census were to come from these females. This worked out at 87.8 percent of rural and 82.5 percent of urban females who were not childless.

7.2.2   Socio-Economic Differentials

Since the incidence of fertility is known to be influenced by various social and economic characteristics, an attempt was made to explain fertility differentials by some of these variables. In Table 7.12, the total fertility rates and mean age at childbearing are displayed. At the national level, the fertility rates for women of the two main religious groups were the same. But whilst Muslim women recorded a higher fertility rate in the rural areas, the reverse was true of the urban women. If the mean age at childbearing is considered, Muslim women were seen to have lower ages at the national, rural and urban levels of geography than their Christian counterparts. It was, however, not clear why despite these differentials, the observed total fertility rates were not different.

Women reported to belong to no religions or to religious affiliations other than Islam and Christianity consistently recorded fertility levels of half a child lower than those of Muslim and Christian women. In addition, these women with no religious affiliations showed average childbearing ages of about three months younger than the rest of the women. Thus, they started childbearing earlier but ended up with smaller completed family sizes than Christian and Muslim women.

Table 7.12: Total Fertility Rates and Mean Age of Childbearing by Religious Affiliation and Place of Residence, Liberia 1984

Religion	Liberia TFR	Mean Age	Rural TFR	Mean Age	Urban TFR	Mean Age of Childbearing
Christian	6.6	25.3	6.7	25.2	6.4	25.3
Muslim	6.6	25.0	6.9	24.9	6.1	24.9
Other/No religion	6.2	24.7	6.2	24.8	5.8	24.5

When the fertility differentials were examined by parity (Table 7.13), it was shown in fact that a little over two-thirds of the female population was Christian, and women with no religious affiliations and Muslim women accounted for about 19 and 14 percent respectively. Of the 173,175 women that were childless, close to 76 percent were Christians. This was an indication that the proportion of childless Christian females was higher than their proportion in the total female population in 1984. The other categories of women recorded lower proportions of childlessness than of their populations by roughly four percent apiece.

Table 7.13 further shows that at the various parity levels, Christian women had a disproportionate contribution with respect to their weight in the female population. The rest of the women registered more percentages at each parity level than their proportion in the sex specific population. Thus, it was not easy to say why the women with no religious affiliation exhibited the lowest completed family sizes.

Social differentials of fertility were also examined with respect to education by geographic residence of the female population. According to Table 14, women with primary level of education had the highest completed family sizes in the population. It was possible that they did not observe abstinence and breast feeding; otherwise, it was difficult to understand how women with some education should register higher births than those with no education.

Table 7.13: Percent of Parity Distribution of Women by Religion, 1984

RELIGION	TOTAL FEMALE POP.	P A R I T Y							
		0	1	2	3	4	5	6	7 +
Christian	67.71	75.65	65.22	65.26	65.10	64.78	63.47	64.75	66.04
Muslim	13.49	9.48	15.63	15.47	15.02	15.01	15.45	13.61	13.22
None/Other	18.80	14.87	19.15	19.27	19.88	20.21	21.07	21.64	20.74
TOTALS	709,593	173,175	125,161	83,749	67,486	55,345	49,827	37,179	117,671

Women with "no grade applicable" recorded the lowest total fertility rates in the population (Table 7.14). These were probably women with some education but placing them into the educational categories in Liberia at the time of the census proved difficult and impracticable. Observation of the data revealed that they were 3,084 in number, represented 0.43 percent of the female population and contributed 12,679 children (0.55 percent) to the total ever born to all women.

Further in the table, it is shown that the mean age at childbearing of women with "no grade applicable" was the highest (27.6 years) in the female population; on average more than a year higher than any other group of women. The fact that this average age at the national level showed notwithstanding the correspondingly low figure (24.5 years) at the urban level depicted that the distribution of these women was in favour of rural areas. Again, as none of them were recorded of having children below age 20, they probably had started childbearing from 1964 onwards. Thus, these were amongst the oldest women in the population.

Table 7.14: Total Fertility Rates and Mean Age of childbearing by Education and Place of Residence, 1984

Educational Status	Liberia TFR	Mean Age	Rural TFR	Mean Age	Urban TFR	Mean Age Of Childbearing
No education	6.7	24.8	6.6	24.9	6.5	24.7
No grade applicable	4.4	27.6	4.9	27.7	4.0	24.5
Primary	7.0	26.0	7.0	26.3	7.0	25.7
Secondary	6.4	26.5	6.9	27.0	6.4	26.4
Vocational	5.5	26.1	5.1	24.7	6.4	26.4
College	4.5	26.4	4.1	24.5	4.6	26.8

It was curious to note that the most highly educated rural women (i.e., of the vocational and college level of education) had lesser completed family sizes than their counterparts in the urban areas. The mean age at childbearing of these women was approximately two years lesser than

their urban counterparts (Table 7.14). The likely scenario was that these educated rural women started and ended childbearing much earlier and with fewer children than other women. It was surmised that the pack included women of high socio-economic backgrounds who had lived most of their lives in the urban areas but who were either working or had returned to live in the rural environment at the time of the census enumeration in 1984.

7.3 Conclusion and Recommendations

7.3.1 Summary and Conclusion

The level of fertility in Liberia as indicated by the estimated crude birth rate in 1984 was 54 per 1000 population compared with 49 per 1000 population in 1974. Females were expected to bear 6.9 children by the end of their reproductive period. The gross reproduction rate was 3.3 and net reproduction rate showed that 2.1 daughters survived to replace their mothers in the next generation. The mean age at childbearing was 28.3 years; 28.3 years in rural compared as against 28.2 years in urban areas. This persistent high fertility was attributed to the low socio-economic development, including the low status of women, and contraception use. But this high fertility regime in Liberia was consistent with that observed in other West African countries.

The data revealed that childlessness was 14.1 percent in Liberia. About 17.5 percent of urban women were childless compared to 12.2 percent in the rural areas. The average number of children ever born per woman was 6.19, which is considered as the completed fertility. Of this, 6.3 children per women were observed in rural areas compared to 5.9 children in urban areas.

The analysis revealed that childbearing began early and at a high level and continued with little changes for about 20 years from the start of the reproductive period. The mean age at childbearing was almost unchanged for both the 1984 and 1974 censuses. The mean age at childbearing was 28.5 years in 1974 and reduced by 0.2 years in 1984.

The quest for education, work, social and economic advancement and some contraceptive use in urban areas were responsible for the high prevalence of childlessness. The low level of childlessness in the rural areas was because women were under socio-cultural pressures to procreate.

Current fertility levels in the urban areas were higher than in the rural. This was attributed to the massive rural-urban migration in which rural fertility traits and behaviours were transferred to the urban milieu.

Women of no religious affiliation had fertility of half a child lower than those of Muslim and Christian women. Their mean age at childbearing was about three months younger than the rest of the women. Although the fertility rates for Christian and Muslim women were the same at the national level, high fertility was observed for Muslim women in the rural areas and the reverse was true for urban areas.

The findings also revealed that advanced education and more years of schooling were associated with fewer children.

7.3.2   Policy Implications

It has been observed that the persisting high fertility in Liberia was imbedded within the problem of the relatively low socio-economic development. Substantial reduction in fertility could be achieved through a concurrent improvement in the living standard of the population and adequate provision of family planning services. The improvements in living standards include the development of human resources, particularly the female population. This would enable them to be gainfully employed in productive and sustainable activities, outside the traditional agriculture, improvement in agricultural activities, infrastructure development, and construction of roads in the rural areas so that the family planning services can reach the needed people at affordable cost. This could be achieved through integrated development approach which will increase food production, lead to self-sufficiency and self-reliance.

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CHAPTER 8: MORTALITY

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CHAPTER 8: MORTALITY

Chea Sanford Wesseh

8.0   Background

In Liberia, many attempts have been made to investigate mortality conditions over the past two decades. For instance, results from the Liberia Population Growth Surveys of 1970 and 1971 conducted by the Ministry of Planning and Economic Affairs showed that the crude death rate was around 16 and 21 per thousand population respectively (LPGS, 1971 and 1972). The increase observed in 1971 has largely been attributed to the outbreak of cholera epidemic during this period.

Evidence from Africa indicates that mortality levels are quite high. It has been documented that infectious diseases and other preventable causes of death which existed about hundreds of years ago are still major causes of deaths particularly among infants and children. Estimates in the early 1980's showed that crude death rate for West Africa was 19 per thousand population and infant mortality rate was 159 per thousand live births (Population Reference Bureau, 1980).

Researchers in mortality studies have emphasized the importance of infant and child mortality while examining mortality differentials with regards to various characteristics. It has been found that place of residence and mothers' education, among others, influence mortality levels.

Liberia is one of those developing countries in Africa confronted with undesirably high mortality rates, particularly infant and childhood. To address this critical problem, it is imperative that Liberia have a clear understanding of the nature and magnitude of the problem in order to develop appropriate strategies and programs that will reduce morbidity and mortality. Moreover, owing to the unavailability of reliable data on mortality, it is difficult to assess the major reasons for the appalling mortality rates. A comprehensive investigation into mortality among different social groups provides empirical evidence for national health policies and plans.

8.0.1   Introduction: Relevance of Data on Mortality

Measures of mortality are used for a number of purposes. For instance, maternal and childhood mortality are often used as broad indicators of social development and to assess the health status of a country. Consequently, mortality analysis is supportive in identifying promising direction for health programs and advancing maternal and child survival initiatives.

Mortality, like other areas of demography (fertility, nuptiality, reproduction and migration), is important and useful to understand population dynamics as well as socio-economic conditions prevailing in the country. There are several factors that influence mortality rates and levels. Therefore, the need to reduce mortality particularly during infancy and childhood has been the major concern of national governments irrespective of their level of development and political differences. Accelerating interventions that will alleviate suffering due to morbidity and reduce mortality has drawn the attention and support of the United Nations Agencies, development partners, and bilateral and multi-lateral agencies, among others. In furtherance of global

initiatives aimed at addressing the problems of early childhood morbidity and mortality, the World Health Organization in its Alma Ata Declaration signed in 1978 mandated all members to properly design policies, plans and research activities relating to mortality reduction.

To assess progress made towards achieving these targets set by government that relate directly to mortality reduction, and to develop policies and plans that are evidence based, it is important to analyze mortality information. Additionally, national health policies and plans are monitored and evaluated based on morbidity and mortality data.

8.0.2 Nature, Scope and Limitations of Data

Mortality investigation in many developing countries particularly sub-Saharan African countries like Liberia is crippled by inadequate and unreliable data on deaths. Limited access to quality and accurate data usually serve as an impediment for evidence based planning and policy formulation especially in the health sector.

Registration of vital events such as births, deaths and marriages, etc., are obligatory and compulsory throughout the country as enshrined in Liberia Code of Law of 1956 which was revised in 1976. However, data gathered as mandated by this Code of Law is limited in coverage, inaccurate and unsatisfactory. Thus, statistical information for demographic analysis relating to mortality is scanty and far from accurate.

Liberia has conducted three successful national censuses in 1962, 1974 and 1984. There was no direct question relating to mortality in these censuses. However, some indirect questions were asked in the 1974 and 1984 censuses. Information on children ever born and children surviving were collected from all eligible women (15-49 years). In this study, however, the Liberia Demographic and Health Survey and the Liberian National Population Growth Survey (LPGS) of 1970 and 1971 mortality information have been used to compare mortality rates, trends, and experiences in the country.

The 1984 census data have a number of limitations. It suffers mainly from content errors like age misstatement which are common in many censuses and surveys conducted in developing countries, especially in Africa. Van de Walle (1968), for example, has indicated that many African census and surveys are generally affected by age misreporting. Such errors might arise because of inadequate training of field staff and untruthful response from interviewees. Apart from these errors, some of the respondents did not answer some of the questions.

The major causes of age misstatement in Liberia are ignorance, the lack of appreciation of the importance of correct reporting of ages and partly due to high level of illiteracy. Misreporting of date of birth of children is common in many surveys and censuses that include both demographic and health information for children born since a specific date. Event underreporting is usually more severe for deaths that occur in early infancy. Omission of deaths may also be common among women who have had several children especially, in the case where the death took place long time before the census. The effect of such an error is to distort the quality of the data.

8.0.3   Methods of Analysis

Infant, child and adult mortality rates and differentials in Liberia are examined by retrospective data on children ever born and children surviving (CEB & CS) to mothers of reproductive age (15-49 years). The analysis of mortality is generally considered under two main headings: (i) Infant mortality and (ii) child and adult mortality.

Indirect techniques are employed to estimate mortality rates and levels. The Trussell's (1975) and Brass's (1968) methods were used to estimate infant and child mortality. The Myburgh's method developed to estimate life expectancy at birth was used to generate life expectancy for births occurring to women aged 15-49 years.

The Lotka's method developed in 1907 for estimating crude death rate based on the concept of stable population was also employed in this report. The method is based on the assumption of the constancy of age-specific birth rates and death rates for an indefinite period (Shryock, et al, 1976: 316-319).

8.1   Indirect Estimation of Mortality from Retrospective Data

Estimates of mortality rates and levels were based on retrospective data on children ever born, surviving and dead occurring to women of reproductive age.

8.1.1   Infant, Under Five and Child Mortality Levels

This section, examines infant and childhood mortality in 1984. The mortality data collected by the 1984 census was based on children ever born and children surviving to mothers 15 to 49 years.

The infant and childhood mortality rates based on the census data were estimated on a period bases rather than birth cohort. This means that information on children dead during infancy, childhood periods and the corresponding population exposed to the risk during a specific time period were used for estimating mortality rates.

It is well known that the proportions of children ever born who have died are indicators of child mortality and can yield robust estimates of childhood mortality. Infant and childhood mortality levels may be assessed by examining data on the proportions of children dead or still alive among all children ever born. This information is tabulated by the age of women as shown in Table 8.1.

Approximately 24 percent or almost one in four children born to women aged 15-49 years died. This rate does not only indicate very high levels of infant and childhood mortality, but also implied low access to family planning services and limited child survival health programs in the country.

Table 8.1: Mean number of children ever born, surviving and dead, and proportion of children dead by age of women, Liberia 1984				
	Mean Number of Children			
Age of Woman	Ever Born	Surviving	Dead	Proportion Dead
15 – 19	0.6129	0.8639	0.0834	0.1361
20 – 24	2.2531	1.8223	0.4308	0.1912
25 – 29	3.4872	2.7538	0.7334	0.2103
30 – 34	4.7111	3.5733	1.1378	0.2415
35 – 39	5.4937	4.0156	1.4782	0.2691
40 – 44	6.0140	4.1603	1.8537	0.3082
45 – 49	6.1880	4.1364	2.0516	0.3315
Total	2.610	1.6603	0.9517	0.2411

Generally, the mean number of children ever born, surviving and dead, as well as the proportion of children dead should increase consistently with the age of women. The 1984 census data confirms this universal pattern of the proportion of children dead increasing with the age of women. In other words, older women were most likely to experience high childhood mortality than younger women.

Data from the Liberia Population Growth surveys and the preceding censuses (1962 & 1974) showed high levels of infant and childhood mortality. The estimate of infant and child mortality for 1983-1984, shows that infant mortality rate is 125 deaths per 1,000 live births. This meant that one out of every eight children born during the period died before their first birthday. Child mortality was 180 deaths per 1,000 children while under-five mortality was 195 deaths per 1,000 population under five. These very high mortality rates pointed to a significant loss of infants in the country and perhaps limited and poor child survival programs.

Appendix 8A shows infant and childhood mortality rates by women of reproductive age by Trussell's Method. The table reveals that younger mothers' experienced lower proportion of children dead than older mothers and that the proportion dead increased with the age of mothers. However, these differentials in childhood mortality could not be explained by the amount of information in the 1984 census data (Appendix 8A).

Table 8.3 presents infant and childhood mortality levels by Brass's method. The Brass technique showed higher infant and child mortality levels than the Trussell method for children born to women of ages 15 to 34 years of age. This conformed to some general mortality findings around the world where analysis on mortality were carried out by both Trussell's and Brass's techniques (Appendix 8B).

Table 8.2 indicated that the difference between Trussell's and Brass estimate of infant mortality was 13 deaths. For child (26) and under five (27) mortality, the difference was even wider.

Figure 8.1 presents the difference in infant and child mortality by Trussell's and Brass' methods. It showed a slight difference for children born to younger women (15-34 years) than older

women (35-49 years). For women 35-39 years, the Brass method revealed a lower mortality level than the Trussell.

