

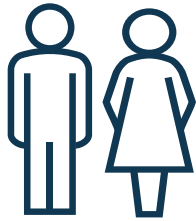


SIERRA LEONE 2015 POPULATION AND HOUSING CENSUS

THEMATIC REPORT ON NUPTIALITY AND FERTILITY



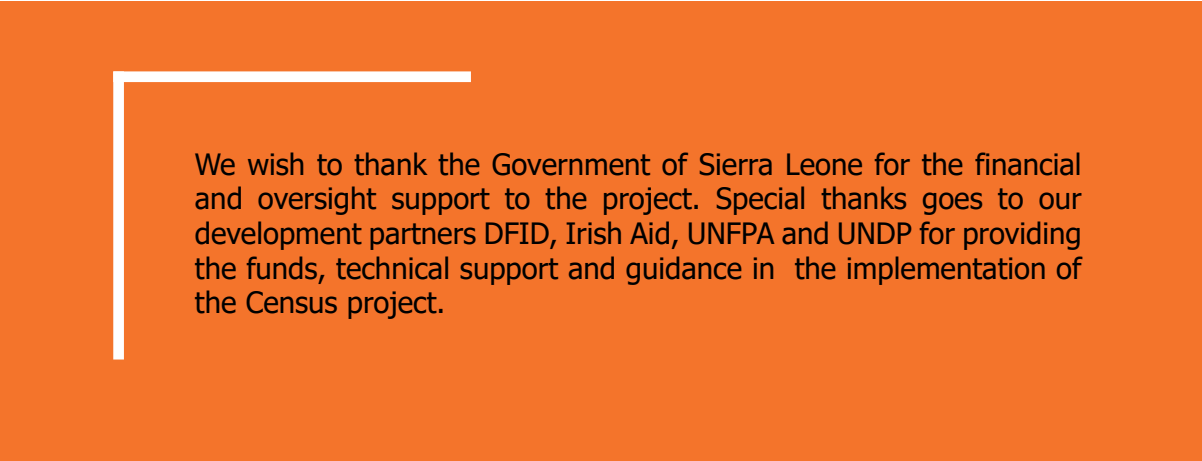
**STATISTICS SIERRA LEONE (SSL)
OCTOBER 2017**



**SIERRA LEONE 2015
POPULATION AND HOUSING CENSUS**

**THEMATIC REPORT ON
NUPTIALITY AND FERTILITY**

**BY
SAMUEL B. WEEKES
PETER BANGURA
JOHN BISMACK SESAY**



We wish to thank the Government of Sierra Leone for the financial and oversight support to the project. Special thanks goes to our development partners DFID, Irish Aid, UNFPA and UNDP for providing the funds, technical support and guidance in the implementation of the Census project.

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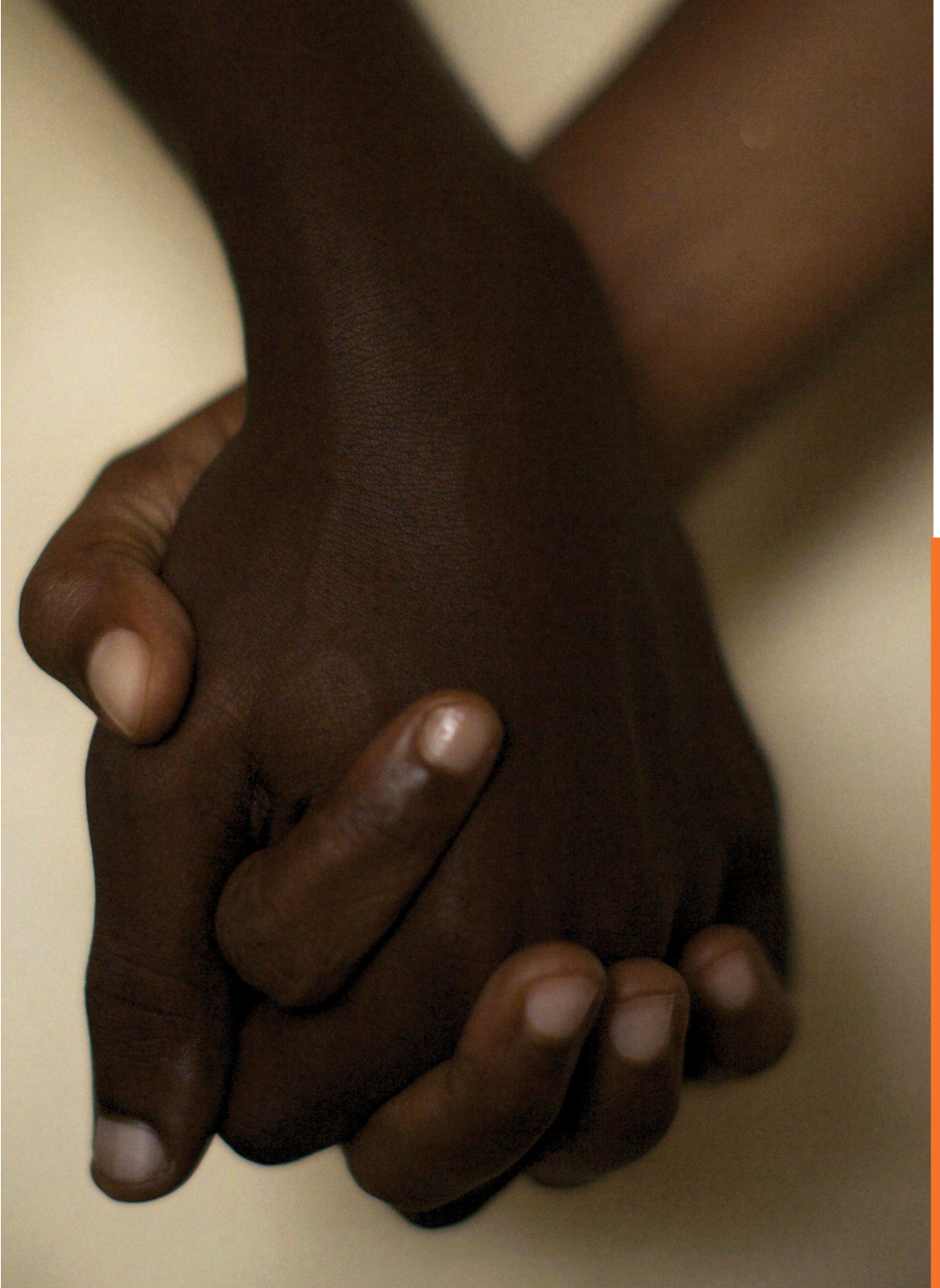
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ABBREVIATIONS

ASFRs	Age specific fertility rates
CBR	Crude birth rate
CEB	Children ever born
CWR	Child woman ratio
GFR	General fertility rate
GRR	Gross reproduction rate
MDAS	Ministries departments and agencies
NRR	Net reproduction rate
SLFPCIP	Sierra Leone Family Planning Coasted Implementation Plan
SMAM	Singulate Mean Age At Marriage
TFR	Total fertility rate
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Emergency Fund
USA	United States Of America



EXECUTIVE SUMMARY

This report considers nuptiality and fertility in Sierra Leone using data obtained from the 2015 Population and Housing Census. The objectives of the report included an analysis of the levels, pattern and trends of the current and lifetime fertility and nuptiality in the country.