Table 8.2: Estimation of Infant and Child Mortality by Various Methods

Age Group of Women	Proportion of Children Dead (Di)	Parameter Estimated	Trussell qx	Brass qx	Difference Per 1,000
1	2	3	4	5	7 = 5 – 4
15 – 19	0.1361	q (1)	0.118	0.131	13
20 – 24	0.1912	q (2)	0.167	0.193	26
25 – 29	0.2103	q (3)	0.182	0.209	27
30 – 34	0.2415	q (5)	0.223	0.242	19
35 – 39	0.2691	q (10)	0.267	0.256	-11
40 – 44	0.3082	q (15)	0.304	0.304	0
45 – 49	0.3315	q (20)	0.323	0.327	4

Mortality patterns in the ages of childhood deserve special mention. The indications are that child mortality between ages one and five was higher relative to infant mortality in Africa than in many other populations. Explanations advanced focus on effects of malnutrition after weaning, the impact of malaria and other parasitic diseases, as well as the consequence of communicable diseases such as measles.

The relationship between infant and child mortality levels is, however, not clear. The evidence on age patterns is dubious. Hospital statistics show a high proportion of child deaths relative to infant deaths, but it is quite possible that a larger proportion of child than infant deaths occur in hospitals.

Figure 8.1: Comparison of Infant and Child Mortality by Trussell's and Brass' Methods
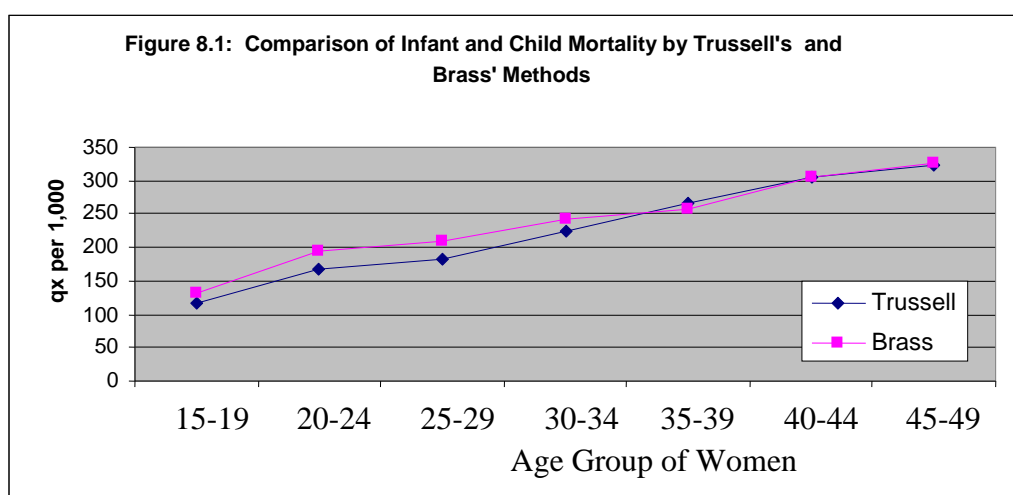
8.1.2 Adult Mortality

Adult mortality is generally difficult to estimate in developing countries because of many reasons. One major reason is many people do not like to talk about the dead. This section

provides estimates on adult mortality, particularly crude death rates using the 1984 data. Comparison is also made of crude death rates in selected West African Countries during the period 1980-81.

The crude death rate for Liberia in 1984 was 20.1 deaths per 1,000 population. Examining gender differential in the rate shows that males (20.8 deaths per 1,000 male population) experienced slightly higher mortality than their female (19.3 deaths per 1,000 female population) counterparts. Table 8.3 presented the crude mortality rate for Liberia based on stable population using Lotka's method (Shryock, 1976: 316)

Table 8.3: Estimation of Adult Mortality Rate by Lotka's Method, Liberia 1984

Age Interval (x to x+5)	Mid point (x + 2.5)	r (x+2.5)	$\dfrac{1}{e^{r(x+2.5)}}$	$\dfrac{{}_5L^F x}{l^F_0}$	Female Stable Population	$\dfrac{{}_5L^M x}{L^M_0}$ (SR at birth 1.06)	Male Stable Population
	1	2	3	4	5=3x4	6	7=3x6
0 - 4	2.5	0.01487	0.98524	4.23519	4.17268	4.39801	4.33310
5 - 9	7.5	0.04461	0.95637	3.99952	3.82502	4.12774	3.94765
10 - 14	12.5	0.07435	0.92835	3.94482	3.66217	4.05691	3.76623
15 - 19	17.5	0.10409	0.90114	3.88727	3.50297	3.98527	3.59129
20 - 24	22.5	0.13383	0.87474	3.79787	3.32215	3.87702	3.39138
25 - 29	27.5	0.16357	0.84911	3.68824	3.13172	3.74901	3.18332
30 - 34	32.5	0.19331	0.82423	3.57334	2.94525	3.61841	2.98240
35 - 39	37.5	0.22305	0.80008	3.45368	2.76322	3.47974	2.78407
40 - 44	42.5	0.25279	0.77663	3.32597	2.58305	3.3218	2.57981
45 - 49	47.5	0.28253	0.75387	3.1797	2.39708	3.13065	2.36010
50 - 54	52.5	0.31227	0.73178	2.99918	2.19474	2.89337	2.11731
55 - 59	57.5	0.34201	0.71034	2.76999	1.96763	2.59856	1.84586
60 - 64	62.5	0.37175	0.68953	2.46934	1.70268	2.23554	1.54147
65+	70	0.41636	0.65944	2.07434	1.36790	1.79986	1.18690
Total					39.53828		39.61090

Female death   0.01934   19.3
Male death   0.02081   20.8
Total death   0.02008   20.1

Figure 8.2 showed crude death rates for selected West African Countries around 1980-81. Gambia experienced the highest among these selected countries whilst Liberia's crude death rate was 15 deaths per 1,000 population; considered as amongst the lowest in this collection of states which also included Ghana, Cote d'Ivore (formerly Ivory Coast), Togo and Nigeria with crude death rates between 13 to 17 deaths per 1,000 population. It was also observed that Cape Verde Islands had the lowest crude death rate of 8 deaths per 1,000 population compared with Burkina Faso (formerly Upper Volta), Guinea, Guinea Bissau, Mali and Sierra Leone who had crude death rates in the range of 19 to 28 deaths per 1,000 population.

Figure 8.2: Crude Death Rates in Selected West African Countries
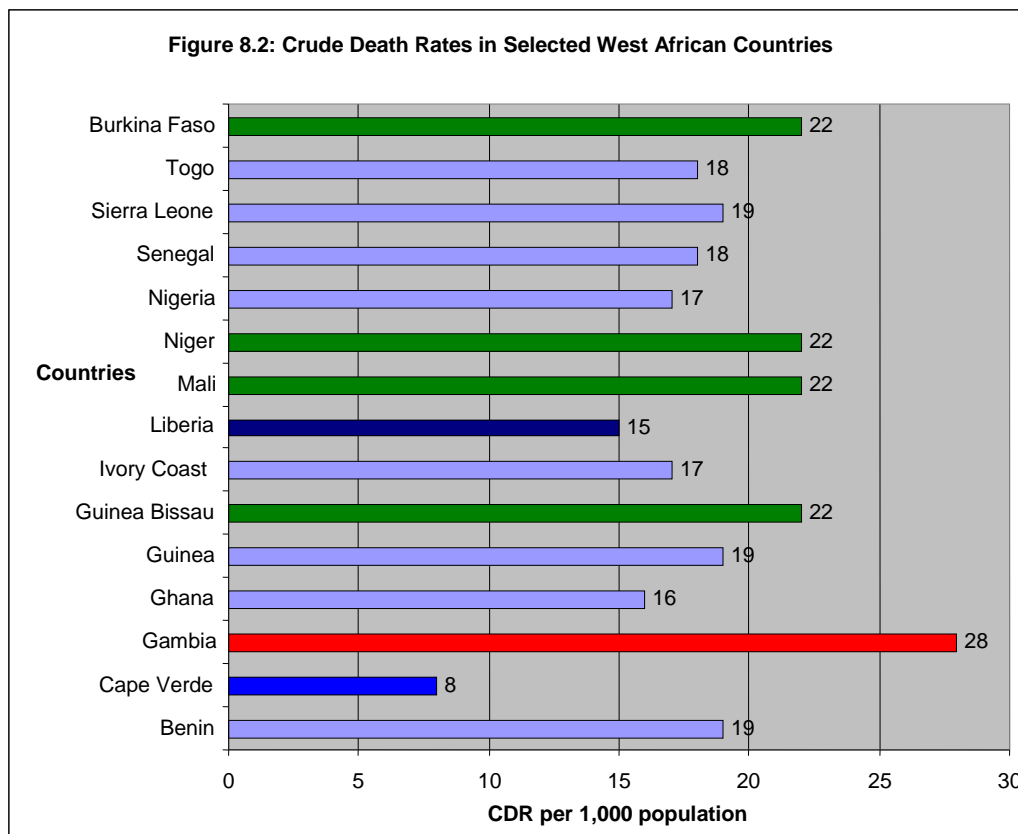
Source: United Nations Economic Commission for Africa, Population Dynamics 1979: p. 205

8.1.3   Life Expectancy

The expectation of life at age x is the average number of years remaining to persons who attain the exact age x (or the average number of years a person aged 'x' can expect to live). The value of the function at age 0 (e_o) is of special interest in mortality analysis. It is the average length of life or expectation of life at birth and is frequently used as a convenient summary of the general mortality experience (Kpedekpo, 1982: 107).

Myburgh's Method, is used to estimate the expectation of life at birth from survival data collected in censuses and surveys. In Table 8.4, the life expectancy at birth in Liberia in 1984 is presented. The table showed that life expectancy at birth was 48.8 years. It also showed that children born to women of younger ages had higher life expectancy than those of older women.

Table 8.4: Life Expectancy at Birth Using the Myburgh's Method (Liberia 1984)

Age of Women	Ct	St	Bt	St/Ct	W0=Bt/Ct	273.5W0	C'	e_o
1	2	3	4	5=3/2	6=4/2	7		
15 – 34	945134	748060	49948	0.7915	0.0528	14.45	12.6	56.06
15 – 39	1250800	971483	55205	0.7767	0.0441	12.07	15.1	54.13
15 – 44	1480236	1130199	57335	0.7635	0.0387	10.59	17.6	51.58
15 – 49	1,677,075	1,261,778	58,539	0.7524	0.0349	9.55	20.1	48.86
15+	1,677,075	1,261,778	58,539	0.7524	0.0349	9.55	20.2	48.76

8.2   Patterns and Trends in Mortality

This section provides information on mortality patterns and trends in Liberia. Although there have been some level of decline in mortality experiences especially in infant and childhood rates, the general situation had been fairly unstable and worsening.

8.2.1   Trends in Mortality Experiences of Liberia

The examination of the patterns and trends in mortality is relevant to assessing progress made in mortality reduction over a given period. This section discusses trends in mortality from 1969 to 1984 in Liberia.

Table 8.5 revealed that the percentage of children surviving among children ever born decreased with age of women during the 1974 and 1984 censuses. Reviewing the two census data, childhood mortality increased considerable for every age group of mothers in the 1984 census. The table also indicated that percentage of change in children dying is highest for children born to women 15-19 and 20-24 years. Overall, the percentage of change in child survival over the ten years period was very minimal.

Table 8.5: Percentage of Children Surviving by Age Group of Women – Liberia 1974-1984

Age Group of Women	Children Surviving		Percentage Change
	1974	1984	1974 – 1984
15 – 19	88.1	84.6	3.5
20 – 24	83.4	80.9	2.5
25 – 29	79.3	79.0	0.3
30 – 34	76.4	75.8	0.6
35 – 39	74.8	73.1	1.7
40 – 44	71.0	69.2	1.8
45 – 49	68.8	66.8	2.0

According to the Liberian Population Growth Survey (LPGS), the crude death rate (CDR) was 21 deaths per 1,000 population in 1971. The 1974 population census estimated the crude death rate was about 17 deaths per 1,000 population. The 1984 population census revealed that the crude death rate is 20.1 deaths per 1,000 population. The overall trends of crude death rates in Liberia are unstable but revealed a worsening situation.

Using indirect methods to estimate infant and childhood mortality as discussed earlier based on number of children ever born and surviving, the trends of infant mortality rates for both sexes combined are presented in Table 8.6.

Overall, infant mortality appeared to be declining. Estimate from the Liberia Population Growth Survey indicates that infant mortality was 148 deaths per 1,000 live births during the period 1970-71. The 1974 population census revealed that infant mortality was 141 deaths per 1,000 live births. Analysis from the 1984 population census put infant mortality rate at 125 deaths per 1,000 live births.

For almost all countries of the world, the expectation of life has been on the increase, an indication that mortality conditions are improving. On the whole, expectation of life for developing countries is generally lower than those of the developed countries, due, of course, to higher levels of mortality.

The estimated rates of mortality by age in 1984 in Liberia are mirrored in the expectation of life at birth of 48.8 years for both sexes combined. The 1974 population census data revealed an estimated life expectancy at birth of 48.9 years for both sexes combined. This indicates no significant change in life expectancy (Table 8.6).

Table 8.6: Mortality Trends in Liberia, 1969-1984

Selected Mortality Indicators	Periods 1969-84	Sexes		
		Male	Female	Both Sexes
Crude Death Rate	1969-74	17.5	17.1	17.3
Crude Death Rate	1970-71	19.5	18.0	18.7
Crude Death Rate	1974	16.8	16.4	16.6
Stable Death Rate	1970-71	18.2	18.5	18.3
Stable Death Rate	1974	17.1	16.0	16.6
Stable Death Rate	1984	20.8	19.3	20.1
Infant Mortality Rate	1969-74	137	154	145
Infant Mortality Rate	1970-71	141	156	148
Infant Mortality Rate	1974	129	145	141
Infant Mortality Rate	1984	-	-	125
Life Expectancy at Birth	1969-74	46.7	48.7	47.7
Life Expectancy at Birth	1970-71	47.4	48.7	48.0
Life Expectancy at Birth	1974	47.9	50.0	48.9
Life Expectancy at Birth	1984	-	-	48.8

Sources: 1. Liberia Population Census Report, 1974
                2. Author's calculation from the 1984 census data

8.2.2   Urban-Rural Differentials in Mortality

Mortality varies not only with age and sex, but also with area of residence (for example, rural or urban), marital status (single or married), occupation and many other factors. No new methods of analysis are required, but the procedure involves classifying deaths and populations by age, year of death, occupation, rural or urban, marital status, etc. The data for such refined analysis are normally obtained in Africa from special sample surveys of mortality or censuses. It can also be obtained from the vital registration system.

The change in mortality differential by rural and urban places of residence indicated that there is considerable improvement in infant and under five mortality situations over time. However, there is a visible decline in child mortality from the periods 1971-1984 and a drastic increased from 1981-84. Table 8.7 revealed vast rural-urban infant and childhood mortality differentials during

the periods 1971-1984. It was encouraging to note that there were gradual improvements in infant and under–five mortality rates in both rural and urban areas but the same could not be said of child mortality rates.

Table 8.7: Infant and Childhood Mortality Trends

	Time Period			Percent Change
Category	1971-1975	1976-1980	1981-1984	1971-1984
Infant Mortality	192	164	125*	- 54
Child Mortality	103	95	180*	+ 43
Under Five Mortality	275	243	195*	- 41
Urban				
Infant Mortality	170	153	121*	- 41
Child Mortality	86	90	182*	+ 53
Under Five Mortality	242	229	157*	- 54
Rural				
Infant Mortality	207	171	114*	- 82
Child Mortality	114	98	246*	+ 54
Under Five Mortality	298	253	200*	- 49

Source : Liberia Population Growth Survey Reports, 1970
Note: * Author's calculation from the 1984 census data

In an earlier section, we discussed infant mortality estimated from the number of children ever born and surviving collected from the 1974 and 1984 censuses. It showed that place of residence had considerable impact on infant and under-five mortality. Data on rural-urban differentials presented in Table 8.8 also revealed considerable rural-urban disparities in infant and childhood mortality. Rural areas experienced higher probability of dying than urban areas. Generally, urban areas experienced lower mortality than rural areas because urban dwellers have access to quality health delivery care and basic social amenities, among others. Figure 8.3, furthermore, presented probabilities of dying by place of residence. The figure revealed that the probability of dying of the child increased as the age of the mother rose. Also, the urban–rural differentials followed a similar trend.

Table 8.8: Children Surviving by Place of Residence , Liberia 1984

Age Group of Women	Percent of Children Ever Born Surviving at Time of Census	
	Urban	Rural
15 – 20	87.1	85.9
20 – 25	82.5	79.6
25 – 30	81.8	77.0
30 – 35	80.0	73.5
35 – 40	77.8	71.1
40 – 45	73.8	67.6
45 – 50	72.0	65.3

In Table 8.9, infant and childhood differentials by place of residence, are displayed. The table revealed that infant mortality was slightly higher in urban areas than rural. On the other hand, under-five and childhood mortality rates in urban areas were quite lower than in rural. There was no exact explanation for this differential especially in the case of

Figure 8.3: Infant and Childhood Probability of Dying by Place of Residence
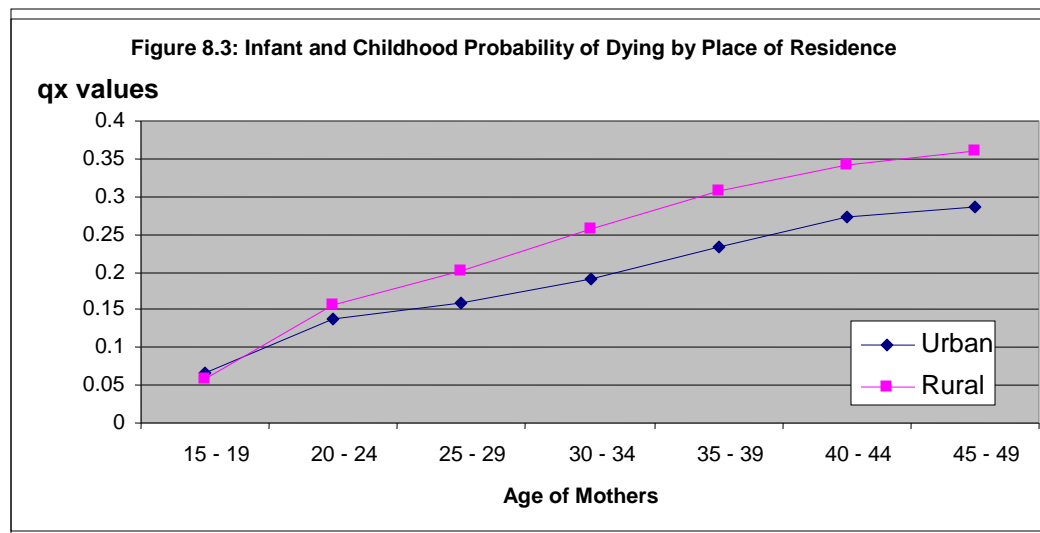
infant mortality rate. This could however, be partly attributed to the wide spread exclusive breastfeeding practices in rural areas than urban and also because of early introduction of breast milk substitute in urban areas. The introduction of early breast milk substitutes in urban areas by mothers who were gainfully employed was very common and this led to diarrhea illnesses and subsequent infant deaths. Usually, the preparation and management of breast milk substitutes were poorly done by caretakers and this could have led to the infants contracting diarrhea.

Table 8.9: Estimation of Infant and Child Mortality by Place of Residence
        Using Trussell's Method

Age Group of Women	Urban			Rural		
	Proportion Dead	Ki	Qx	Proportion Dead	Ki	qx
1	2	3	4	5	6	7
15 – 19	0.143	0.940	0.121	0.141	0.813	0.114
20 – 24	0.175	0.888	0.156	0.204	0.865	0.177
25 – 29	0.182	0.861	0.157	0.230	0.870	0.200
30 – 34	0.200	0.910	0.182	0.265	0.929	0.246
35 – 39	0.222	0.978	0.217	0.289	1.003	0.290
40 – 44	0.262	0.972	0.255	0.324	0.996	0.322
45 – 49	0.280	0.961	0.269	0.347	0.981	0.341

8.3   Conclusion and Policy Recommendations

This section summarizes major findings on mortality rates, levels and differentials in 1984. Some policy recommendations have been made towards ameliorating the impact of morbidity and reducing mortality among the population, especially infants and children.

8.3.1   Summary of Major Findings and Policy Options

By 1984, the mortality situation in Liberia was still undesirable. Mortality estimate in 1983-1984 showed that infant mortality rate was 125 deaths per 1,000 live births, child mortality 180 deaths per 1,000 children and under-five mortality 195 deaths per 1,000 population under five years of age, respectively. These very high mortality rates pointed to significant loss of infants in the country and also poor child health interventions.

The analysis further showed that rural infant and child mortality rates were much higher than those of urban areas. Consequently, urban infants and children had a higher probability of surviving than their rural counterpart. The disparities were mainly due to the preferential treatment in the allocation of more health care resources to urban than rural areas. Development projects that were heavily concentrated in urban areas also tended to improve urban dwellers' lives and provided them with additional basic social services such as education and health care.

The 1984 data showed that children born to younger mothers aged 15-34 had a higher life expectancy than older women age 35 and above years. However, the average life expectancy for children born between 1983 and 1984 was 48.8 years. This figure was considered very low and suggested that many Liberians died at an early age.

The 1984 census data also showed clear trends of declining infant and under-five mortality during the periods 1974 to 1984. The change in mortality differentials by rural and urban places of residence indicated that there was considerable improvement in infant and under-five mortality situations over time in both rural and urban areas.

According to the Liberian Population Growth Survey (LPGS), the crude death rate (CDR) was 21 deaths per 1,000 population in 1971. The 1974 population census estimate of the crude death rate was about 17 deaths per 1,000 population and the 1984 population census revealed that the crude death rate was 20.1 deaths per 1,000 population. The overall trends of crude death rates in Liberia were, therefore, considered unstable.

While infant and childhood mortality levels appeared to be declining, life expectancy at birth stagnated and adult mortality continued to fluctuate over time. The situation was undesirable and if Liberia was to alleviate poverty and reduce morbidity and mortality, it was very important to initiate interventions aimed at vigorously reducing mortality.

The need to reduce mortality particularly during the infancy and childhood periods had been the major concern of national governments irrespective of their level of development. This issue has drawn the attention of the United Nations Agencies, development partners, and other bilateral and multi-lateral agencies among others. In this regard, the World Health Organization in its Alma Ata Declaration in 1978 mandated all member countries to design policies and plans, and

initiate research activities relating to mortality reduction. According to the World Health Organization (WHO), all countries of the world were required to provide medical facilities and services for all by the year 2000.

Realizing the high level of mortality in Liberia, the following policies would have been implemented to further strengthen health programs that would impact on morbidity and mortality:

1. A clear Child Survival Strategy that would address the prevention and control of childhood illnesses.
2. A National Health Development Policy and Plan that was to reflect prevailing health priorities and conditions.
3. The Ministry of Health and Social Welfare did not only need a Child Health Program but also an integrated national strategy that would strengthen the entire health care delivery system.
4. Formulation of National Development Policies that would address other critical issues that had the propensity to reduce morbidity and mortality. For example, policies on road safety, complete ban on public smoking, bye laws on water and sanitation and environmental protection.

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APPENDICES

Appendix A: Estimation of Infant and Child Mortality by Trussell's Method (Liberia 1984)

Age of Women	Female Population	Children Ever Born	Children Surviving	Children Dead	Parity	Proportion Di	Ki	Age x	qx
15 - 19	231350	141804	122508	19296	0.613	0.1361	0.865	q (1)	0.118
20 - 24	103105	232306	187888	44418	2.253	0.1912	0.875	q (2)	0.167
25 - 29	87124	303820	239921	63899	3.487	0.2103	0.867	q (3)	0.182
30 - 34	62588	294857	223647	71210	4.711	0.2415	0.922	q (5)	0.223
35 - 39	55639	305666	223423	82243	5.494	0.2691	0.993	q (10)	0.267
40 - 44	38150	229436	158716	70720	6.014	0.3082	0.986	q (15)	0.304
45 - 49	31810	196839	131579	65260	6.188	0.3315	0.973	q (20)	0.323
Total	609766	1704728	1287682	417046					

Appendix 8B: Estimation of Infant and Child Mortality by Brass's Method (Liberia 1984)

Age of Women	Total Number of women	Total number of births	Average # of children born alive	Average # of children born dead	Proportion of children born dead	Multipliers for adjusting Di value	Age x	Probability of dying by age x
1	2	3	4=3/2	5	6=5/4	7	8	9=6 x 7
15 – 19	231350	141804	0.613	0.083	0.136	0.9661	1	0.131
20 – 24	103105	232306	2.253	0.431	0.191	1.0072	2	0.192
25 – 29	87124	303820	3.487	0.733	0.210	0.994	3	0.209
30 – 34	62588	294857	4.711	1.138	0.242	1.0011	5	0.242
35 – 39	55639	305666	5.494	1.478	0.269	0.9499	10	0.256
40 – 44	38150	229436	6.014	1.854	0.308	0.9871	15	0.304
45 – 49	31810	196839	6.188	2.052	0.332	0.9851	20	0.327

CHAPTER 9: POPULATION DISTRIBUTION, MIGRATION, AND URBANIZATION

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CHAPTER 9: POPULATION DISTRIBUTION, MIGRATION, AND URBANIZATION

Ibrahim M. Sesay, Alfred K. Tarway-Twalla and Francis F. Wreh

9.0   Background

9.0.1 Introduction: Relevance of Data on Population Distribution, Migration and Urbanisation

The analysis and explanation of population distribution have interested a number of social scientists (demographers, development practitioners and human ecologists) because the distribution of a population within a country is often important for social and economic planning. The principal characteristics of population distribution over an area can be summarized into several measures which are easily comparable; for example, the number and density of inhabitants by geographic subdivisions and measures of concentration and spacing.

Population distribution is a dynamic process that takes place through natural growth (births and deaths), migration and urbanization. The movement of people in and out of specific geographic locations within a country are shaped by a variety of factors such as population size, system of governance, social structure, available land, climate, vegetation, size and characteristics of the economics and level of technology. This movement shapes and adjusts spatial interrelationships by influencing social interactions and their resultant outcomes.

Because of its inherent role in altering the aggregation of population, through its influence on population redistribution and urbanisation, migration had for long been considered as an important population change variable. Early concerns with this subject matter emphasized international migration at the expense of internal migration. However, recent developments have indicated that the uncalled for consequences of the latter can be even more worrisome than formerly thought and this has prompted an increasing interest in the subject area.

The basic information employed in the study of population distribution is the census or enumeration of population by geographic subdivisions. Data on population distribution are necessary for classifying geographic areas of residence (for example, counties, districts, clans, urban, rural, etc.) that may have statistical relevance for planning purposes (Shryock et. al, 1976: 83, 373).

This chapter presents the population distribution, internal migration and urbanization of Liberia using data from the 1984 census. The report further examines the distribution of the total population by county or territory and sex. It also examines the processes of urbanization, its magnitude, determinants and effects on development. The report finally examines the policy implications of observed trends in population distribution on national development.

9.0.2   Data Sources, Quality and Limitations of Study Scope

The ideal source for the study of population distribution and redistribution is the population register, which is a comprehensive collection of information about the characteristics of each

person and his or her movement across well-defined geographic locations, from birth to death. Countries that lack such registers, like Liberia, rely on decennial censuses and multi-round population surveys as sources of information on population distribution and redistribution. By their very nature, however, censuses provide very limited information on migration. They can only include a few questions on migration and this makes it difficult to undertake a detailed investigation of specific spatial distribution policy issues (Kpedekpo, 1982: 24).

The major source of data for this chapter is the 1984 National Population and Housing Census of Liberia. The 1984 census only included questions on place of birth, citizenship and length of residence. Reasons for change in place and locality of residence were not solicited though such information was essential for in-depth analysis of migration decisions and for possible migration-related policy interventions. In Liberia, such data are much more likely to come from surveys.

Secondary data on the aerial extent of the nation and its geographic subdivisions were collected from archives but their usefulness was limited due to the boundary changes that occurred in the inter-censal period and the absence of relevant, low level data that could be aggregated to account for the influence on population transfers attendant upon such changes.

Another problem of the study was that the data that were analyzed were retrieved from archives in tabular form. They had to be re-entered because some of the pages were frail and could not be photocopied. In the circumstance, some data entry errors should be expected notwithstanding the rigorous data management treatment that was adopted. Apart from the distribution of the total population that was disaggregated by county/territory, all other data were aggregated at the national, urban and rural levels. Therefore, the nature of such data was largely inflexible in that there could not be any additional tabulation other than those in the stored tables themselves. Hence, the scope of the analysis was reduced to the scant information at hand.

9.0.3 Method of Analysis

Data analysis of population distribution was carried out using absolute numbers, population densities, percentages and ratios. Sesay (2006: 9) had observed that although crude densities are commonly applied in analysis of population distribution, they may give a false impression of an even spread of population in the country, thereby under-emphasizing the influence of patches of land covered with lakes, swamps, etc., that cannot be occupied by people.

Measures of internal migration were derived from indirect estimates based on the national growth rate and survival ratio methods. The latter employed the average survival ratio method (life table and census) to avoid the inevitable situation of over-estimating migration based either on the forward or backward survival ratio methods.

The section on urbanization was analyzed using percentages and proportions of the population that lived in urban places and to show the tempo and trend of urbanization between the 1974 and 1984 censuses.

9.1   Population Distribution

9.1.1   Absolute Population Numbers by County or Territory

The 1984 census put the total population of Liberia at 2.1 million persons (Table 9.1).   The county/territorial distribution of the population was such that the most populous counties were Montserrado, Nimba, Bong and Lofa. Together, these four counties accounted for slightly under two-thirds of all persons who lived in Liberia at the time of the 1984 census. They represent the more developed parts of the country and contain the bulk of industrial activity. The least populous areas were the territories of Sasstown, Marshall, Kru Coast and River Cess, which held a little over five percent of the nation's inhabitants and one-fifth of those of Montserrado, the most populous geographic subdivision in the country.

Table 9.1: Population of Liberia by Sex and County or Territory, 1984

County/Territory	Male	Female	Both Sexes
Bomi Territory	1.61	1.55	3.16
Bong County	6.01	6.16	12.17
Grand Bassa County	3.77	3.82	7.60
Grand Cape Mount County	1.92	1.86	3.77
Grand Gedeh County	2.36	2.53	4.89
Kru Coast Territory	0.91	0.77	1.68
Lofa County	5.70	6.08	11.78
Marshall Territory	0.75	0.74	1.48
Maryland County	2.09	1.96	4.06
Montserrado County	13.72	12.21	25.93
Nimba County	7.33	7.54	14.90
River Cess Territory	0.91	0.89	1.80
Sasstown Territory	0.28	0.27	0.55
Sinoe County	1.56	1.50	3.05
Gibi Territory	1.65	1.52	3.18
TOTAL	50.59	49.41	100.00
POPULATION	1,063,127	1,038,501	2,101,628

Source: 1984 National Population and Housing Census of Liberia

Overall, there were more males than females in the population but the spatial pattern of male-female distribution showed that this national picture was not seen to occur in Bong, Grand Bassa, Grand Gedeh, Lofa and Nimba counties. It was interesting to note that there was a male majority in all the territories (and the rest of the counties) and in Marshall, Rivercess and Sasstown territories, the sexes were very nearly evenly distributed (Table 9.1).

According to Table 9.2, which shows the population trend and growth rates of the respective counties and territories between 1962 and 1984, the national rate of growth (as well as that of Marshall Territory) remained largely stable over the period but there were increased growth rates in nine out of the fifteen administrative areas in the country save Bomi Territory and the counties of Grand Cape Mount, Montserrado, Nimba and Sinoe where there were declines. Furthermore,

there were considerable variations in the growth trajectories among the counties and territories, reinforcing the fact that population spread did not place uniformly throughout the country. Montserrado County and Marshall Territory recorded hefty rates of growth, far in excess of the national average. Grand Gedeh County, Bong County, Gibi Territory, Grand Cape Mount County and River Cess Territory recorded growth rates nearly equal to that registered at the national level. Such differential changes could have been the composite effects of mortality, fertility and migration over the inter-census periods and accounted for the observed population redistribution over the face of the country.

Table 9.2: Population Trend and Growth Rates by County/Territory, Liberia 1962-1984					
County or Territory	Population Size			Growth Rates	
	1962	1974	1984	1962-1974	1974-1984
Bomi Territory	39,388	62,140	66,420	3.7	0.7
Bong County	130,405	182,199	255,813	2.8	3.4
Gibi Territory	31,970	47,298	66,802	3.2	3.4
Grand Bassa County	99,566	123,400	159,648	1.8	2.6
Grand Cape Mount County	32,190	56,599	79,322	4.6	3.3
Grand Gedeh	48,256	71,823	102,810	3.3	3.5
Kru Coast Territory	21,280	27,115	35,267	2.0	2.6
Lofa County	131,554	180,737	247,641	2.6	3.1
Marshall Territory	12,664	20,732	31,190	4.0	4.0
Maryland County	54,805	64,483	85,267	1.4	2.8
Montserrado County	168,575	357,119	544,878	5.9	4.2
Nimba County	162,855	249,692	313,050	3.5	2.3
River Cess Territory	28,756	27,746	37,849	-0.3	3.1
Sasstown Territory	9,540	9,952	11,524	0.4	1.5
Sinoe County	44,639	57,642	64,147	3.1	1.1
Liberia	1,016,443	1,503,368	2,101,628	3.3	3.4

9.1.2   County or Territorial Density

The geographical instrument that relates population numbers to the land areas that they occupy is population density. In 1984, the average density for Liberia was 54.9 persons per square mile. In terms of trend, this figure was a continuation of an increasing scenario from 27 inhabitants per square mile in 1962 to 39 in 1974; reflecting the substantial increases in the population over the period (Table 9.3).