Various direct and indirect methods were used to analyse the data on both variables. Direct methods include calculation of percentages, rates and ratios. Specific indirect methods used were the Trussell P/F Ratio method and the Relational Gompertz methods (from the Bureau of Census USA). These indirect techniques were used to assess and adjust the current fertility data to minimize inaccuracies, such as poor reporting of births, which have resulted in very low fertility indicators such as the reported total fertility rate.

**6 CHILDREN PER
WOMEN IN 2015.**



30 years old
Mean age at childbearing

Less than **18 years old**
Singulate mean age at
marriage across the country

The findings of this report suggest that levels of fertility have not changed much for 30 years. The total fertility rate is still in the region of six children per woman, the same rate as that recorded in the 1985 Census. The crude birth rate, the general fertility rate, the gross reproduction rate and the number of children ever born have also remained roughly the same. The mean age at childbearing is in the region of 30 years. Marriage is a common phenomenon amongst both men and women, although more women are married than men.

Marital fertility is far higher than non-marital fertility. The reported fertility rate for currently married monogamous women is 3.1 children; women married in polygamous unions have 3.9 children, while the never married women have 0.24 children. These results suggest that the incidence of births outside marriage is low in Sierra Leone.

Sierra Leone's Customary Marriage and Divorce Act states that girls cannot marry before 18 years of age. However the data suggests that the singulate mean age at marriage is less than 18 years across the country. This seems to indicate that the Act is not being implemented effectively.

Levels of fertility, as indicated by various fertility indices such as the total fertility rate and the mean number of children ever born, have barely fallen since the national census of 1985. This would seem to suggest that the social, cultural and economic supports of high fertility still exist and there is low contraceptive use.

Recommendations emerging from these analyses include a more effective implementation of the 2007 Customary Marriage and Divorce Act, through extensive educational programmes. Family planning programmes should also use similar strategies to increase the contraceptive prevalence rate, which will in turn contribute to a reduction in fertility levels.

CHAPTER 1: INTRODUCTION

1.1 Background to Nuptiality and Fertility in Sierra Leone

1.1.1 Nuptiality

Unlike fertility, mortality and migration, research on nuptiality (or marriage rate and characteristics) has been limited.

Several studies (for example, Dow 1968, Devis 1973 and Pemagbi 1989) focused on fertility differentials by place of residence, tribal groups, level of education and knowledge approval and practice of fertility behaviour.

A small number of studies relating fertility to marriage, child survival and early childhood marriage as well as childbearing have been conducted in Sierra Leone (Harrell-Bond 1973, Isaac 1980, Isaac and Feinberg 1982, Kaindaneh 1988). Other unpublished works on nuptiality have been conducted by ministries, departments and agencies (MDAs) looking at the policy implications of marriage practices, procedures and types.

Although prohibited by the 2007 Customary Marriage and Devolution Act, child marriage is pervasive in the country. UNICEF studies suggest that more than 10 per cent of girls are married before age 15 (UNICEF, 2010.)

In addition, more than 30 per cent are married before age 18,(SL-DHS, 2013). The consequences of these early marriages are high teenage pregnancy rates and high maternal deaths, particularly among young girls. Nearly half (about 48 per cent) of maternal deaths are attributed to early marriage and teenage pregnancy. These numbers are far too high and call for collaborative action from the Government, development partners, parents and communities in general to address early marriage and its consequences.

At the policy level, the Government passed The Customary Marriage and Devolution Act in 2007 with the aim of promoting the nuptial rights of women through the legal validation and registration of marriage. The Act also limits

the minimum age at marriage to 18 years. It also states that couples who have co-habited for up to five years or more should be considered legally married.

The 2015 Census collected data on marital status. Questions were asked on the current marital status of all residents aged ten years and above in a household. A review of the trend and differentials in marriage patterns from the 2004 and 2015 Censuses will help inform and guide the review of existing policies and programmes at both national and sub-national levels.

1.1.2 Fertility

Research and studies abound on fertility in Sierra Leone. According to Bailey (1986 and 1989), Ketkar (1978) and Pemagbi (1989), fertility is inversely related to the level of education. They found that women with tertiary levels of education tend to have fewer children than women with primary education. They deduced that this was because these women had spent longer in education and had therefore postponed marriage and child birth.

Others studied how place of residence can affect fertility. Bailey (1987), Okoye (1980) and Ketkar (1979) discovered that women living in rural areas tend to have more children than women in urban areas. This, they noted, is largely because women in urban areas have higher levels of exposure to information and access to family planning commodities and services than women in rural localities.

In Sierra Leone, fertility levels, though declining, remain at unacceptably high levels. Family planning programmes and actions have centred on reducing the fertility rates. Actions undertaken in the past include making operational existing policies, providing contraceptive supplies and information and social marketing of reproductive health commodities. Specific actions have included sensitization of the population about the dangers of too many children, or having them too early, too late, or too frequently.

The plan gives critical direction to Sierra Leone's family planning programme and serves as a blueprint for the country to follow towards achieving fertility reduction. Its objective is to make family planning information and services easily accessible and affordable to all couples and individuals, actively promote the acceptance of contraceptive practice and enhance involvement of men in reproductive health programmes and care.

1.2 Rationale and Objectives of the Analysis

The main objective of this report is to estimate the levels and patterns of nuptiality, current and lifetime fertility as well as examine the socio-economic, demographic and geographical variations of both nuptiality and fertility, based on the 2015 Population and Housing Census of Sierra Leone. The specific objectives are to:

- 01** Examine the levels, trends and differentials of current and lifetime fertility
- 02** Analyse marriage and nuptiality levels and trends
- 03** Determine fertility and marriage differentials by background characteristics
- 04** Examine the patterns of natality and its relationships with childbearing
- 05** Develop policy and programme implications of the findings and make recommendations to guide implementations of interventions

1.3 Definitions and Concepts

The following definitions are provided to guide the reader in understanding some demographic concepts used in the report.

Nuptiality: The frequency and characteristics of marriage in a population.

Polygamy: A marriage pattern in which one man marries more than one woman at a time.

Monogamy: The practice of having only one spouse at one time. In some cases, monogamy means having only one spouse for an entire life span.

Divorce: The legal process in which a judge legally ends a marriage. The result leaves the status of the two individuals as single. A divorce does not declare a marriage null and void, as in an annulment, but instead states that the marriage was unsuccessful, for any of a variety of reasons, and declares the two individuals as single.

Cohabitation: For this study, cohabiting means persons who, while not married, have lived as married persons for a period of not less than five years.

Fertility: The actual birth performance of a population.

Singulate Mean Age at Marriage (SMAM): The average length of single life expressed in years among those who marry before age 50.

Childbearing: The act or process of carrying and giving birth to a child.

Total Fertility Rate (TFR): This represents the average lifetime births per woman implied by the age-specific fertility rates prevailing among a cohort of women. High fertility is defined as a TFR of 5.0 or higher.