The historical rates of county/territorial growth and redistribution have created varied county/territorial population densities. Table 9.3 depicts that the population densities in 1984 ranged from 16 persons per square mile in Sinoe County to 515 in Montserrado County. One territory (River Cess) and five counties (Grand Bassa, Grand Cape Mount, Grand Gedeh, Lofa and Sinoe) registered densities below the mean for the country. The rest of the administrative areas recorded population densities in excess of that at the national level.

Between 1974 and 1984, the country experienced a 39.7 percent change in the overall density. (It is to be noted that there were no negative changes). About half of the counties and territories (Bong, Gibi, Grand Cape Mount, Grand Gedeh, Marshall, Montserrado and Sasstown) reflected

Table 9.3: Population Density by County/Territory, 1962-1984

County/Territory	Density Per Square Mile			Percentage Change 1974-1984
	1962	1974	1984	
Bomi Territory	52.2	82.3	87.9	6.8
Bong County	41.9	58.3	81.8	40.3
Gibi Territory	37.9	55.9	78.9	41.4
Grand Bassa County	29.4	36.5	47.2	29.3
Grand Cape Mount County	14.3	25.2	35.3	40.1
Grand Gedeh County	7.3	10.9	15.6	43.1
Kru Coast	45.0	57.3	74.6	30.2
Lofa County	17.6	24.2	33.1	36.8
Marshall Territory	30.6	50.1	75.3	50.3
Maryland County	45.6	53.6	71.0	32.5
Montserrado County	159.3	304.2	515.0	69.3
Nimba County	35.0	53.7	67.3	25.3
River Cess Territory	17.0	16.4	22.4	36.6
Sasstown Territory	24.4	25.5	57.6	125.9
Sinoe County	11.3	14.6	16.2	11.0
Liberia	26.6	39.3	54.9	39.7

density changes greater than the overall density change. The highest percentage increase in density in the period occurred in Sasstown (125.9 percent), followed by Montserrado (69.3 percent) and Marshall (50.3 percent); while Sinoe (11.0 percent) and Bomi (6.8 percent) recorded the lowest increases in density over the period.

9.1.3   Factors that Influenced Population Distribution

The pattern of spatial dispersal of population in 1984 was influenced by a variety of factors that interacted in various combinations to attract people to some counties or territories whilst discouraging dense population agglomerations in others. Basically, three broad classes of factors influenced population concentrations, namely, geographical, social and economic. Geographical factors included difficult relief, vegetal cover and large river courses, boundary concept and maritime influences. The social factors that could have been responsible for differential population distribution involved the extent of endowment of a county or territory of social amenities and (economic) infrastructure. Economic reasons mainly concerned the prospects of job opportunities. In this connection, the presence of mining and agricultural activity related companies were most important.

In this analysis, a standalone discussion on these factors was avoided. Instead, the factors were discussed in the interpretation of the results on internal migration below. This strategy was used to explain how population redistribution occurred in the inter-censal period 1974-1984.

9.2   Migration

9.2.1   International Migration

The discussion on international migration utilized data on country of birth and legal citizenship. There were no questions asked in the census about the movement of Liberians across their national boarders. The analysis therefore involved foreign born nationals that were resident in the country at the time of the census.

The number of persons with foreign nationalities in 1984 was 95,828 and constituted about 4.56 percent of the total population. Of these, 54,640 were males and 41,188 were females. The 1974 census recorded 59,458 persons born outside of Liberia and that represented 4.0 percent of the national population. There were 35,759 males and 23,699 females. Over the inter-census period, therefore, the number of foreign nationals in the country increased by over 161 percent or an additional 36,370 people.

If the urban-rural residence pattern of these people were considered, there would be 63,273 urbanites (66 percent) and 32,555 rural settlers (34 percent). The curious coincidence in this scenario is that roughly about 66 percent of both sexes also settled in the urban areas.

9.2.1.1 Origin of International Migrants

The lifetime international migrants that were enumerated in the 1984 census were seen to have originated from all continents of the world, except Arctic and Antarctica. The vast majority of these (86,072 persons or 89.82 percent) were from African countries. Notable amongst them were nationals from six countries, the most populous were from the Republics of Guinea, Ghana and Sierra Leone who comprised 81.17 percent of all foreigners. Specifically, 50,052 (or 52.23 percent) came from Guinea, 15,706 (or 16.39 percent) were Ghanaians and 12,025 (or 12.55 percent) were Sierra Leoneans. The rest of the African nationals accounted for the remaining 8.65 percent, of which there were 3.06 percent Ivorians, 2.08 percent Nigerians and 1.68 percent Malians. Apart from these, the only significant group of international migrants were Lebanese (2.73 percent), European (2.37 percent) and Latin American (1.98 percent).

On the basis of data, therefore, geographical contiguity and proximity seemed to have exerted a very strong influence on the propensity to immigrate into Liberia before 1984. Part of the reason for the observed complexion of international migrants may be the fact that on either side of its international (land) boundaries there were matching homelands of ethnic groups who considered each other as kith and kin but for those artificial divides which were a colonial legacy.

However, there may have also been some important economic reasons for the observed moves. Ivory Coast was as contiguous to Liberia as Sierra Leone and Guinea yet more than five times more Ghanaians than Ivorians were found in the data. The lower number of Ivorians was probably because the Ivorian economy at that time was about the soundest in the sub-region and the country was host to foreign nationals that accounted for about 40 percent of its population (the highest ever recorded of an African nation).

9.2.1.2 Age and Sex Characteristics of Foreign Born Nationals

The age distribution of the foreign born population in Appendix 9A revealed that about 90 percent were below 49 years of age of which 62.7 percent were between ages 20 and 39 years. In terms of sex, the sex ratio ranged from 67.0 at the age group 15-19 to 267.0 for age group 45-49. The sex ratio was typically low for all ages under 25 years. Females were dominant in the population from age zero through to ages 25-29. Although the proportions of males and females at the latter age group were about equal, there were outstanding male excesses in all age groups thereafter.

This indicated a very youthful population with a high momentum for future growth and serious implications for national economic development in that the national population was equally youthful and with a high dependency ratio. Given the difficult economic situation that emerged in the eighties, the country would not have been able to meet the cost of investment and job creation to cater for the teeming population.

9.2.2 Internal Migration

9.2.2.1 Direct Measures of Lifetime Internal Migration

Direct measures of Lifetime internal migration are a very important aspect of analysis of migration patterns, streams and trends. The basic data involve place of birth statistics enumerated by place of enumeration, place of residence at a fixed prior date, or some other geographic or residence information like duration of residence.

For the 1984 Population and Housing Census of Liberia, there was a question on place of birth and length of residence. These could have facilitated excellent analysis of the internal migration phenomenon. However, the available tables are far less useful. "Persons born in Liberia" were cross tabulated with "persons born elsewhere" by age and sex. "Length of residence in county or territory of enumeration" was also crossed with age and sex. The needed tabulation was place of birth by place of enumeration which was not available. In the circumstance, the exercise excluded the use of direct measures in the measurement of internal migration.

9.2.2.2 Indirect Measures of Lifetime Internal Migration

9.2.2.2.1 County/Territory Level Migration

Because of the lack of reliable vital statistics and tabulation on place of birth data of the 1984 census, recourse was made to indirect estimates of internal migration to establish patterns and trend. This revealed the extent to which migration influenced population redistribution and attempts were made to explain the underlying factors responsible for the observed changes.

The estimate of net internal migration for the population 10 years and above from 1974-1984 for both sexes was 464 per thousand persons in urban centers; with 422 males and 512 for females per thousand population. The internal migration rates indicated that urban centers gained

population between 1974 and 1984, which could also be attributed to the search of basic social services and livelihood opportunities which were grossly inadequate in the rural areas. As shown in Figure 9.1, rural areas in Liberia lost population during the 1974-1984 inter-census migration interval. This is so because the net internal migration for both sexes was -167 per thousand persons 10 years and above. The net internal migration for males was -183 while that of females was -198, implying that more females left rural areas as compared to males.

Figure 9.1: Net Internal Migration per Thousand Urban and Rural Populations, Liberia 1984
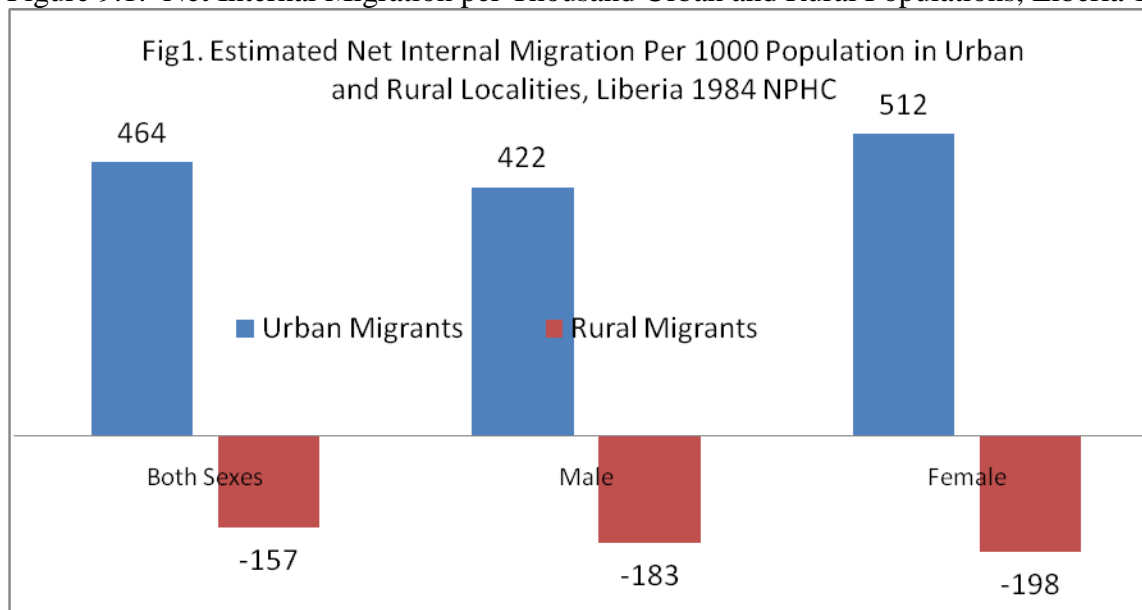
Using the national growth rate (NGR) method of internal migration estimation, it was observed at the sub-national level that most of the population in the 15 sub-political divisions (i.e., four territories and eleven counties) engaged in out-migratory activities. As shown in Table 9.4, four out of the 15 sub-political divisions served as centres of attraction for internal migration while the rest were areas of origin. In essence, the Montserrado County had the most pull effect on internal migrants, with an in-migration rate of 295 per thousand persons from 1974-1984. This high in-migration rate could have been due to the fact that it has the largest metropolitan area (Monrovia) in Liberia, where most of the social and economic activities in the country occur.

Aside from the fact that most of the manufacturing and commercial industries in the country are based in Montserrado, it also hosted the largest sea port in Liberia. In addition, the largest public sector educational facilities, including Liberia's national institution of highest learning (University of Liberia) are located in Montserrado. Other key factors pulling the population toward Montserrado were the hosting of all the ministries and agencies in the country, including all diplomatic missions and headquarters of all multilateral and bilateral agencies, and all international and local Non-Governmental agencies (INGOs and LNGOs).

The second and third highest levels of in-migration were found in Gibi and Marshall Territories, with 206 and 106 in-migrants per thousand persons respectively (Table 9.4). These territories gained population from 1974 to 1984 because of the existence of economic activities such as fishery and agriculture. For example, the presence of a significant proportion of the largest

rubber plantation Company in Africa (Firestone) in these two territories contributed the in-migration level. In addition, the existence of Liberia's largest vocational and teachers training institutions (Booker Washington Institute and Kakata Rural Teachers Training Institute) in Gibi Territory further strengthened the in-migration streams into the territory during the inter-census period.

Grand Gedeh County, with an in-migration rate of 33 per thousand persons, was the political sub-division with the fourth highest in-migration stream in the country (Table 9.4). During the inter-census period under review, Grand Gedeh had one of the country's largest timber industries, which predominantly shipped logs through the Harper and Greenville sea ports. Zwedru, the capital of Grand Gedeh County, was not only the primate city of the south-eastern region but also the center of the region. As a consequence, the county attracted a number of agricultural and commercial activities that led to the strong in-migration stream.

Grand Cape Mount County had the lowest in-migration rate of three per thousand population, which could be attributed to the level of Gold and Diamonds Mining and the presence of the National Iron Ore Company. Grand Cape Mount County also attracted a high in-migration of fishermen and other traders.

The level of out-migration rate in Liberia for work and other economic enhancement activities was high from 1974-1984, accounting for 11 out of the 15 sub-political divisions in the country (Table 9.4). The highest out-migration of population to other counties/territories of Liberia was experienced in Bomi Territory (-329 per thousand persons) and Sinoe County (-285 per thousand persons). The observed rate in Bomi was due to the closure of the Liberia Mining Company

	Population of Three Census			Net Migration		Average
County/Territory	1962	1974	1984	1962-1974	1974-84	1962-84
Bomi Territory	39,388	62,140	66,420	99	-329	-115
Bong County	130,405	187,847	255,813	-39	-36	-37
Gibi Territory	31,970	41,645	66,802	-176	206	15
Grand Bassa County	99,566	123,400	159,648	-240	-104	-172
Grand Cape Mount County	32,190	56,601	79,322	279	3	141
Grand Gedeh County	48,256	71,823	102,810	9	33	21
Kru Coast Territory	21,280	27,115	35,267	-205	-97	-151
Lofa County	131,554	180,737	247,641	-105	-28	-66
Marshall Territory	12,664	20,732	31,190	158	106	132
Maryland County	54,805	64,483	85,267	-302	-76	-189
Montserrado County	168,575	321,813	544,878	430	295	363
Nimba County	162,855	249,692	313,050	54	-144	-45
Rivercess Territory	28,756	27,746	37,849	-514	-34	-274
Sasstown Territory	9,540	9,952	11,524	-436	-240	-338
Sinoe	44,639	57,642	64,147	-188	-285	-236
Total	1,016,443	1,503,368	2,101,628	-	-	-

Table 9.4: Estimated Net Internal Migration Per 1000 Population by County or Territory, Liberia 1962-1984

(LMC) in Tubmanburg, which was engaged in the exportation of iron ore in Liberia. The net internal migration rates for 1962-74 proved that Bomi attracted persons more than those who left, with a net in-migration rate of 99 per thousand persons. In Sinoe County, out-migration continued throughout the two inter-census periods (1962-1974 and 1974-1984), indicating that the resident population settled outside of the county more than other citizens that in-migrated in this part of Liberia.

Although Nimba and Bong Counties hosted the two multi-million dollars Iron Ore Industries in the country they experienced high outmigration rates of -144 per thousand and -37 per thousand population respectively. The reasons for the out-migration rates in these counties (Bong and Nimba), in spite of the employment opportunities provided by LAMCO and Bong Mines Iron Ore Companies', could be attributed to other social and economic activities elsewhere in Liberia that may have resulted in a counter (internal migration) stream that led to the aforementioned out-migration rates experienced in the two counties.

In addition to the iron ore companies, Nimba and Bong benefited from several agriculture grants that multiplied agricultural activities in the two counties, with Bong hosting the Bong County Agriculture Development Project (BCDP). In spite of the multiple economic activities in these counties, their various populations migrated to other parts of Liberia (particularly Montserrado County) more than the in-migrants that settled in their counties from 1974-1984. From 1962-1974, Nimba experienced in-migration of 54 per thousand but by 1984, the number of persons leaving the county was more than those that entered (Table 9.4).

Between 1962 and 1984, the populations of Sasstown and Kru Coast territories exhibited net out-migrations. Both territories had no significant social and economic activities that could have retained the population or attracted people from elsewhere. Hence, they experienced the out-migration rates of -240 per thousand persons and -97 per thousand persons respectively (Table 9.4). Similarly, Grand Bassa and Maryland Counties, which hosted the two local sea ports in Liberia, had minimum social and economic activities that could attract a strong in-migration stream. As a consequence, they two counties experienced out-migration rates of -104 per thousand for Grand Bassa and -76 persons per thousand population in Maryland County.

Lofa County had some logging companies and the Lofa County Agricultural Development Project (LCDA). But like Bong and Nimba Counties, more residents left this county and settled in other parts of the country than in-migrants that made their way into the county to stay (Table 9.4). Hence, Lofa County lost 28 per thousand persons to other counties from 1974-1984. Like Bong and Lofa, River Cess lost 34 per thousand persons to other counties such as Grand Bassa and Monrovia. Although the out-migration rate of Rivercess and Bong were almost the same, River Cess had lesser employment and other social and economic opportunities than Bong County during the period under review. Lofa and Rivercess suffered consistent out-migration in the two inter-census periods (i.e., -514 and -34 per thousand persons for River Cess and -105 and -28 for Lofa from 1962-1984) although there was a significant decline of the out-migration rates in these counties or territories.

9.2.2.2.2 Rural-Urban Migration

For the analysis of internal migration by 5-year age groups of Liberia's population for the period 1974-1984, the backward and forward life table and census survival ratio methods were applied. Using the forward census survival ratio (CSR) method to estimate internal migration for Liberia, it was realized that urban areas gained while rural areas lost population (Appendix 9B). In applying the backward census survival ratio (CSR) method, it was realized that both urban and rural areas experienced out-migration with females experiencing more out-migration than males in urban areas (Appendix 9C). In rural areas, there was more out-migration among males than females. Given that the forward survival ratio usually method tends to over-estimate the amount of migration in the migration interval and the backward survival ratio method under-estimates the magnitude of the migration, it is always advisable to use the average of the two survival ratio methods.

The average census survival ratio method (Table 9.5) indicated that urban areas mainly received female in-migrants although there was a smaller but significant out-migration of adolescent and other males with ages between 35 and 49 in 1984. The female out-migration from the urban centres involved mainly women aged 35 and above. In the rural areas, there was out-migration by males and females of all age groups except for females aged 20-24 and 65-69. Thus, the evidence from data adduced to the fact that the inter-censal period of 1974 to 1984 experienced massive rural-urban migration. The movements involved both males and females of virtually all age groups.

Table 9.5: Estimation of Net Migration for Males and Females from the Average Census Survival Ratio Method, Liberia 1984					
		CSR Results			
Five Year Age Groups		Urban Center		Rural Areas	
1974	1984	Males	Females	Males	Females
0-4	10-14	88	3180	-1997	-8386
5-9	15-19	-233	1985	-10311	-5708
10-14	20-24	-1042	1410	-9980	856
15-19	25-29	545	1618	-5729	-3418
20-24	30 34	189	1198	-462	-2104
25-29	35-39	-75	-631	-1557	-3726
30 34	40-44	-210	-1276	-2444	-6768
35-39	45-49	-61	-1357	-3911	-5310
40-44	50-54	48	-502	-2268	-2060
45-49	55-59	90	-952	-3739	-3504
50-54	60-64	16	-63	-616	-573
55-59	65-69	-27	68	-297	499
60+	70+	33	-87	-3350	-200
Total		-639	4,589	-46,663	-40,402

9.3.0   Urbanization

Urbanization refers to the proportion of the population living in urban places. Urbanization can occur mainly through increased net in-migration and natural increase. In Liberia, as in many developing countries, little attention was paid to the process of urbanization until recently. In general, urban growth was not viewed as a threat to national development. As a result, rural development and agro-based strategies of production were implemented without attention to urban growth. As economic development takes place, towns grow because they bring together both producers and consumers of a variety of goods and services. By mobilizing the raw materials, labor and the financial capital necessary for the production of goods and services in one area, cities and towns reduce cost and increase the benefits accruing to industry. These benefits translate into higher standards of living. Hence, as cities and towns industrialize, their birth rates rise and death rates fall, leading to increase in population. Even people living near cities tend to enjoy better health and other benefits which act as magnets, attracting others to move into the more affluent centers (Ohadike, 1988: 218).

Additionally, both industrialization and commercialization generate a demand for jobs and create opportunities for people to move from agrarian to urban areas. Data from other developed countries suggest that urbanization in developing countries is more a function of opportunities in the cities and towns than it is of population pressure from the countryside, but it cannot be discounted that adverse rural conditions in other circumstances do make an important contribution to rural-to-urban migration (ib. id.). Thus, both rural push and urban pull continue to explain migration to cities in developing countries like Liberia.

9.3.1   Definition of Urban Centres

In taking stock of the 1974 census operations, the seminar held at the instance of the then Honourable Minister of Planning and Economic Affairs recommended, *inter alia*, the following:
> "6.   that efforts (were to) be made to standardize the definition and list (including spellings) of localities in Liberia ..." and
> "8.   that efforts should be made through proper analysis of the realities of the situation to evolve a meaningful definition of urban and rural localities in Liberia before the next (1984) census" (Republic of Liberia, 1977: 55).

As a consequence, the Population Division of the Ministry of Planning and Economic Affairs adopted, for the conduct of the 1984 Population and Housing Census, a definition of an urban area to be any locality with a minimum of 2,000 population and possessing one or more social infrastructure or amenity (water, electricity, school, hospital or clinic and telecommunication). The addition of a social criterion to the demographic criterion made the situation a little complicated in cases where a settlement held at least 2,000 people but did not possess any of the items in the list of social amenities.

9.3.2   Levels and Trends of Urbanization

Rural-urban migration is by far the most significant form of movement in long-term spatial population redistribution in Liberia. Economic and income disparities which give rise to a

perception of availability of jobs in the urban areas appear to be the main driving force behind rural-urban migration. Other factors that influence the decision of people to move out include the presence of relatives and friends in urban centers, availability of better housing, superior health services, and educational opportunities (Ohadike: op.cit.).

The early perception by national governments and international development partners that urbanization was a neutral phenomenon had largely been abandoned. Findings from decennial censuses have indicated very substantial increases in the growth of urban populations (United Nations, 1985).

The level of urban growth in Liberia by 1984 was 38.94 percent, a slight increase from 37.62 in 1974. This meant that 818,322 inhabitants were found in localities with a minimum of 2,000 people and which possessed at least one of the following facilities: water supply, electricity, school, hospital or clinic and telecommunication. Considering that the urban population was 565,613 in 1974, the 1984 represented a change of 44.68 percent.

According to Table 9.6, the 79 urban localities represented only 0.41 percent of all settlements in the country. The fact that only 0.13 percent of the localities had 10,000 or more persons and about 86 percent of the settlements were holding less than 100 persons depicted that rurality was a common phenomenon of the settlement pattern and regime in Liberia. This was especially revealed in the population data which showed that about 20 percent were living in these tiny locales whilst over a further third of the people resided in places of less than 1,000 population.

Table 9.6 – Number of Localities by Size, Population and Sex: Liberia 1984

SIZE OF URBAN UNIT	TOTAL LOCALITIES		POPULATION					
			Both Sexes		Male		Female	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
50,000 – 99,999	1	0.01	56086	2.67	30011	1.43	26075	1.24
20,000 – 49,999	10	0.05	312985	14.89	163679	7.79	149306	7.10
10,000 – 19,999	13	0.07	181228	8.62	93931	4.47	87297	4.15
5,000 – 9,999	22	0.11	165769	7.89	85759	4.08	80010	3.81
2,000 – 4,999	33	0.17	102254	4.87	51600	2.46	50654	2.41
1,000 – 1,999	109	0.56	144854	6.89	71201	3.39	73653	3.50
500 – 999	366	1.88	249275	11.87	122711	5.84	126764	6.03
200 – 499	917	4.71	286817	13.65	141158	6.72	125659	6.93
100 – 199	1327	6.82	182384	8.68	90282	4.30	92102	4.38
Less than 100	16667	85.63	419776	19.97	212795	10.13	206981	9.85
TOTAL	19465	100.00	2101628	100.0	1063127	100.00	1038501	100.00

Source: 1984 Population and Housing Census Data.

When this urban population was distributed per counties and territories, considerable variations were noticed. In Table 9.7, it can be seen that Montserrado County alone had 54.1 percent of all urban dwellers whilst there was no urban locality in Rivercess Territory. Three broad categories of counties/territories could be discerned with respect to the levels of urban growth. There were areas of very dense urban developments which included Montserrado, Nimba, Bong Grand Bassa and Lofa Counties, in order of decreasing percentage. These accounted for 82.04 percent of the urban population.

There could be considered a small group of areas with moderate urban population (Bomi Territory, Maryland County and Gibi Territory) and these had just under a tenth of the national population. The rest of the country comprising half of the geographic subdivisions held bearly eight percent of the urban population in 1984 (Table 9.7).

Appendix 9D presents the rural population of Liberia as was found in the various administrative areas. (It should be noted that the percentage of rural population was a function of the amount of population held by the county or territory and the proportion urban in that population). Bong, Lofa and Nimba Counties together had 49.65 percent of all rural inhabitants. On the contrary, the three accounted for only 21.85 percent of the nation's urban population. Montserrado had one-twelfth of the rural population, which was just a sixth of its proportion of the total urban population. With the exception of Bomi Territory and Montserrado County, all the other administrative areas recorded higher proportions of rural than urban in the national population.

Table 9.7 – Urban Population by Counties and Territories and by Sex: Liberia, 1984

COUNTY/ TERRITORY	TOTAL		MALE		FEMALE	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Bomi Territory	27741	3.86	14254	1.75	13487	1.65
Bong County	60410	7.40	30797	3.80	29431	3.61
Grand Bassa County	49537	6.09	25341	3.11	24196	2.96
Grand Cape Mount County	16712	2.05	8505	1.04	8204	1.01
Grand Gedeh County	16363	2.00	8111	0.99	8252	1.01
Kru Coast Territory	7189	0.88	3972	0.49	3217	0.39
Lofa County	41998	5.15	20510	2.51	21488	2.63
Marshall Territory	11273	1.38	5891	0.72	5382	0.66
Maryland County	25130	3.08	12916	1.58	12214	1.50
Montserrado County	441514	54.1	233841	28.65	207673	25.45
Nimba County	75859	9.30	38001	4.66	37858	4.64
River Cess Territory	0	0.00	0	0.00	0	0.00
Sasstown Territory	3452	0.42	1748	0.21	1704	0.21
Sinoe County	14351	1.76	7201	0.88	7150	0.88
Gibi Territory	24,595	3.01	12,706	1.56	11,889	1.46
TOTAL	816,124	100.00	423979	51.95	392145	48.05

Table 9.8 displays information on some parameters of trends in urban growth. According to the table, the number of localities designated as urban reduced from 95 in 1974 to 79 in 1984. Most of the affected settlements seemed to have been in the lowest class interval of 2,000-4,000 persons. Whilst it was not immediately clear as to what may have caused this statistically catastrophic event, it was nonetheless plausible to infer that the addition of a social criterion to the demographic requirement in the definition of an urban centre may have eliminated smaller settlements with no social amenities or economic infrastructure from the list.

If the size class of the settlements were examined, the percentage of the urban population was higher than the corresponding percentage of the number of urban centres in each size class for localities with at least 10,000 people. The reverse was true of localities with less than 10,000 people. Between 1974 and 1984, the number of settlements with 10,000 or more people nearly doubled and the proportion of population they held jumped from 42.16 percent to 67.26 percent. In addition, in 1984, the percentage of people in the size class of locality was inversely proportional to the corresponding percentage of localities in the size class. Contrariwise, the two indices were directly proportional in the data from the 1974 Population and Housing Census.

Table 9.8 – Some Parameters of Trends in Urban Growth in Liberia: 1974 – 1984

SIZE OF URBAN UNIT	CHARACTERISTICS OF URBAN LOCALITIES					
	1974			1984		
	NUMBER	PERCENT OF URBAN CENTRES	PERCENT OF URBAN POPULATION	NUMBER	PERCENT OF URBAN CENTRES	PERCENT OF URBAN POPULATION
50,000 – 99,999	0	0.00	0.00	1	1.27	6.86
20,000 – 49,999	4	4.21	20.26	10	12.66	38.25
10,000 – 19,999	9	9.47	21.90	13	16.46	22.15
5,000 – 9,999	20	21.06	25.34	22	27.84	20.25
2,000 – 4,999	62	65.26	32.50	33	41.77	12.49
ALL SIZES	95	100.00	100.00	79	100.00	100.00

Sources: Population censuses of 1974 and 1984.

9.3.3 Consequences of Urbanization

While there may have been clear advantages to urbanization in Liberia, serious disadvantages emerged as the pace of urbanization outstripped the ability of city and town planners to meet the requirements for services and infrastructure such as housing, water, roads, hospitals, schools, etc. The movement of large numbers of people into the city of Monrovia led to the emergence of shanty towns. Monrovia and other large cities like Buchanan, Gbarnga and Kakata were experiencing widespread pollution and over-crowding, both of which had serious implications for the health and well-being of the population. Crime and vice were also linked to urban life. As a consequence, urbanization became a major development concern to Liberia.

9.4   Summary, Conclusion and Recommendations

9.4.1   Summary and Conclusion

The thrust of this chapter was to provide basic information about the levels, differentials, patterns and trends in population distribution, migration and urbanization in Liberia, using 1984 population census results. The findings suggested that the four most populous political subdivisions were Montserrado, Nimba, Bong and Lofa while the least populous were Sasstown, Marshall, Kru Coast and River Cess. The result showed that for the whole country, the rate of population growth between the inter-censal period of 1974-1984 was 3.4 percent per annum, implying that the 1984 population of the country would double in 21 years. At the county/territorial level, there has been consistent increase in population growth rates in almost all of the counties/territories except Bomi, Grand Cape Mount, Montserrado, Nimba, and Sinoe where growth rates fluctuated. The most densely populated counties and territories were Montserrado, Bomi, Bong, Gibi, Marshall, Kru Coast, and Maryland.

Developmental programs in the country were uneven and favoured few political subdivisions at the expense of others. The fortunate ones, particularly Montserrado, Nimba and Grand Bassa were the areas of greatest population concentration while Sasstown, River Cess and Kru Coast were the most disadvantaged. Generally, counties/territories with better social and economic opportunities attracted more people.

International migration involved mainly immigrants from the neighbouring states of Sierra Leone, Guinea, Cote d'Ivoire and Ghana. They accounted for about 4.5 percent of the national population. Internal migration rates showed that urban centers gained population between 1974 and 1984 – a phenomenon which can be attributed to the search for basic social services and livelihood in urban centers. Trends in rural-urban migration in Liberia between 1974 and 1984 showed that younger people migrated to urban areas. However, this urban growth varies from one county or territory to another. Montserrado, Bomi, Sinoe, and Marshall were the most urbanized, while Grand Cape Mount, Grand Bassa, Lofa, Grand Gedeh, and River Cess were the least.

The number of urban centres reduced from 95 in 1974 to 79 in 1984 and the reduction seemed to have come from the 2,000-4,000 size class of localities which may have been reclassified with a change of definition in 1984. In addition, the percentage of people in the size class of locality was inversely proportional to the corresponding percentage of localities in the size class.

9.4.2   Recommendations

Despite the constraints that faced government, the most effective strategy to have optimized population distribution was to adopt a balanced approach that promoted simultaneously the economic development of rural areas and the improvement of employment and living conditions in the most populated areas.

The social and economic development of the rural areas, through the construction and maintenance of road networks, building of more schools, hospitals and health centers, and

creation and expansion of employment opportunities would have helped to retain people already staying in rural areas and attract people from the urban centers, especially the unemployed and underemployed.