Age Specific Fertility Rate (ASFR) The number of births in a year to mothers of a specific age, per woman or per 1,000 women of the same age, at mid-year. ASFR is usually calculated for women in each 5-year age group for ages from 15 to 49 years. They can also be calculated for women in single years of age, although this is rarely practical in developing countries.

Crude Birth Rate (CBR): The average number of births in a year per 1,000 persons in a population.

Parity: The total number of live births a woman has ever had, as of the date of the census.

1.4 Structure of the Report

This report is divided into six chapters. The first chapter deals with the background, the rationale and objectives of the study and definition of concepts.

Chapter Two looks at the sources and methods of data collection. It also presents the limitations of the data and the methods of analysis applied. The detailed analysis for both nuptiality and fertility are presented in Chapters Three and Four respectively.

This is followed by a description of the nuptiality-fertility relationship in Chapter Five. The report concludes with summary, conclusion policy implications and recommendations in Chapter Six.



CHAPTER 2: DATA SOURCES AND METHODOLOGY

2.1 Sources, Methods and Types of Nuptiality Data

The 2015 Census asked all respondents aged 10 years and above: "What is your current marital status?". A total of 10 response categories were used: never married; engaged; married monogamous; married polygamous; cohabitation less than five years; cohabitation more than five years; separated; divorced; widowed; and don't know. This data has been used to analyse nuptiality patterns and differentials among the population.

2.2 Source, Methods and Types of Fertility Data

Information on current and total fertility is essential in monitoring population growth and developing policies and programmes. Birth intervals are important because short intervals increase the risk of childhood mortality.

A mother's age during childbearing, whether too young or too old, can increase the risk to the health of both the mother and the child. Information on fertility preferences provides family planning programmes with an understanding of the potential 'demand' for fertility control in any given population.

Data on fertility can be collected in several ways. The 2015 Census collected data on children ever born. First, each woman was asked the number of sons and daughters who live with her; the number who live elsewhere; and the number of children who were born alive and later died. Second, a complete history of all the woman's births was obtained, including the name; sex; month and year of birth; age and survival status for each of the births. For living children, a question was asked about whether the child was living in the household or away from the household. For dead children, the age at death was recorded. The data was used to estimate the current level, trends, patterns and differentials in fertility.

2.3 Evaluation and Limitations of Nuptiality and Fertility Data

Demographic data in developing countries like Sierra Leone are riddled with problems. These include coverage and content errors, which vary in nature and size depending on the control measures put in place during the conduct of the census.

2.3.1 Limitations of Nuptiality Data

The census data had some limitations. It did not collect data on age at first marriage or age at first sexual intercourse. Data were also not collected on marital mobility, as couples move in between relationships. Hence, re-marriages (the number of times people remarried and how long they stayed divorced or widowed before remarrying) were not captured. These limited the level of the analyses.

2.3.2 Limitations of Fertility Data

An evaluation of the census data revealed that the current and lifetime fertility rates suffered from systematic misreporting. Quality data on current and lifetime fertility must include only children born alive, excluding stillbirths and other foetal deaths.



The very low reported fertility in the 2015 Census could have been caused by respondents not adhering to the definition of live births. Secondly, it is possible there were errors in estimating the twelve-month period preceding the census as well as an omission of neo-natal deaths. Thirdly, the data could also have been affected by women attempting to report their non-biological children as their own children.

One conspicuous discrepancy from the period fertility data was the fact that a significant number of women reported more than one birth in the twelve months preceding the census, which is usually a rare occurrence.

2.4 Methods of Nuptiality and Fertility Data Analysis

Although census data have the advantage of deriving direct estimates of period fertility, such data are restricted in terms of detailed information such as the timing of birth (histories) and potential bias and errors due to misreporting. This is particularly an issue in the absence of reliable or flawed vital statistics registration.

In such circumstances, it is recommended to first undertake a thorough scrutiny of the census fertility data for possible age distortions and age reporting bias. The date of birth of the last child born in the year preceding the census would be ideal, instead of data on the number of children born, although both are subject to under-reporting.

The most common reporting bias is the omission of live-born children, especially among older mothers, either because some children had already left the household or died (UN 1983). Mothers also commonly misreport their age, especially young (teenage) mothers who may overstate their ages.

These problems can be assessed by calculating the average parities from data on children ever-born and comparing the distribution of births across different age groups. If the proportion of missing data in the census exceeds five per cent and if there is inconsistency between the direct estimate of current fertility and those from other relevant sources, then further investigations should be carried out (Moultrie and Timæus 2002). Two commonly used indirect estimation techniques that are applied in this report are the Trussell P/F Ratio method and the Brass Relational Gompertz model.

2.4.1 The Trussell P/F Ratio method

The P/F method was developed by demographer William Brass in 1964 and revised by Trussell. The method proposes that cohort and period fertility rates should be identical under the assumption that fertility has been constant for an extended period of time. In the technique, 'P' refers to the reported average parity or cumulated lifetime parity of a cohort of women and 'F' refers to estimated cumulated current fertility. If the fertility has remained constant and the data on children ever-born are complete for women up to age 30 or 35, the P/F ratio would be equal to 1 in every age group. However, if the fertility has been declining, then 'P' would be greater than 'F' with increasing age of mother.

The method makes adjustment to the reported total fertility and age patterns of fertility using data on the parity and number of births during the year preceding the census date. The input data required for the estimation of the P/F Ratio are: children ever born classified by five-year age group of mothers; number of births in the year classified by five-year age group of mothers; women classified by five-year age group; and total population, if the birth rates are to be estimated (UN 1983).

2.4.2 Relational Gompertz Model

Brass (1981) also developed the Relational Gompertz Model by refining the P/F Ratio method to estimate the ASFRs and the TFR by fitting the Gompertz function to reported ASFRs; the average number of children ever born by age of the mother; and the number of births in the year preceding the census date.

This method is designed to tackle the problem of under-reporting of recent births in the reference period and life-time fertility, as well as adjusting for potential errors of age misreporting among older women. The input data required for the estimation of the Relational Gompertz Model are average parities by age group of mothers and the ASFRs. The method assumes that the parities of younger women aged 20-29 or 20-34 are accurate.

CHAPTER 3: NUPTIALITY ANALYSIS

3.1 Introduction

Marriage marks the onset of regular exposure to pregnancy and is therefore a proxy determinant for fertility. Its demographic, economic, socio-cultural and health implications set the stage for reproductive activities such as legitimizing entry into sexual activities and childbirth (Braun 2005).

Marital status can also influence other demographic events such as family formation, migration, and demand for social services such as schools, housing and health services. A review of the levels, patterns and differentials in marriage within a population can provide a critical direction in the formulation of programmes and policies that promote the enhancement of family life.

3.2 Systems of Marriage in Sierra Leone

Nuptiality or marriage is interwoven into the socio-cultural fabric of Sierra Leonean societies and in some cultures, it is even considered to be obligatory. In most Sierra Leonean cultures and societies, marital status can be used as a determinant of social status and social responsibility (Harrell-Bond 1975). Couples normally want to marry because they want to maintain their lineages, have a companion as a spouse and attain the prestige attached to married couples.