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

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APPENDICES

Appendix 9A – Percentage Distribution of Foreign Nationals by Age and Sex: Liberia, 1984

AGE	SEX RATIO	MALE		FEMALE		TOTAL	
		NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
00 – 04	95.8	2325	4.3	2427	5.9	4752	5.0
05 – 09	88.7	2809	5.1	3166	7.7	5975	6.2
10 – 14	86.1	2438	4.5	2833	6.9	5271	5.5
15 – 19	67.0	3772	6.9	5627	13.7	9399	9.8
20 – 24	88.9	6089	11.2	6853	16.6	12942	13.5
25 – 29	130.5	8934	16.3	6849	16.6	15783	16.5
30 – 34	177.7	7867	14.4	4428	10.8	12295	12.8
35 – 39	197.6	6446	11.8	3262	7.9	9708	10.1
40 – 44	251.4	4369	8.0	1738	4.2	6107	6.4
45 – 49	267.0	3338	6.1	1250	3.0	4588	4.8
50 – 54	238.3	2092	3.8	878	2.1	2970	3.1
55 – 59	261.3	1317	2.4	504	1.2	1821	1.9
60 – 64	189.2	1050	1.9	555	1.4	1605	1.7
65 – 69	214.2	724	1.3	338	0.8	1062	1.1
70 – 74	193.8	374	0.7	193	0.5	567	0.6
75+	242.5	696	1.3	287	0.7	983	1.0
TOTAL	132.7	54,640	100.0	41,188	100.0	95,828	100.00
PERCENT		54.57		45.43		100.0	

Appendix 9B: Forward Survivor Ratio Method of Estimating Internal Migration for Males and Females, Liberia 1974-1984					
		Census Survival Ratios (CSR)			
Five-Year Age Groups		Urban Center		Rural Areas	
1974	1984	Males	Females	Males	Females
0-4	10-14	529	19144	-8680	-20642
5-9	15-19	-1232	10496	-22489	-13389
10-14	20-24	-4486	6070	-27008	-6977
15-19	25-29	3364	9980	-13501	-9454
20-24	30 34	3315	21015	-1167	-4527
25-29	35-39	2168	18270	501	-2582
30 34	40-44	1903	11550	2897	-4715
35-39	45-49	412	9187	868	-1887
40-44	50-54	-461	4791	-151	177
45-49	55-59	-432	4576	188	-555
50-54	60-64	-604	2438	29	-125
55-59	65-69	-643	1629	-998	682
60+	70+	-1111	2912	-7004	-1020
Total		2,728	122,065	-76,506	-65,007

Appendix 9C: Estimation of Net Migration for Males and Females Backward Using Survivor Ratio Method					
		CSR Results			
Five-Year Age Groups		Urban Center		Rural Areas	
1974	1984	Males	Females	Males	Females
0-4	10-14	-353	-12785	4686	3870
5-9	15-19	766	-6526	1866	1973
10-14	20-24	2402	-3250	7048	8689
15-19	25-29	-2273	-6745	2042	2618
20-24	30 34	-2937	-18619	242	320
25-29	35-39	-2317	-19533	-3616	-4870
30 34	40-44	-2324	-14103	-7785	-8820
35-39	45-49	-534	-11901	-8690	-8734
40-44	50-54	557	-5795	-4385	-4297
45-49	55-59	612	-6480	-7667	-6454
50-54	60-64	635	-2565	-1262	-1022
55-59	65-69	589	-1493	403	316
60+	70+	1177	-3085	304	620
Total		-3,992	-112,874	-16,806	-15,783

Appendix 9D – Distribution of Rural Population by Counties and Territories
and by Sex: Liberia, 1984

COUNTY/ TERRITORY	TOTAL		MALE		FEMALE	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Bomi County	38679	3.01	19489	1.52	19190	1.49
Bong County	195403	15.20	95282	7.41	100121	7.79
Grand Bassa County	110111	8.57	53981	4.20	56130	4.37
Grand Cape Mount County	62610	4.87	31806	2.47	30804	2.40
Grand Gedeh County	86447	6.72	41570	3.23	44877	3.49
Kru Coast Territory	28078	2.18	15051	1.17	13027	1.01
Lofa County	205643	16.00	99315	7.73	106328	8.27
Marshall Territory	19917	1.55	9770	0.76	10147	0.79
Maryland County	60137	4.68	31091	2.42	29046	2.26
Montserrado County	103364	8.04	54488	4.24	48876	3.80
Nimba County	237191	18.45	116491	9.06	120700	9.39
Rivercess Territory	37849	2.94	19188	1.49	18661	1.45
Sasstown Territory	8072	0.63	4074	0.32	3998	0.31
Sinoe County	49796	3.87	25481	1.98	24315	1.89
Gibi Territory	42207	3.28	22071	1.72	20136	1.57
TOTAL	1,285,504	100.00	639,148	49.72	646,356	50.28

CHAPTER 10: NUPTIALITY

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CHAPTER 10: NUPTIALITY

Alfred K. Tarway-Twalla

10.0   Background

10.0.1 Introduction: Relevance of Data on Nuptiality

The internationally accepted definition considers marriage as the legal union of persons of opposite sexes, with legality established by civil, religious and other means as recognized by Laws of a given country, which Liberia subscribed to. The meaning of marriage includes consensual union, common-law and other de facto unions which, although not registered, make up majority of marriages in some countries (Shryock et al.: 1976).

In Liberia, there were three major types of marriages: the western (religious and civil), traditional and consensual (staying together) marriages. The marital statuses arising from these marriages were single, married, divorced, separated and widowed. However, in spite of the increase in consensual marriages, they were not included in the classification of marriages in the 1974 and 1984 census reports.

In most parts of the world, marriages serve as the pillar of family building (ib. id). In addition, marital fertility is influenced by the duration of marriage. In effect,

> "the dominating factors of fertility are marriages, especially the ages at first marriage and the proportions that enter into unions. Increase or decrease in fertility can, therefore, sometimes be explained in terms of these variables. To illustrate this point, consider the case when early pubescence is accompanied by an early marriage: high birth rates usually prevail due to the prolongation of the childbearing period. Thus, from a demographic point of view, the levels of the present and future course of marriage rates and the age at first marriage are most important in relation to their influence on fertility (Kpedekpo, G.M.K.: 1982, 130).

The legal age at marriage is a key determinant of the level and trends of fertility in most countries. For instance, the legal age at marriage in most developing countries is lower than those in developed countries; which is one of the major factors responsible for the wide fertility gap between advanced countries and developing nations. According to the Liberian Code of Laws, the legal ages at marriage in Liberia are 18 years for females and 21 years for males. Although these ages at marriage were not low according to world standards, they had a strong influence on the natural fertility regime experienced in Liberia. In other words, the low contraceptive prevalence rate (CPR), which was 8 percent in 1986 (Republic of Liberia: 1988), coupled with long duration of marital fertility influence the high fertility rate in Liberia. However, the legal age at consent of parents was 16 years. In essence because age at marriage was low, it had the potential, under ceteris paribus conditions, to yield a longer duration of childbearing.

It is impossible to separate fertility rates from the age and marriage duration structure of the population of women supporting these rates. Fertility rates, therefore, must always be considered

against the marriage experience permitting them. This analysis of the retrieved data of the 1984 Population and Housing Census (LPHC), therefore, was about patterns of nuptiality and marriage, estimation of mean and singulate mean ages at marriage, crude, age-specific and other rates.

## 10.0.2 Methodology of Data Analysis

The methods of data analysis used in this report included but not limited to means, percentages, rates and ratios, and graphs and charts to determine the distribution of population by marital status and sex at national, rural and urban levels. The application of means determined the average ages at which the population got married during the inter-census period and the singulate mean was computed to determine the future age at marriage for the 1984 population and to measure the extent of marriage in the country by sex.

10.0.3 Evaluation of Nuptiality Data

One of the key problems that limited the analysis of the 1984 NPHC nuptialiy data was the lack of order specific marital information (i.e., first marriage, second marriage, etc.). As a consequence it was impossible to construct gross and net nuptiality life tables. Similarly, the data did not include information that could easily make it possible to compute annual crude, age-specific and general marital rates. Hence, the annual crude marital rates (CMRs) obtained in this section of the report are average estimates. The nuptiality data were not also graduated to remove errors of age reporting. However, these limitations only reduced the number of techniques that could have been used to analyze the data.

10.1   Marriage Pattern at the National Level

The analysis of Liberia's population shows that a little under one-third was outside marital age in 1984, which further signified a youthful population. Of the 68 percent above acceptable marital age, 29 percent were never married (single) while another 39 percent were in marital unions (i.e., currently married, widowed and divorce/separated). An inter-census trend analysis shows that ever married population decreased by four percent from 1974 to 1984, while on the other hand, never married persons and population under marital age increased above the 1974 level (Figure 10.1). The decreased level of the ever married population during the inter-census period could be attributed to an upward trend of population in educational pursuit, particularly following the free education opportunities of the late 1970s and early 1980s.

Fig1. Percentage Distribution of 1974 and 1984 Total Population by Marital Status, Liberia 1984 NPHC
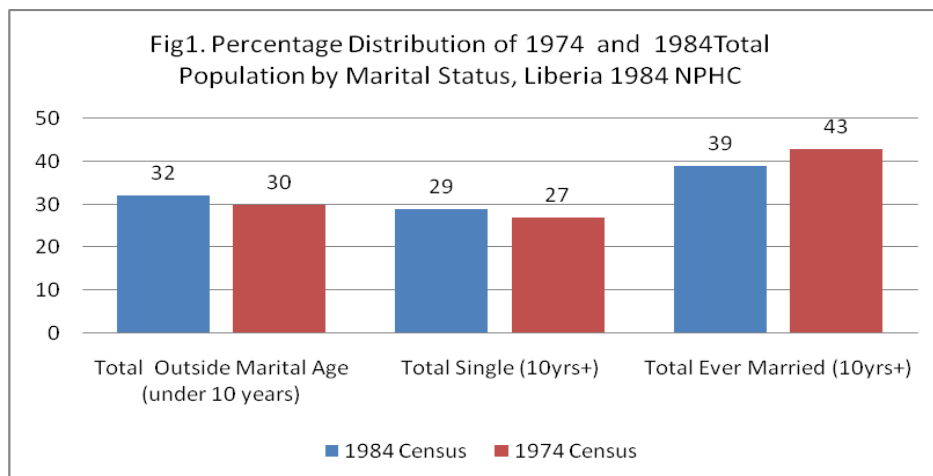
The distribution of population 10 years and over by marital status indicated females married earlier than males. The data also showed that there were more marriages in rural areas than urban centers, and the urban population married at earlier ages than rural population in 1984 (Figure 10.2).

Fig.2. Percentage Distribution of 1974 & 1984 Population in Marital Age by National and Rural-Urban Residence, Liberia 1984 NPHC
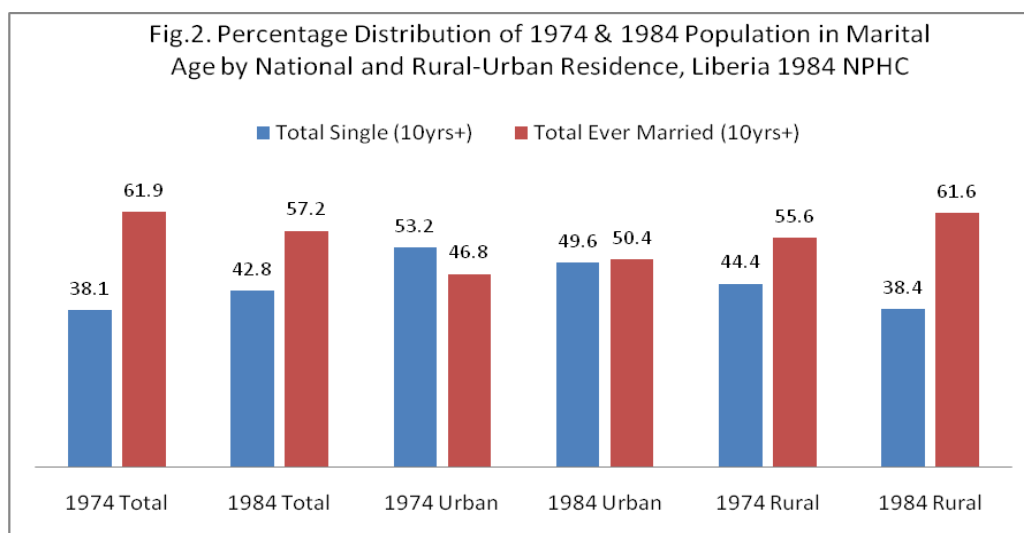
Further analysis of the 1984 population in marital age revealed that nearly half (49 percent) was currently married while 43 percent was single. In Figure 10.3, trend analysis of marital population by types of marriages indicated that currently married persons decreased from four percent from 1974 to 1984, leading to a five percent increment in population of single persons for the same period. At the national level, four percent each of the 1974 and 1984 population experienced divorce/separation and widowhood respectively.

Fig3. Percentage Distribution of the Type of Marriages in 1974-1984 by National and Rural- urban Residence, Lberia 1984 NPHC
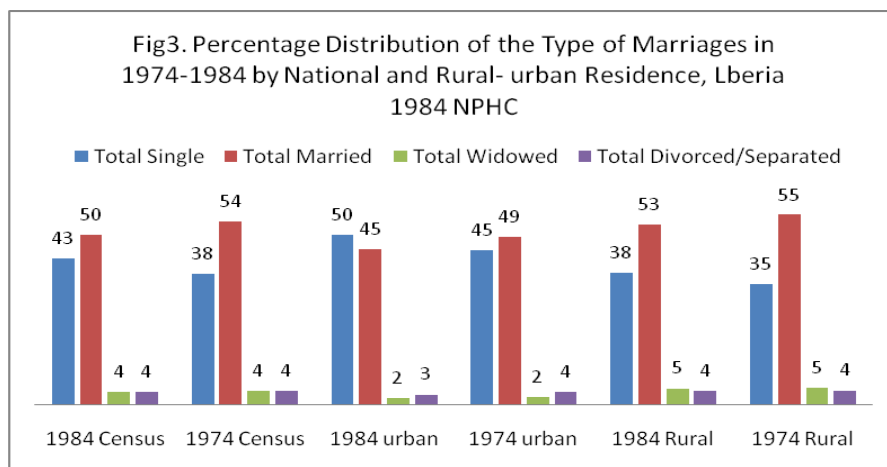
The urban and rural analysis showed that there were more currently married persons in urban than rural areas. Moreover, the data on rural Liberia indicated a slight increase in never married population from 35 percent in 1974 to 38 percent in 1984. It was also revealed that except for the 1984 urban population, the divorced and separated population remained at four percent for all rural and urban areas in the 1974 and 1984 censuses (Figure 10.3). Both the decrease in total married population and the subsequent increase in single population during the inter-census period could have likely been due to the increased access to education and increasing level of urbanization experienced in the early 1980s.

The age-specific distribution of population 10 years and above by marital status indicated that 38 percent of persons 10-14 years were single while 0.5 percent was currently married (Table 10.1). In addition, sex differentials indicated that there were more married females in the age group 10-14 years as compared to males; and more widowed males than females (Figure 10.4). The low percentage of ever married persons in ages 10-14 years is not unique to Liberia. Instead, marriages occurring to persons 10-14 years are normally negligible in all parts of the world. This situation gives rise to exclusion of the age group in the computation of major nuptiality indicators (e.gs., mean and median ages at marriage).
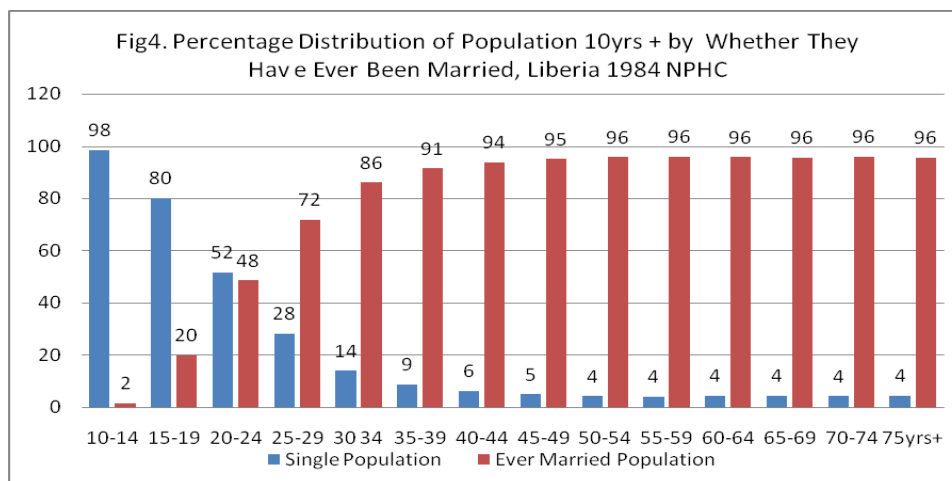
Fig4. Percentage Distribution of Population 10yrs + by Whether They Have Ever Been Married, Liberia 1984 NPHC

Like in most countries of the world, the population single in 1984 was negatively related to age, which means that ever married persons increased as the population grew older (Figure 10.4). The age-specific rates of population single were very high between 10-24 years, constituting 85 percent of population single. The high rate of single persons in the early ages of population 10 years and above in Liberia which was common in most developing countries, could be due to school attendance, inability to bear marital responsibility, etc. (Table 10.1).

Table 10.1: Marital Status of Total Population in Marital Age by Sex, Liberia 1984 NPHC

Age	Population Single			Population Married			Population Widowed			Separated/ Divorced		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
10-14	38.8	34.5	45.6	0.5	0.2	0.7	0.4	0.5	0.3	0.4	0.3	0.4
15-19	30.0	29.1	31.6	6.2	1.1	10.2	0.7	0.8	0.7	3.1	1.0	5.0
20-24	16.2	18.7	12.5	12.4	6.1	17.4	1.6	1.7	1.6	8.2	4.6	11.5
25-29	7.7	9.4	5.0	15.9	13.5	17.7	2.6	3.3	2.4	11.0	9.9	12.1
30 34	2.8	3.3	1.9	13.7	13.9	13.5	3.4	4.1	3.2	11.3	11.7	10.9
35-39	1.5	1.8	1.0	12.5	13.0	12.1	5.0	5.3	4.9	10.9	11.1	10.7
40-44	0.8	1.0	0.6	9.3	10.9	7.9	6.4	6.5	6.3	9.9	10.8	9.1
45-49	0.6	0.6	0.4	7.8	9.8	6.3	7.7	6.8	8.0	8.9	9.5	8.3
50-54	0.4	0.4	0.3	6.2	7.8	4.9	9.0	7.7	9.4	7.9	8.6	7.3
55-59	0.3	0.3	0.2	4.2	5.7	2.9	8.0	6.6	8.4	5.7	6.2	5.2
60-64	0.3	0.3	0.3	4.3	6.1	2.8	13.6	12.3	14.0	7.0	7.7	6.4
65-69	0.2	0.2	0.2	2.8	4.2	1.7	11.6	10.1	12.1	5.3	5.9	4.7
70-74	0.1	0.1	0.1	1.6	2.7	0.8	8.9	9.6	8.6	3.5	4.3	2.7
75yrs+	0.3	0.3	0.3	2.9	4.9	1.2	21.2	24.6	20.2	7.0	8.4	5.7
Total	100.0 (614644)	100.0 (373316)	100.0 (241328)	100.0 (714270)	100.0 (315965)	100.0 (398305)	100.0 (54458)	100.0 (12638)	100.0 (41820)	100.0 (53863)	100.0 (25723)	100.0 (28140)

Of the total persons that were currently married in 1984, more than half (54.5 percent) were aged 20-39 years, with age group 25-29 years being the peak of all marriages. Immediately following the peak age, marriage momentum began to drop rapidly (Table 10.1). The distribution of marriages by sex showed that there were more females at the early ages than males while there are also more males at terminal ages. The peak age at marriage for females was 25-29 years, representing 17.7 percent of all currently married females at the national level while that of males was 30-34 years (Table 10.1).

10.2   Rural-Urban Differentials of Marriage Pattern

The distribution of currently married population by age, and rural and urban localities indicated that persons in urban centers married earlier than those in rural areas. In Table 10.2, urban marriages dominated in ages 15 to 39 while rural marriages were higher for 40 years and over. In essence, 73.2 percent of urban population married from 15-39 years.

The table further showed that while the peak of marriages in urban centers was 25-29 years that of rural population was 40-44 years. In 1974, the percentage of the urban population that married between 15-39 years was 73.8 as compared with 73.2 for 1984, suggesting minor decrease in urban marriages during the inter-census period.

Furthermore, most of the widowhood in 1984 occurred after age 50, with the highest taking place in age group 60-64. Similarly, the rate of separation/divorce was very high between the ages 20-49 years, with most of it occurring among younger persons 25-39 years. In essence, divorce is less frequent in Liberia before age 25 and after age 49, with the highest momentum (11.3 percent) taking place between 30-34 years.
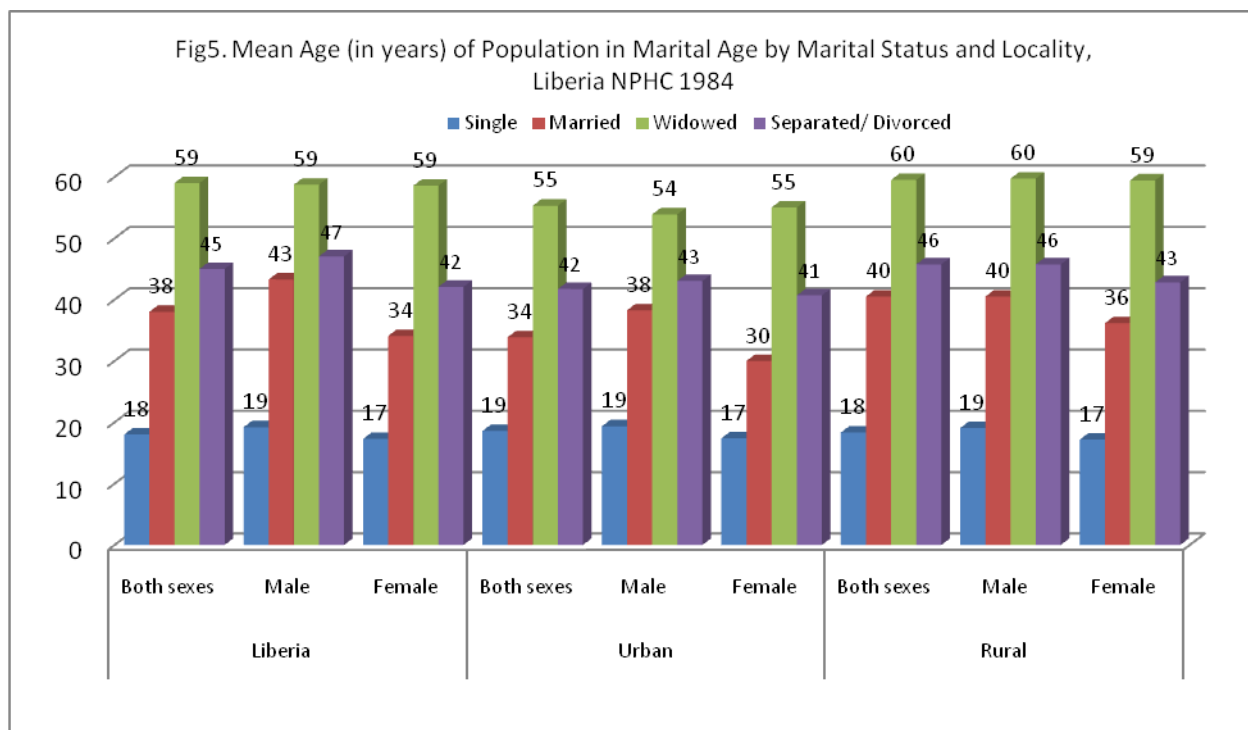
	1974 Population		1984 Population		1974 Females		1984 Female	
Age	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
10-14	0.4	0.3	0.5	0.4	0.5	0.4	0.6	0.7
15-19	5.8	8.2	5.6	7.1	9.5	14.7	8.9	12.6
20-24	9.8	15.0	10.6	15.8	13.9	21.5	14.4	23.3
25-29	13.8	19.7	13.3	20.5	16.9	22.0	15.4	22.3
30 34	14.4	16.7	12.1	16.6	16.4	15.1	13.0	14.3
35-39	13.7	14.2	12.1	13.2	13.4	11.0	12.8	10.7
40-44	10.2	8.6	9.6	8.6	8.9	5.7	9.2	5.5
45-49	8.9	6.5	8.6	6.5	7.1	3.9	7.5	4.0
50-54	7.2	4.1	7.3	4.1	5.2	2.4	6.1	2.5
55-59	4.5	2.4	5.0	2.5	2.8	1.2	3.7	1.5
60-64	4.6	1.9	5.5	2.0	2.6	1.0	3.6	1.2
65-69	2.7	1.1	3.6	1.3	1.4	0.6	2.2	0.7
70-74	1.8	0.6	2.2	0.6	0.7	0.3	1.1	0.3
75+	2.3	0.6	4.0	0.9	0.8	0.2	1.7	0.4
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total	(411,783)	(150,976)	(461,316)	(252,954)	(237,021)	(80,001)	(263,587)	(134,718)

Table 10.2: Distribution of Currently Married Population by Sex and Rural-Urban Residence, Liberia 1984

The age pattern of marital status in urban areas is not quite different from that of the total population of Liberia. In reality, there are more females at the beginning of marriage than males, as indicated in Table 10.2. However, the results of the census revealed that urban females married much earlier than their rural age groups. This finding is much pronounced from age 10-29, where the percentage of married urban females exceeds that of rural cohorts by almost half.

10.3   Mean and Singulate Mean Ages at Marriage

The mean age of single population in Liberia for both sexes was found to be 18 years. However, there were sex differentials of mean age for total population single that for single females was two years younger than single males. Also, the mean age at marriage for females was 11 years younger than that of males. This scenario is an indication that females experienced marriage life in very young ages than the males. In accordance with the 1984 National Population and Housing Census (Figure 10.5), the mean ages at widowhood for males and females (59 years) were the same while separation/divorce took place at the mean age of 45 years for Liberia. In addition, females separated/divorced from their marital partners at youger ages than males. The earlier ages at marriage for females had implications for their socio-economic and capacity development, as it primarily affected their educational level, particularly in rural localities.

The trends of the mean ages of the population ten years of age and over were the same for Liberia at all levels of geography. The mean ages at widowhood were higher than those for separated and divorced persons; those at marriage were higher than those for the single population and similar ages of males were more than those of females. The average age of single persons revolved around 19 years but in urban centers, single males were two years older than females. The mean age for currently married males was 38 years while that of females was eight

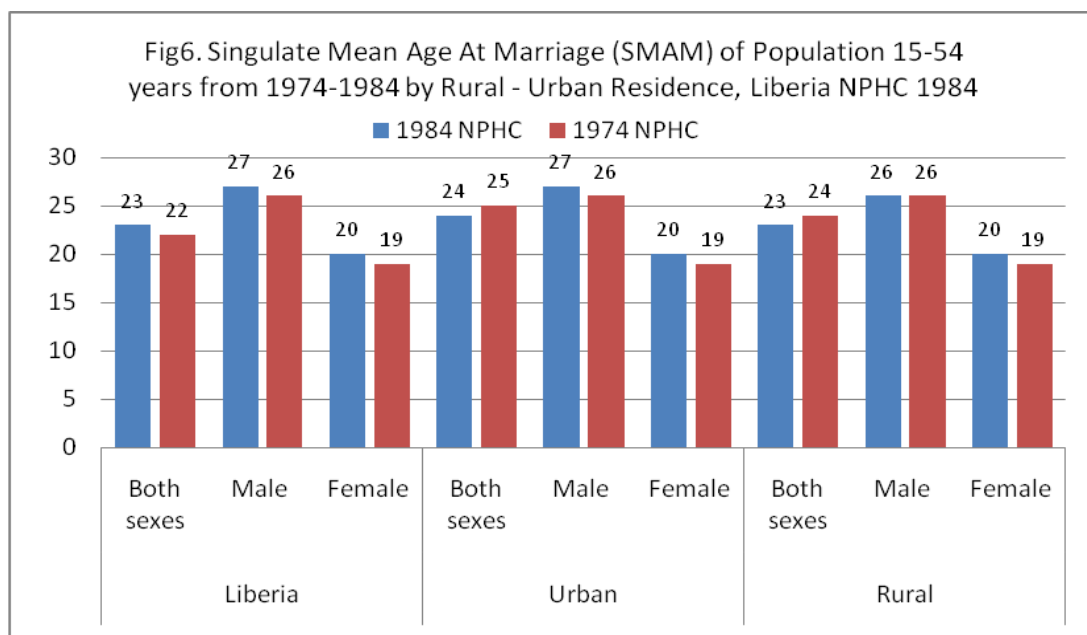Fig5. Mean Age (in years) of Population in Marital Age by Marital Status and Locality, Liberia NPHC 1984

years younger. All being equal, widowers were one year younger than widows. The average age of separated or divorce persons in urban areas was 43 years and 41 years for males and females respectively. Though this depicted that females divorced at earlier ages than males, the difference was not as significant as in the case of currently married individuals. In terms of stability within unions, therefore, women were seen to marry younger and divorced earlier than the men. Moreover, persons in rural localities separated or divorced much later than the urban population whilst the reverse is true of rural females with respect to their male counterparts (Figure 10.5).

The use of sigulate mean age at marriage (SMAM) in social and economic decision-making is quite important. One of the key areas in which SMAM is relevent in informing policy decisions on population and development is population policies and programming. In reality, SMAM helps to improve educational policies for girls by informing policy makers on the appropriate average age at marriage that could ensure that younger people (who are single) have the opportunity to graduate from high school before getting married.

The $SMAM_t$[1] for the overall population of Liberia was 23 years. In other words, the average age at which single persons in Liberia got married in 1984 was 23 years; a year more than in 1974. The $SMAM_m$ for Liberia was 7 years more than that of females. Like the mean age at marriage, the $SMAM_f$ for Liberia was lower than $SMAM_m$ at all levels (national, urban and rural), indicating that females get marry earlier than males (Figure 10.6). The $SMAM_f$ (19 years) and $SMAM_m$ (20 years) were the same at national, urban and rural levels. However, the 1984 $SMAM_t$ (24 years) for urban was one year higher than that of rural, which reinforces the point

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[1] $SMAM_t$ stands for the SMAM for both sexes; $SMAM_m$ for males; and $SMAM_f$ for females

that single persons in rural areas married earlier than those in urban centers. The early marriage among the single population in rural localities could be due to inadequacy of educational facilities which increased illiteracy and fertility in rural than urban centers.

Fig6. Singulate Mean Age At Marriage (SMAM) of Population 15-54 years from 1974-1984 by Rural - Urban Residence, Liberia NPHC 1984

Further, inter-census analysis of the data shows that in both urban and rural Liberia, $SMAM_t$ decreased from 24 years in 1974 to 23 years in 1984 while $SMAM_m$ was the same for the inter-cnsus period. This could have been due to policies and programmes to prolong the duration of stay of population in school and other factors that may have caused the SMAM to increase above the 1974 level.

10.4   Crude and General Marital Rates

10.4.1 Crude Marital Rates

The crude marital rate (CMR) for the inter-census period as 338 marriages per 1000 persons in the population from 1974-84. This CMR is an indication that the incidence of marriage in Liberia was high. The 10-year rate is a replacement for the annual CMR because there are no accurate statistics for the calculation of the calendar year CMR. Hence, the annual CMR could be put at an averge of 33.8 marriages per 1000 population for each of the 10 years in the inter-census period. Also, at the national level, female CMR was higher than that for males.

10.4.2 Age-Sex Specific Rates

Age-sex specific rates are general marriage rates (GMRs) that consider marital status and age distribution of population (Shryock et al.: op. cit., 336). However, these rates do not take into consideration the fact that married couples are not of the same age and sex. They are normally of opposite sex and different ages, which is one of the disadvantages of the method. For example, in

Liberia, husbands are most frequently older than their wives and all marriages occur among persons of opposite sex.

The age-specific total marriage rates (ASMRs) revealed that more marriages occurred to both sexes in between age 30-34 and 60-64 years. The sex differential of ASMRs showed a sharp rise in $ASMR_m$ began much later (30-34 years) while that of $ASMR_f$ started from 25-29 years, depicting earlier marriages among females than males. It was also shown that the rise in $ASMR_f$ dropped earlier (25-54 years) than that of $ASMR_m$ (30-64 years) as indicated in Table 3.

At the sub-national, ASMRs in rural areas were higher than those in urban centers. Similarly, with peak age of 35-39 years, the increase in $ASMR_f$ in rural areas was spread over a much bigger band of age groups (25-59 years) as compared with 25-49 years for urban $ASMR_f$. Similarly, the spread of rural $ASMR_m$ is substantially longer than $ASMR_m$ in urban centers as, indicated in Table 10.3.
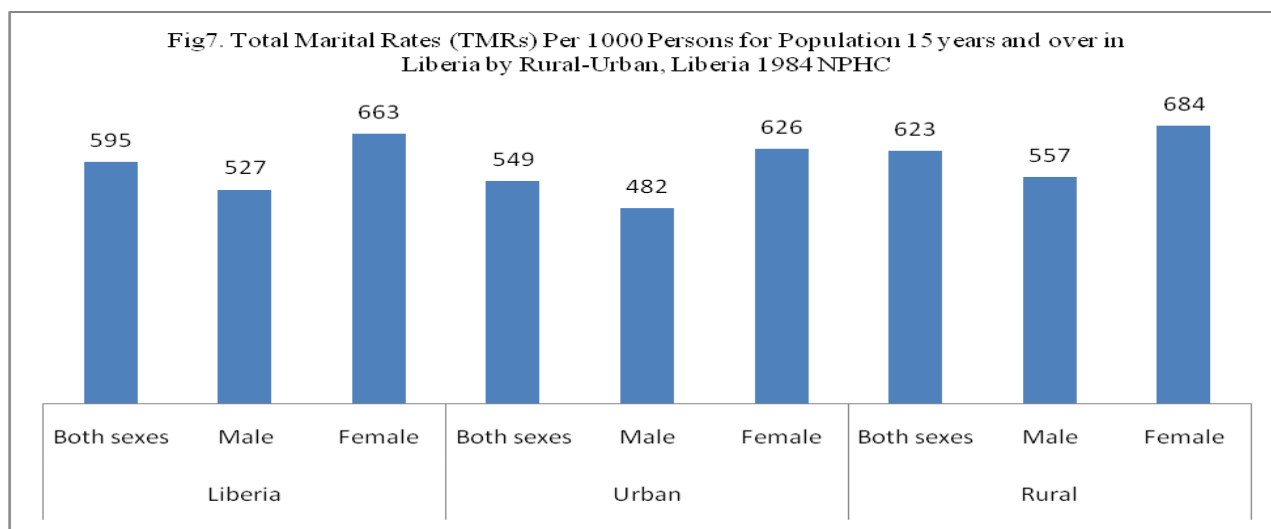
10.4.3 Total Marriage Rates

The analysis of the 1984 NPHC singled out females as the dominant sex with the total marriage rates (TMRs) as shown in Figure10.7. Total Marriage Rate (TMR) is analogous with Total Fertility Rate (TFR). Hence, the total marriage rate (TMR) was defined as the total number of marriages in a synthetic cohort passing through life together (see, for instance, ib. id.).