Marriage is thus an important social event which most men and women would want to accomplish. The revised National Policy recognizes that marriage must be entered into with the free consent of the intending spouse; observe the minimum ages of consent and marriage established by law; and that husband and wife should be equal partners. The family is therefore the basic unit of society and as such should be strengthened. All marriages are therefore entitled to receive comprehensive protection and support from the law.

With this importance attached to the institution of marriage, it is vital that some legal basis and guidance in its form and shape are provided. The country now has three main systems of marriage.

3.2.1 Ordinance Marriage

This system of marriage is normally performed at the Registrar General's office or a common place of worship. This requires the consent of the families and individuals involved in the celebration of the marriage. It involves the issuance of certificates, followed by the consummation of the marriage. It is a highly monogamous and strict type of marriage where couples who contract any other marriage before divorce are often charged with bigamy.

3.2.2 Customary Marriage

This is normally governed by the traditional norms and values of the area where the marriage takes place. A major requirement is that permission and consent have to be obtained from the couples involved, as well as their parents or extended families.

With increasing social tensions due to Western influences on traditional norms, Government decided to regulate customary marriages through the passing of the 2007 Registration of Customary Marriage and Divorce Act. The Act makes provision for the validation and registration of customary marriages and divorces at the local level.

It limits the age at marriage to a minimum of 18 years and recognizes cohabiting persons five years and above as duly married. The Act also obliges local councils to register customary marriages. The Act establishes the relationship between customary marriage and marriage by Christian, Muslim or civil rites, as no person already married under the Christian Marriage Act, the Muslim Marriage Act or the Civil Marriage Act is able to enter into a customary marriage with another person.

3.2.3 Religious Marriages

Islam and Christianity are the two main religions

in Sierra Leone. They both hold the institution of marriage in high esteem. Both religions practise the rite of marriage according to the dictates of either the Quran or the Bible.

Where a marriage has been contracted under the Christian or Islamic law, either party to the marriage or both parties must apply to register the marriage with the Registrar General's office, thereby making it an Ordinance Marriage.

3.3 Marital Levels and Patterns

3.3.1 Marital Status

This section of the report looks at the distribution of respondents by marital status, age and sex.

The results in Table 3.1 indicate that 49.3 per cent of all respondents, 10 years and over, were ever-married.





Table 3.1 Percentage distribution of the population age 10 years and over by marital status and age for Sierra Leone

Marital Status in Percentages												
Age Group Both Sexes	Never Married	Engaged	Married Monogamous	Married Polygamous	Cohabitation (< 5 years)	Cohabitation (= > 5 years)	Separated	Divorced	Widowed	Don't know	Total	
											%	No.
10 - 14	97	0.0	1.3	1.0	0.3		0.1	0.03	0.1	0.7	100	846,137
15 - 19	86	2.0	5.8	5.0	0.5	0.2	0.2	0.1	0.2	0.5	100	871,348
20 - 24	59	6.0	13.4	19.0	0.8	0.3	0.7	0.3	0.4	0.3	100	660,438
25 - 29	34	8.0	17.7	36.0	0.7	0.3	1.3	0.6	0.7	0.2	100	605,621
30 - 34	17	7.0	21.7	49.0	0.5	0.3	2.1	1.03	1.5	0.1	100	432,373
35 - 39	9.0	6.0	20.0	58.0	0.3	0.2	2.4	1.3	2.5	0.1	100	419,485
40 - 44	6.0	5.0	19.9	60.0	0.2	0.1	2.9	1.6	4.7	0.1	100	297,997
45 - 49	4.0	4.0	18.0	61.0	0.2	0.1	2.8	1.7	6.7	0.1	100	241,362
50 - 54	3.5	3.0	18.2	59.0	0.1	0.1	2.9	2.0	11.4	0.1	100	186,285
55 - 59	3.0	3.0	17.1	57.0	0.1	0.1	3.0	2.1	14.9	0.1	100	110,200
60 - 64	3.0	2.0	16.9	51.0	0.1	0.1	2.8	2.1	22.2	0.2	100	112,486
65 - 69	2.0	2.0	15.4	49.0	0.1	0.1	2.7	2.2	22.8	0.2	100	73,617
70 - 74	3.0	2.0	14.9	43.0	0.1	0.1	2.6	2.2	32.3	0.3	100	65,495
75+	3.0	1.0	13.3	38.0	0.1	0.1	2.3	2.1	38.3	0.4	100	107,172
TOTAL	45.93	4.04	12.95	30.05	0.41	0.17	1.35	0.78	4.00	0.32	100	5,030,016

Note: The category ever-married includes: married polygamous and monogamous, cohabitation (=>5 years), separated, widowed, and divorced

Source: Statistics Sierra Leone, 2015
Population and Housing Census

The data also revealed that almost 46.0 per cent of the population were never married. Four per cent of the population were widowed.

As expected, the percentage of the never married was highest among adolescents of age 10-19 and declined as age increases. A similar pattern is exhibited among the widowed sub-population, where the percentage widowed increases after the age of 50. This suggests a positive relationship. The analysis also indicates that 43.2 per cent of the population are currently married.

3.3.2 Marital Status by Age and Sex

The data suggested that more women were married than men. Table 3.2 shows that up to 53.1 per cent of men were unmarried, compared to 39.1 per cent of women.



Table 3.2 Percentage distribution of the population age 10 years and over by marital status age and sex

Age group	Never married		Engaged		Married Monogamous		Total Male		Total Female	
	Male	Female	Male	Female	Male	Female	Male	No.	Female	No.
10 - 14	96.9	96.0	0.3	0.5	1.1	1.5	100	430,883	100	415,254
15 - 19	94.4	77.0	1.0	3.6	2.7	8.9	100	429,184	100	442,164
20 - 24	79.2	41.2	3.6	7.8	8.8	17.4	100	306,319	100	354,119
25 - 29	50.1	19.8	7.2	7.8	15.6	21.2	100	275,870	100	329,751
30 - 34	25.2	9.9	8.1	6.3	19.5	23.7	100	198,680	100	233,693
35 - 39	12.5	5.6	7.0	5.1	16.8	2.3	100	200,267	100	219,218
40 - 44	7.1	4.0	5.5	3.9	15.9	24.1	100	153,194	100	144,803
45 - 49	4.2	3.2	4.5	3.2	13.3	23.8	100	133,157	100	108,205
50 - 54	3.8	3.1	3.6	2.6	13.3	23.6	100	98,667	100	87,618
55 - 59	2.8	3.0	3.2	2.2	12.5	22.4	100	59,096	100	51,104
60 - 64	2.5	2.8	2.7	1.7	12.1	21.2	100	53,840	100	58,646
65 - 69	2.2	2.7	2.4	1.5	11.4	19.3	100	36,345	100	37,273
70 - 74	2.3	3.0	2.2	1.3	1.2	17.4	100	30,556	100	34,939
75+	3.0	3.5	1.9	1	11.8	14.6	100	49,769	100	57,403
TOTAL	53.1	39.1	3.7	4.4	9.8	15.9	100	2,455,827	100	2,574,189

Source: Statistics Sierra Leone, 2015
Population and Housing Census



Table 3.2 Percentage distribution of the population age 10 years and over by marital status age and sex (continued)