Table 10.3: Age-Specific Marital Rates (ASMRs) for Population 15 years and Over in Liberia by Rural-Urban Residence, Liberia 1984

Age/ Residence	Liberia			Urban			Rural		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
15-19	191	31	342	180	20	333	199	39	349
20-24	457	214	671	428	187	659	484	242	681
25-29	675	529	810	648	516	795	700	543	822
30 34	796	733	857	785	752	829	804	713	873
35-39	834	801	864	826	825	827	839	782	880
40-44	828	828	828	822	859	758	831	807	852
45-49	819	844	791	800	862	700	827	835	820
50-54	792	838	741	755	842	624	805	837	772
55-59	767	836	681	714	828	546	784	839	718
60-64	700	805	571	625	777	437	717	811	602
65-69	654	786	489	564	753	352	674	793	522
70-74	609	750	405	511	699	282	627	759	431
75yrs +	547	713	316	388	477	257	559	718	327
Total	595	527	663	549	482	626	623	557	684

At all levels of the analysis, the TMR_m are much lower than TMR_f, inferring that males married less frequently than females[2]. Aside from the fact that one man is allowed to marry more than one wife, females are keen on marriage than males because the impact of societal resentment on

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[2] TMR_t stands for the TMRs for both sexes. TMR_m for males, and TMR_f for females.

spinsters was greater than on bachelors. The TMR_t at the national level in 1984 was 595 marriages per 1000 persons 15 years and above, with 663 marriages per 1000 female population as compared to 527 per 1000 males. The 1984 NPHC data further indicated that rural TMR_t was higher than that of urban, meaning that more marriages took place in rural localities than urban centers (Figure 10.7).

Fig7. Total Marital Rates (TMRs) Per 1000 Persons for Population 15 years and over in Liberia by Rural-Urban, Liberia 1984 NPHC

10.5   Marital Status and Occupation

The national level analysis of the 1984 census data by marital status, sex and occupation showed that most (70 percent) of the ever married and never married persons were engaged in agriculture related activities (i.e., animal husbandry, forestry, fishery and hunting).   Further analysis revealed that of the 23,745 persons that experienced widowhood, 83 percent survived on working in the agriculture industry. Similarly, 65.6 percent of single persons and 69 percent of separated/divorced were engaged in subsistence agriculture related activities.

Sex differentials showed that more females (both never married and ever married) were engaged in agricultural activities than males (Appendix 10A). In other words, 84.9 percent of married females and 59.9 percent of married males were engaged in agriculture activities and a further 2.1 percent and 6.0 percent respectively were professional, technical and related workers. The female dominance in agricultural activities was seen to occur without respect to the marital status category or urban and rural residence pattern.

In addition, less than 2 percent of never married, married, widowed and divorced/separated persons were involved in administrative and managerial occupations, and clerical and related work respectively; with married persons accounting for more than half, most of whom were females (Annex 10A, 10B and 10C).

The professional, technical and related workers were dominated by males in all types of marital statuses (never married and ever married). Like other occupations, married persons involved in professional, technical and related work were more than those who were single, widowed and

divorced/separated. There were more married professional, technical and related workers in the urban than rural areas but the proportion of women was small.

10.6   Summary, Conclusion and Recommendations

10.6.1 Key Findings and Conclusion

The population of marital age declined from 1974 to 1984 while single persons of marital age and population less than 10 years of age increased. This had implications for access to education as the pace of urbanization increased in the late 1970s and early 1980s. It was revealed that females married earlier than males while nearly half of the general population in marital age was currently married in 1984. At the national level, the population of divorcees, separated persons and widowhood remained stable over the inter-census period.

It was further revealed that a small proportion (0.5 percent) of persons 10-14 years was currently married, with more married females than males. This was responsible for the exclusion of the age group in the computation of major nuptiality analysis in Liberia and other parts of the world. Like in most African Countries the single population dropped below 30 percent after 24 years, which signified high marital frequency in 1984 at early ages. Also, the high rate of single persons in the early ages of the population of Liberia could be due to school attendance, inability to bear marital responsibilities and other unexplained factors.

The peak age at marriage in 1984 for the total population and females was 25-29 years respectively while that of males was 30-34 years which confirmed that females got married 5-10 years earlier than males. Similarly, the peak age at marriage in urban centers was 25-29 years while that of rural areas was 40-44 years, justifying that the urban population married at younger ages than rural areas.

The mean age at marriage for females was 11 years younger than that of males. This scenario is an indication that females experienced marriage life in much younger ages than the males. The earlier ages at marriage for females had implications for their socio-economic and capacity development, as it primarily affected their educational level, particularly in rural localities. The SMAM for the overall popultion in 1984 was 23 years, which was a year more than in 1974. However, the SMAM for males was seven years more than that of females. Married populaion dominated all occupations in 1984, with more persons in the agriculture related activities (i.e., animal husbandry, forestry, fishery and hunting) than in other occupations.

10.6.2 Policy Recommendations

With a total marital rate of 595 per 1000 persons and a mean age of marriage of 34 years, it was obvious that there was a high frequency of marriage among Liberians. Similarly, a singulate mean age at marriage of 23 years (20 years for females and 27 for males) signified more future marriages among younger persons. Hence, there is a need to develop policies and programmes that will increase female enrollment in both secondary and tertiary institutions of learning. The educational advancement of females will not only reduce early marriages but will also decrease the high marital fertility.

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APPENDICES

Appendix 10D: Percentage of Total Married Population 1974-1984 by Age and Sex, Liberia 1984						
	1984 Census			1974 Census		
Age	Total	Male	Female	Total	Male	Female
10-14	0.5	0.2	0.7	0.3	0.1	0.5
15-19	6.2	1.1	10.2	6.5	0.9	10.8
20-24	12.4	6.1	17.4	11.2	5.2	15.8
25-29	15.9	13.5	17.7	15.4	11.8	18.2
30 34	13.7	13.9	13.5	15.0	13.7	16.0
35-39	12.5	13.0	12.1	13.8	15.2	12.8
40-44	9.3	10.9	7.9	9.8	11.9	8.1
45-49	7.8	9.8	6.3	8.3	10.7	6.3
50-54	6.2	7.8	4.9	6.3	8.7	4.5
55-59	4.2	5.7	2.9	3.9	6.0	2.4
60-64	4.3	6.1	2.8	3.9	6.0	2.2
65-69	2.8	4.2	1.7	2.3	3.8	1.2
70-74	1.6	2.7	0.8	1.5	2.6	0.6
75 yr+	2.9	4.9	1.2	1.8	3.3	0.7
Total	714,270	315,965	398,305	562,759	245,737	317,022

Appendix 10E: Percentage of Married Population by Age, and by Sex and Rural-Urban Differentials, Liberia 1974-1984				
	1974 Females		1984 Females	
Age	Rural	Urban	Rural	Urban
10-14	0.5	0.4	0.6	0.7
15-19	9.5	14.7	8.9	12.6
20-24	13.9	21.5	14.4	23.3
25-29	16.9	22.0	15.4	22.3
30 34	16.4	15.1	13.0	14.3
35-39	13.4	11.0	12.8	10.7
40-44	8.9	5.7	9.2	5.5
45-49	7.1	3.9	7.5	4.0
50-54	5.2	2.4	6.1	2.5
55-59	2.8	1.2	3.7	1.5
60-64	2.6	1.0	3.6	1.2
65-69	1.4	0.6	2.2	0.7
70-74	0.7	0.3	1.1	0.3
75 yrs+	0.8	0.2	1.7	0.4
TOTAL	237,021	80,001	263,584	134,718

	Liberia			Urban			Rural		
Age	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
15-19	191	31	342	180	20	333	199	39	349
20-24	457	214	671	428	187	659	484	242	681
25-29	675	529	810	648	516	795	700	543	822
30 34	796	733	857	785	752	829	804	713	873
35-39	834	801	864	826	825	827	839	782	880
40-44	828	828	828	822	859	758	831	807	852
45-49	819	844	791	800	862	700	827	835	820
50-54	792	838	741	755	842	624	805	837	772
55-59	767	836	681	714	828	546	784	839	718
60-64	700	805	571	625	777	437	717	811	602
65-69	654	786	489	564	753	352	674	793	522
70-74	609	750	405	511	699	282	627	759	431
75 +	547	713	316	388	477	257	559	718	327
Total	595	527	663	549	482	626	623	557	684

Appendix 10F: Total Marital Rates by Age, and by Sex and Rural-Urban Differentials, Liberia 1984

MARITAL STATUS	ALL OCCUPATIONS		PROFESSIONAL, TECHNICAL AND RELATED WORKERS	ADMINISTRA-TIVE AND MANGERIAL WORKERS	CLERICAL AND RELATED WORKERS	SALES WORKERS	SERVICE WORKERS	AGRICULTURE, ANIMAL HUSBANDRY & FORESTRY WORKERS, FISHERMEN & HUNTERS	PRODUCTION & RELATED WORKERS, TRANSPORT EQUIPMENT OPERATIONS AND LABORERS	WORKERS REPORTING OCCUPATIONS UNIDENTIFIABLE
	NUMBER	PERCENT								
TOTAL	669330	100.0	4.0	0.7	1.6	6.8	3.5	70.0	9.7	3.7
NEVER MARRIED	142008	100.0	3.5	0.4	1.8	7.2	3.2	65.6	10.3	8.1
MARRIED	470856	100.0	4.3	0.8	1.6	6.6	3.7	70.8	9.9	2.4
WIDOWED	23745	100.0	2.9	0.3	0.8	5.9	1.5	83.0	2.9	2.7
DIVORCED/ SEPARATED	32721	100.0	4.0	0.4	1.7	8.2	4.0	69.0	9.7	3.1
MALE	388323	100.0	5.3	1.0	1.9	5.4	5.3	60.3	16.0	4.7
NEVER MARRIED	96526	100.0	3.8	0.4	1.5	6.8	3.8	59.1	14.5	10.0
MARRIED	266144	100.0	6.0	1.3	2.1	5.1	5.9	59.9	16.8	2.8
WIDOWED	7308	100.0	2.2	0.3	0.7	2.6	2.4	79.2	8.1	4.5
DIVORCED/ SEPARATED	18345	100.0	3.7	0.5	1.5	3.6	5.4	65.2	16.1	3.9
FEMALE	281007	100.0	2.4	0.2	1.2	8.6	1.1	83.4	0.9	2.2
NEVER MARRIED	45482	100.0	2.8	0.2	2.5	7.9	1.9	79.3	1.2	4.2
MARRIED	204712	100.0	2.1	0.1	0.9	8.5	0.8	84.9	0.9	1.8
WIDOWED	16437	100.0	3.2	0.2	0.8	7.3	1.1	84.7	0.6	1.9
DIVORCED/ SEPARAT	14376	100.0	4.3	0.3	1.9	13.9	2.2	73.8	1.5	2.1

Appendix 10A: Percentage Distribution of Total Population by Marital Status, Sex and Occupation, Liberia 1984

Appendix10B: Percentage Distribution of Urban Total Population by Marital Status, Sex and Occupation, Liberia 1984

MARITAL STATUS	ALL OCCUPATIONS		PROFESSIONAL, TECHNICAL AND RELATED WORKERS	ADMINISTRATIVE AND MANGERIAL WORKERS	CLERICAL AND RELATED WORKERS	SALES WORKERS	SERVICE WORKERS	AGRICULTURE, ANIMAL HUSBANDRY & FORESTRY WORKERS, FISHERMEN & HUNTERS	PRODUCTION & RELATED WORKERS, TRANSPORT EQUIPMENT OPERATIONS & LABORURERS	WORKERS REPORTING OCCUPATIONS UNIDENTIFIABLE
	NUMBER	PERCENT								
TOTAL	178155	100.0	11.0	1.7	5.2	20.4	10.7	19.5	25.1	6.5
NEVER MARRIED	39543	100.0	10.4	1.2	6.1	21.4	9.8	15.3	24.7	11.2
MARRIED	126116	100.0	11.2	1.8	4.9	19.6	11.0	20.2	26.1	5.1
WIDOWED	3937	100.0	11.1	1.2	4.2	25.8	6.9	38.3	8.0	4.5
DIVORCED/ SEPARATED	8559	100.0	11.3	1.3	5.7	24.7	12.1	20.5	19.2	5.2
MALE…	129147	100.0	11.2	2.0	4.7	13.5	12.8	15.2	33.6	6.9
NEVER MARRIED	30716	100.0	9.9	1.2	4.3	18.4	10.2	13.1	30.7	12.2
MARRIED	92554	100.0	11.8	2.2	4.9	12.1	13.5	15.5	34.7	5.2
WIDOWED	1075	100.0	8.4	1.5	3.4	10.8	10.8	31.7	24.4	9.0
DIVORCED/ SEPARATED	4802	100.0	10.1	1.6	4.9	10.0	16.2	18.9	31.8	6.5
FEMALE	49008	100.0	10.4	0.8	6.4	38.5	4.9	30.9	2.7	5.3
NEVER MARRIED	8827	100.0	11.9	1.1	12.2	31.8	8.1	23.2	3.9	7.9
MARRIED	33562	100.0	9.6	0.8	4.9	40.4	3.8	33.0	2.4	5.1
WIDOWED	2862	100.0	12.2	1.0	4.5	31.4	5.5	40.7	1.9	2.8
DIVORCED/ SEPARATED	3757	100.0	12.9	1.0	6.8	43.4	7.0	22.4	3.0	3.5

MARITAL STATUS	ALL OCCUPATIONS		PROFESSIONAL, TECHNICAL AND RELATED WORKERS	ADMINISTRA - TIVE AND MANGERIAL WORKERS	CLERICAL AND RELATED WORKERS	SALES WORKERS	SERVICE WORKERS	AGRICULTURE, ANIMAL HUSBANDRY & FORESTRY WORKERS, FISHERMEN & HUNTERS	PRODUCTION & RELATED WORKERS, TRANSPORT EQUIPMENT OPERATIONS AND LABORURERS	WORKERS REPORTING OCCUPATIONS UNIDENTIFIABLE
LIBERIA - RURAL	Total #	Total %								
TOTAL	491175	100.0	1.5	0.3	0.3	1.8	1.0	88.3	4.1	2.6
NEVER MARRIED	102465	100.0	0.8	0.0	0.2	1.7	0.6	84.9	4.7	7.0
MARRIED	344740	100.0	1.7	0.4	0.4	1.8	1.1	89.3	3.9	1.4
WIDOWED	19808	100.0	1.3	0.1	0.1	1.9	0.5	91.9	1.9	2.3
DIVORCED/ SEPARATED	24162	100.0	1.3	0.1	0.2	2.3	1.2	86.2	6.3	2.3
MALE	259176	100.0	2.3	0.6	0.5	1.4	1.6	82.8	7.3	3.6
NEVER MARRIED	65810	100.0	1.0	0.1	0.3	1.5	0.7	80.5	7.0	9.0
MARRIED	173590	100.0	2.9	0.8	0.7	1.3	1.9	83.6	7.2	1.6
WIDOWED	6233	100.0	1.1	0.1	0.2	1.2	1.0	87.4	5.2	3.7
DIVORCED/ SEPARATED	13543	100.0	1.5	0.2	0.3	1.4	1.6	81.6	10.5	2.9
FEMALE	231999	100.0	0.6	0.0	0.1	2.3	0.3	94.5	0.6	1.6
NEVER MARRIED	36655	100.0	0.6	0.0	0.1	2.1	0.4	92.9	0.5	3.3
MARRIED	171150	100.0	0.6	0.0	0.1	2.3	0.2	95.1	0.6	1.2
WIDOWED	13575	100.0	1.3	0.1	0.1	2.3	0.2	94.0	0.4	1.7
DIVORCED/ SEPARATED	10619	100.0	1.2	0.1	0.2	3.5	0.5	91.9	1.0	1.6

Appendix10C: Percentage Distribution of Rural Population by Marital Status, Sex and Occupation, Liberia 1984