Age group	Married Polygamous		Cohabitation (< 5 years)		Cohabitation (= > 5 years)		Total Male		Total Female	
	Male	Female	Male	Female	Male	Female	Male	No.	Female	No.
10 - 14	0.5	0.7	0.3	0.3			100	430,883	100	415,254
15 - 19	0.8	30.1	0.3	0.7	0.1	0.2	100	429,184	100	442,164
20 - 24	6.4	30.1	0.6	0.9	0.2	0.3	100	306,319	100	354,119
25 - 29	2.4	46.8	0.7	0.6	0.3	0.3	100	275,870	100	329,751
30 - 34	42.9	53.5	0.6	0.4	0.2	0.2	100	198,680	100	233,693
35 - 39	59.2	57.6	0.3	0.3	0.2	0.2	100	200,267	100	219,218
40 - 44	6.6	53.7	0.2	0.2	0.1	0.1	100	153,194	100	144,803
45 - 49	72.4	50.6	0.2	0.1	0.1	0.1	100	133,157	100	108,205
50 - 54	72.7	42.7	0.1	0.1	0.1	0.1	100	98,667	100	87,618
55 - 59	74.7	36.4	0.1	0.1	0.03	0.1	100	59,096	100	51,104
60 - 64	74.0	29.3	0.1	0.1	0.1	0.2	100	53,840	100	58,646
65 - 69	74.8	24.1	0.1	0.1	0.02	0.1	100	36,345	100	37,273
70 - 74	72.3	17.6	0.1	0.1	0.03	0.1	100	30,556	100	34,939
75+	69.5	12.0	0.1	0.1	0.1	0.2	100	49,769	100	57,403
TOTAL	29.8	30.3	0.4	0.5	0.1	0.2	100	2,455,827	100	2,574,189

Source: Statistics Sierra Leone, 2015
Population and Housing Census



Table 3.2 Percentage distribution of the population age 10 years and over by marital status age and sex (continued)

Age group	Separated		Divorced		Widowed		Total Male		Total Female	
	Male	Female	Male	Female	Male	Female	Male	No.	Female	No.
10 - 14	0.1	0.1	0.03	0.03	0.1	0.2	100	430,883	100	415,254
15 - 19	0.1	0.3	0.04	0.1	0.1	0.3	100	429,184	100	442,164
20 - 24	0.5	0.9	0.2	0.4	0.2	0.6	100	306,319	100	354,119
25 - 29	1.1	1.5	0.5	0.7	0.3	1.1	100	275,870	100	329,751
30 - 34	1.9	2.3	0.9	1.1	0.5	2.4	100	198,680	100	233,693
35 - 39	2.1	2.7	1.1	1.5	0.6	4.1	100	200,267	100	219,218
40 - 44	2.6	3.2	1.4	2.0	1.0	8.7	100	153,194	100	144,803
45 - 49	2.4	3.3	1.3	2.2	1.3	13.3	100	133,157	100	108,205
50 - 54	2.7	3.3	1.6	2.5	2.0	22.1	100	98,667	100	87,618
55 - 59	2.6	3.5	1.6	2.7	2.4	29.4	100	59,096	100	51,104
60 - 64	2.6	2.9	1.8	2.4	3.8	39.2	100	53,840	100	58,646
65 - 69	2.6	2.7	1.9	2.5	4.3	46.8	100	36,345	100	37,273
70 - 74	2.8	2.5	2.01	2.4	6.0	55.3	100	30,556	100	34,939
75+	2.6	2.0	1.9	2.4	8.9	63.9	100	49,769	100	57,403
TOTAL	1.2	1.5	0.6	0.9	0.9	6.9	100	2,455,827	100	2,574,189

Source: Statistics Sierra Leone, 2015
Population and Housing Census



Table 3.2 Percentage distribution of the population age 10 years and over by marital status age and sex (continued)

Age group	Don't Know		Total Male		Total Female	
	Male	Female	Male	No.	Female	No.
10 - 14	0.7	0.7	100	430,883	100	415,254
15 - 19	0.6	0.5	100	429,184	100	442,164
20 - 24	0.4	0.2	100	306,319	100	354,119
25 - 29	0.3	0.1	100	275,870	100	329,751
30 - 34	0.2	0.1	100	198,680	100	233,693
35 - 39	0.1	0.1	100	200,267	100	219,218
40 - 44	0.1	0.1	100	153,194	100	144,803
45 - 49	0.1	0.1	100	133,157	100	108,205
50 - 54	0.1	0.1	100	98,667	100	87,618
55 - 59	0.1	0.1	100	59,096	100	51,104
60 - 64	0.2	0.2	100	53,840	100	58,646
65 - 69	0.2	0.2	100	36,345	100	37,273
70 - 74	0.2	0.3	100	30,556	100	34,939
75+	0.3	0.4	100	49,769	100	57,403
TOTAL	0.4	0.4	100	2,455,827	100	2,574,189

Source: Statistics Sierra Leone, 2015 Population and Housing Census

The table shows that women marry younger and faster than men. For example, at age 30-34, 25.2 per cent of men are still unmarried, compared to only 9.9 per cent of women. In terms of type of marriage, there are more respondents in polygamous marriages than in monogamous unions. The percentage of widowed women shows a marked increase after the age of 50-54 years.

3.4 Age at First Marriage (SMAM)

Age at first marriage marks the time of entry into marital life and regular exposure to the risk of childbearing (Islam 2009). Assuming that fertility often takes place within marriage and contraceptive practices are non-existent, there is a positive relationship between age at first

marriage and fertility. The Modernization theory argues that socio-economic development affects age at first marriage, through self-selection of spouses and economic independence of women (Malhotra and Tsui 1996).

No data were collected on age at first marriage during the 2015 Census. Consequently, an indirect technique was used to estimate the variable. The Singulate Mean Age at Marriage (SMAM) was used. The SMAM is: "an estimate of the mean number of years lived by a cohort of women before their first marriage" (Shyrock and Siegel 1976 p 167). The index was calculated from the proportion of women who reported as never married by age, ranging from 15 to 54 years. These results are presented in Table 3.3.



Table 3.3 Singulate mean age at marriage for Sierra Leone, region and districts

District	SMAM (years)
Sierra Leone	17.9
Eastern	17.4
Kailahun	17.6
Kenema	17.2
Kono	17.4
Northern	16.7
Bombali	17.5
Kambia	16.3
Koinadugu	16.7
Port Loko	16.6
Tonkolili	16.5
Southern	17.4
Bo	17.8
Bonthe	17.2
Moyamba	16.6
Pujehun	17.7
Western	19.0
Western Rural	18.0
Western Urban	20.0

The results in Table 3.3 suggest that women in Sierra Leone will wait for an average of about 18.0 years before getting marrying. This is consistent with the Customary Marriage and Divorce Act of 2007.

Variations, however, occur by region and district. The Northern Region has the lowest SMAM of 16.7 years compared to the Western Area Region with 19 years. This indicates that women in the Northern Region will marry a little more than two years earlier than their counterparts in the Western Region.

Based on the results by district, the lowest SMAM was reported in Kambia with 16.3 years, 3.7 years lower than the highest SMAM of 20 years in the Western Area Urban. Apart from the estimates for the Western Region, estimates for all other regions and districts fall below the legal age for first marriage of 18 years, as enacted by the 2007 Devolution Act.

The Western Region, which contains the capital city, is the hub for disseminating information. It is likely that more people know about the Devolution Act in the Western Region than in the other regions.

It is also possible that early marriage norms persist to a greater extent in the other regions because they contain more than 60.0 per cent of the rural population of Sierra Leone, as opposed to the Western Region which is the most urbanized region of the country.

Source: Statistics Sierra Leone, 2015 Population and Housing Census

CHAPTER 4: FERTILITY ANALYSIS

4.1 Introduction

Evidence of fertility decline is attributed to several social, economic, cultural and demographic factors including rising levels of income, high levels of education and use of modern family services. This occurs in the context of economic development and social change, especially rising levels of modern education.

The TFR, based on the 2015 Census, was estimated at 5.7 children per woman which indicates that the country has high fertility with a young population, an in-built momentum for growth. In addition, the country still records very low contraceptive use at 16 per cent and a high unmet need of 28 per cent for family planning. This is demonstrated by the high prevalence of teenage pregnancy.

Though fertility remains high, the country has experienced a marginal decline amidst income per capita stagnation and low levels of education, particularly for women and young girls. Fertility changes in Sierra Leone are attributed to moderate use of modern contraception, with the contraceptive prevalence rate for modern methods increasing from 7 per cent to 16 per cent between 2008 and 2013 (SL-DHS).

4.2 Fertility Data Evaluation

There are often problems associated with the fertility data especially the period data meant for calculating the basic ASFRs. The reported rates in the 2015 Census are very low, the lowest recorded in any of the censuses since 1963.

This discrepancy may have resulted from the omission of births which occurred in the last 12 months prior to the census. Unfortunately, the raw data could not be accessed to determine what the problems were.

Estimating births in the 12-month period prior to the census could have been a problem although it is more unlikely for enumerators to have gone beyond the 12-month period in order to reduce their work load.

The current data on births in the last 12 months prior to the census indicate that women had up to three children in the period, which is highly unlikely.

4.3 Measures of Current Fertility

Current or period fertility refers to the occurrence of a live birth in the last 12 months, prior to the census. It is impracticable that in the one-year period a woman will have more than one births – especially as twins are normally considered as one birth.

In this report, current fertility is measured using four indices of fertility: age-specific fertility rates, the general fertility rate, the total fertility rate and the child woman ratio. These are presented in various tables, at the national, regional and the district levels.

Adjustments of the reported rates are justified on the basis that inaccuracies exist in the enumerated data, especially the ASFRs. With respect to the number of children ever-born, although the reported pattern is accurate, the levels are difficult to accept.

The ASFRs from the 1974 to the 2015 Census are presented in Table 4.1.



Table 4.1 Reported Age Specific Fertility Rates at the national level 1974 to 2015

Age	Report ASFR 2015	Reported ASFR 2004	Reported ASFR 1985	Reported ASFR 1974
15-19	0.023	0.0650	0.1255	0.1860
20-24	0.060	0.1405	0.2039	0.2600
25-29	0.073	0.1492	0.1081	0.2460
30-34	0.065	0.1308	0.1578	0.1840
35-39	0.051	0.1074	0.1223	0.1438
40-44	0.026	0.0547	0.0625	0.0710
45-49	0.016	0.0342	0.0389	0.0472
Implied TFR	1.5670	3.4090	4.5450	5.691

Source: Statistics Sierra Leone, 2015 Population and Housing Census

Evaluating the current 2015 ASFRs and the implied TFR against the previous censuses, major variations are noted. The ASFR for 20-24 years is supposed to be the most accurate, since the fertility level of this age group is not affected by recall lapse. However, the results in the table suggest that age 20-24 in 2015 had the lowest fertility rate than all the other years. Similarly, the implied TFR in 2015 was 2.2, 2.9 and 3.6 times lower than that observed in the 2004, 1985 and 1974 censuses respectively.

A second prominent issue regarding the trend of ASFRs, based on the four censuses, is the varying peaks of the fertility schedules. Peaks in fertility schedule in sub-Saharan Africa would normally occur early at age group 20-24, suggesting early childbearing leading to high levels of fertility. Peaks occurring at age 25-29 are regarded as late peaks, indicating late childbearing and lower fertility levels. In Table 4.1 early childbearing or early peaks were documented for 1974 and 1985. However, in 2015 the fertility regime appears to have changed as births seem to peak at the age group 25-29 – late peaking.

4.4 Indirect Methods

As indicated earlier, the Trussell P/F Ratio technique was used to adjust the reported period/current fertility levels (Table 4.2).



Table 4.2 Results of the Trussell model for adjusting fertility- Sierra Leone

Age	Reported ASFR (i)	Average CEB P(i)	Cumulative fertility Phi(i)	F (i)	P/F ratio	P4/F4 3.618
15-19	0.023	0.281	0.115	0.051	5.550	0.0982
20-24	0.060	1.223	0.415	0.284	4.300	0.2273
25-29	0.073	2.414	0.780	0.635	3.800	0.2648
30-34	0.065	3.544	1.105	0.980	3.618	0.2309
35-39	0.051	4.397	1.360	1.266	3.475	0.1778
40-44	0.026	4.982	1.490	1.421	3.507	0.0854
45-49	0.016	5.400	1.570	1.551	3.481	0.0516
TFR	1.5700					5.6736

Source: Statistics Sierra Leone, 2015 Population and Housing Census

The method was also used to adjust the reported data for the regions and districts. The reported and adjusted ASFRs are presented graphically in Figure 4.1. The two curves show marked differences especially in shape, although both peak at the same age group of 25-29 years. The difference in the levels of both curves is also clearly visible.

The implied TFRs also form part of the calculations (as seen in Table 4.2) with the adjusted TFR of 5.7 births for Sierra Leone being 3.6 times higher than the reported rate.

The Gompertz Relational model was also applied to the data on reported ASFR and children ever born. The results are seen in Table 4.3, based on calculation using the children ever born as one option and the ASFRs and children ever born as the second option.

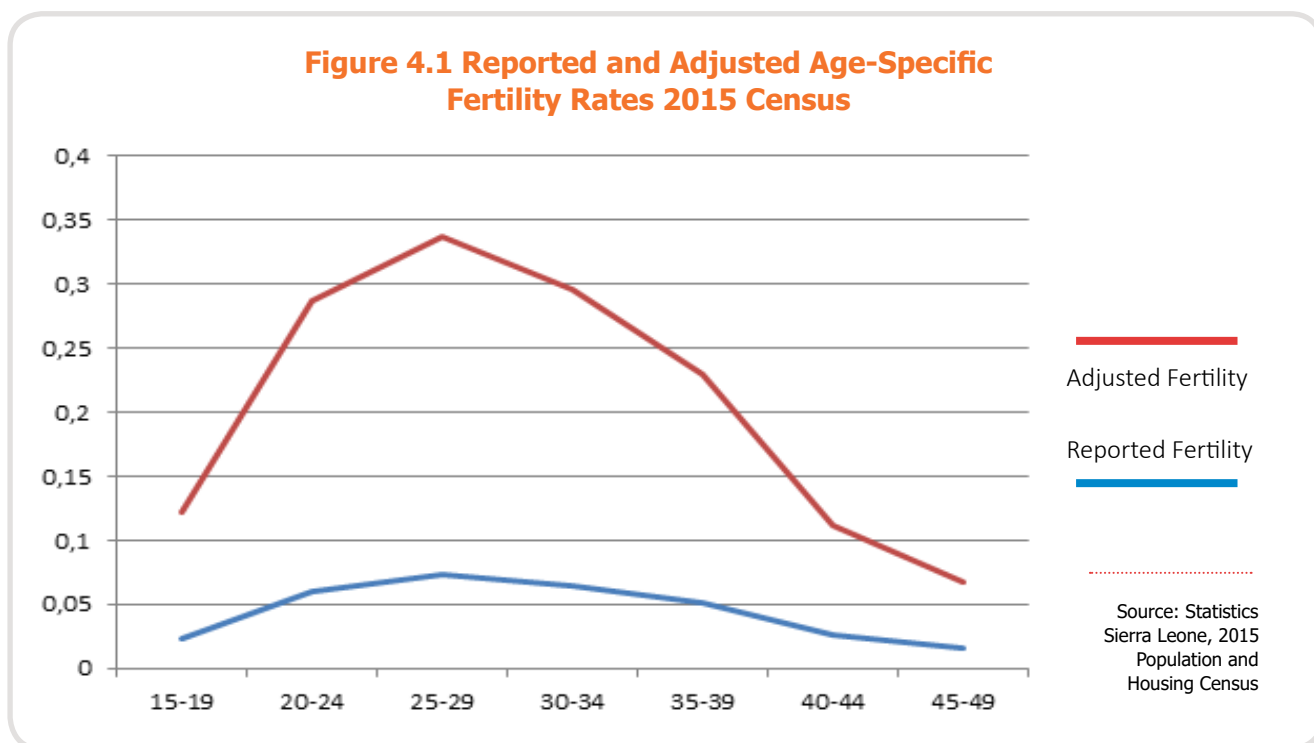


Table 4.3 Summary estimates of the Total Fertility Rate based on the Gompertz Relational model

Age	Based on CEB Only		Based on ASFR and CEB	
	2+2 Points	3+3 Points	2+2 Points	3+3 Points
15-19	5.254	5.406	9.365	8.141
20-24	5.091	5.612	6.461	7.064
25-29	5.171	5.686	5.772	6.533
30-34	5.252	5.650	5.504	6.127
35-39	5.208	5.451	5.287	5.677
40-44	5.201	5.294	5.209	5.364
45-49	5.419	5.433	5.418	5.442
Average	5.227	5.505	6.145	6.335

Source: Statistics Sierra Leone, 2015 Population and Housing Census

The results of the second option, based on the average of all seven ages, is a TFR of 6.3 children. The TFR is about the same in the 1985 Census. Given that the mean age at childbearing has increased, the contraceptive prevalence rate has also increased and there are decreases in the level of the mean number of children ever born, the TFR of 6.3 cannot be accepted (only for the comparison with the Trussel model) as the current TFR. An improvement in the rate would be expected.



Further analyses of the data have resulted in the indices in Table 4.4 showing adjusted fertility indices by region and district, using the Trussell method.



Table 4.4 Adjusted fertility indices by regions and districts in Sierra Leone using the Trussell P/F Ratio Method

Region	Indices		
	TFR	CBR	GFR
Sierra Leone	5.7	49.8	192.9
Eastern Region	6.0	53.0	206.4
Northern Region	6.1	48.8	196.4
Southern Region	6.1	54.0	213.7
Western Region	4.0	40.7	144.5



Table 4.4 Adjusted fertility indices by regions and districts in Sierra Leone using the Trussell P/F Ratio Method (continued)

District	Indices		
	TFR	CBR	GFR
Kailahun	5.9	51.7	202.2
Kenema	5.7	51.3	196.0
Kono	6.4	57.0	226.0
Bombali	6.1	49.8	199.4
Tonkolili	6.7	59.3	242.6
Kambia	6.2	57.1	206.7
Koinadugu	6.7	56.9	230.9
Port Loko	5.9	51.1	201.9
Moyamba	6.2	52.4	214.9
Bo	6.0	53.2	207.6
Bonthe	6.2	53.3	214.0
Pujehun	6.3	53.3	206.5
Western Area Rural	4.8	45.0	165.6
Western Area Urban	3.8	39.2	137.0

Source: Statistics Sierra Leone, 2015 Population and Housing Census

The TFR for Sierra Leone is estimated at 5.7 children, as compared to 6.1 children in 2004. The rates range from 3.8 in the Western Area Urban to 6.7 children in Koinadugu District.

4.5 Child Woman Ratio (CWR)

This is another current fertility measure which depicts the ratio of children aged 0-4 years to women aged 15-49 years. It measures the average number of children under five years per one thousand women aged 15-49 years.

In terms of computation the formula is:

$$\text{CWR} = \frac{P_{0-4}}{P_{15-49}^f} * 1000$$

P_{0-4} = Population of children less than five years

P_{15-49}^f = Female Population 15-49 years

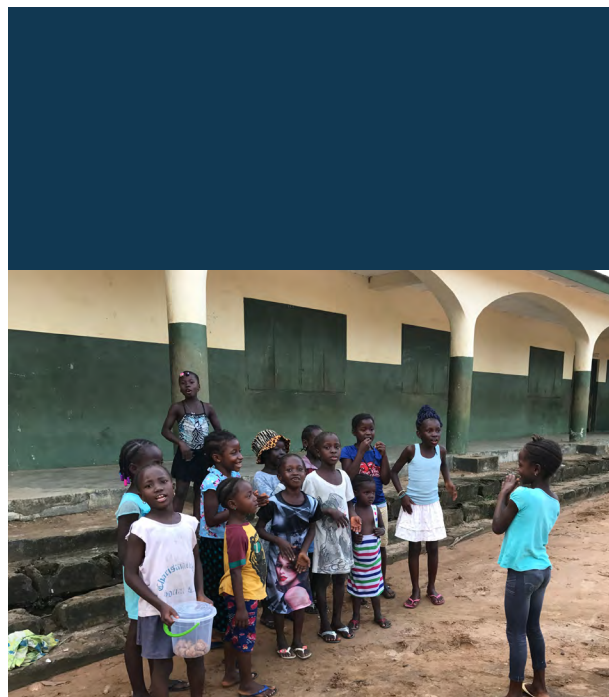
K = 1000.

The results for Sierra Leone, the regions and the districts are presented in Table 4.5



**Table 4.5 Child woman ratio for
Sierra Leone, regions and districts 2015**

District	CWR
Sierra Leone	512.0
Eastern	484.9
Kailahun	454.3
Kenema	497.4
Kono	501.6
Northern	585.2
Bombali	549.9
Kambia	643.4
Koinadugu	495.1
Port Loko	611.9
Tonkolili	626.1
Southern	552.4
Bo	572.8
Bonthe	562.3
Moyamba	655.6
Pujehun	497.6
Western	396.3
Western Rural	475.4
Western Urban	364.7



Source: Statistics Sierra Leone, 2015
Population and Housing Census

The highest CWR of 655.6 per thousand women was reported in Moyamba District in the Southern Region. As expected, the lowest CWR was reported in the Western Urban Area, with a CWR of 364.7. In terms of regions, the variation was from the highest CWR of 585.2 in the Northern Region to the Western Region with 396.3, an increase of 47.7 per cent.

When compared with the 2004 Census, there are a number of differences. Then, the highest rate occurred in Bonthe District which had a CWR of 755.9. In 2015, Bonthe had a CWR of 562.3 - a significant fall of about 25.6 per cent. The Western Area Urban continued to report the lowest CWR. However, in the period 2004 to 2015, it had fallen by 11.8 per cent from 407.8 to 364.7.

In 2004, the Southern Region recorded the highest rate of 667.4. However, in 2015, the Northern Region recorded the highest rate (585.2) in 15-49 years, suggesting a drop in the CWR.

4.6 Current Fertility and Place of Residence

This section of the report looks at the effect of place of residence on fertility levels. The intention is to find out whether differences in fertility can be linked to place of residence. The results are presented in terms of current fertility and lifetime fertility.

Firstly, the reported ASFRs are presented together with the implied TFRs in Table 4.6.



Table 4.6 Reported fertility rates for Sierra Leone by age and place of residence 2015

Age	Place of residence	
	Rural	Urban
15-19	0.0272	0.0182
20-24	0.0697	0.0501
25-29	0.0845	0.0579
30-34	0.0723	0.0532
35-39	0.0581	0.0408
40-44	0.0298	0.0196
45-49	0.0191	0.0107
Implied TFR	1.6035	1.2525

The results suggest, as was expected, that rural fertility is higher than urban fertility, even though both rates are low. Taking the possibility of inaccuracies into consideration, the reported fertility was subjected to adjustment using the Trussel P/F Ratio model.

The estimates from these adjustments are presented in Tables 4.7 and 4.8.

Source: Statistics Sierra Leone, 2015 Population and Housing Census



Table 4.7 Adjusted current fertility by rural residence and age for Sierra Leone

Age	Adjusted ASFR's				
	ASFR	P2/F2 4.492	P3/F3 3.821	P4/F4 3.544	Avg. (P3/F3.P4/F4) 3.683
15-19	0.0321	0.1441	0.1226	0.1137	0.1181
20-24	0.0729	0.3275	0.2786	0.2584	0.2685
25-29	0.0845	0.3796	0.3229	0.2995	0.3112
30-34	0.0710	0.3188	0.2712	0.2515	0.2613
35-39	0.0561	0.2518	0.2143	0.1987	0.2065
40-44	0.0270	0.1211	0.1031	0.0956	0.0993
45-49	0.0172	0.773	0.0657	0.0610	0.0633
TFR	1.8035	8.1006	6.8920	6.3917	6.6418

Source: Statistics Sierra Leone, 2015 Population and Housing Census



Table 4.8 Adjusted current fertility by Urban residence and age for Sierra Leone

Age	Adjusted ASFR's				
	ASFR	P2/F2 3.989	P3/F3 3651	P4/F4 3.628	Avg. (P3/F3.P4/F4) 3.640
15-19	0.0216	0.0863	0.0790	0.0785	0.0788
20-24	0.0523	0.2085	0.1909	0.1897	0.1903
25-29	0.0581	0.2316	0.2120	0.2107	0.2113
30-34	0.0522	0.2084	0.1908	0.1895	0.1901
35-39	0.0391	0.1561	0.1429	0.1420	0.1425
40-44	0.0179	0.0715	0.0654	0.0650	0.0652
45-49	0.0092	0.0367	0.0336	0.0334	0.0335
TFR	1.2525	4.9957	4.5733	4.5440	4.5586

Source: Statistics Sierra Leone, 2015 Population and Housing Census

The results of the adjustment indicate, as expected, a higher fertility of 6.6 children in the rural areas, compared to 4.6 children in the urban areas. The estimates reveal a difference of two children between rural and urban women.

4.7 Mean age at childbearing

This index for both the regions and the districts was calculated using the ASFRs, rather than the number of births. The mean age at childbearing is the average age at which women in the various geographical entities give birth. These averages are presented in Table 4.9.





Table 4.9 Mean ages at childbearing at national regional and district levels

District	Mean age at childbearing year
Sierra Leone	30.3 (30.0)
Eastern	30.9 (30.0)
Kailahun	31.1
Kenema	30.4
Kono	30.2
Northern	30.6 (30.45)
Bombali	30.8
Kambia	32.1
Koinadugu	32.0
Port Loko	30.8
Tonkolili	31.4
Southern	30.5 (30.2)
Bo	30.6
Bonthe	31.6
Moyamba	28.3
Pujehun	30.9
Western	30.4 (26.6)
Western Rural	30.1
Western Urban	30.7

Source: Statistics Sierra Leone, 2015 Population and Housing Census

The results in Table 4.9 suggest that apart from Moyamba, which has a mean age at childbearing of 28.3, all other districts have mean ages at childbearing higher than 30 years. Kambia, for example, has the highest age at childbearing of 32.1 years. These results suggest that in all districts and regions, childbearing has been delayed about five years since the 1985 Census. It is therefore expected that fertility would also decline with fewer births. However, this does not seem to have been the case since the TFR is still estimated at around 6 children.

Compared to 2004, the 2015 results of the mean age at childbearing at the national and regional levels show only slight increases.

4.8 Lifetime Fertility

This section deals with the number of children ever born to women in various age groups, as of the reference night of the census. The expected pattern is that the number of children would increase with the age of the mother; with the lowest number of children among women 15-19 years. The mean number of children ever born is presented in Table 4.10 by age, region and district.



Table 4.10 Mean number of children ever born by age, administrative regions and districts

District	Age of Females in years						
	15 -19	20 -24	25 -29	30 -34	35 -39	40 -44	45-49
Sierra Leone	0.2814	1.2232	2.4142	3.5440	4.3973	4.9823	5.3995
Eastern	0.2679	1.2621	2.5603	3.7146	4.5844	5.0753	5.5601
Kailahun	0.2561	1.1727	2.3939	3.5659	4.4036	4.9326	5.4616
Kenema	0.2825	1.3000	2.5915	3.7110	4.5732	5.0634	5.4871
Kono	0.2626	1.3034	2.6877	3.8860	4.7849	5.2466	5.75
Northern	0.3292	1.3637	2.6461	3.8630	4.7479	5.3725	5.7966
Bombali	0.2879	1.2383	2.4955	3.7320	4.6530	5.2519	5.7221
Kambia	0.4173	1.5349	2.7847	4.0382	4.9522	5.6159	6.0988
Koinadugu	0.2374	1.1585	2.4964	3.8382	4.6587	5.3703	5.7203
Port Loko	0.3755	1.4465	2.6940	3.8101	4.6853	5.2604	5.6401
Tonkolili	0.3470	1.4578	2.7712	3.9836	4.8683	5.4944	5.9423
Southern	0.3319	1.4380	2.7279	3.9008	4.7581	5.3443	5.7583
Bo	0.2864	1.3272	2.6020	3.7804	4.6088	5.1353	5.5487
Bonthe	0.3547	1.4657	2.7045	3.8703	4.7637	5.4425	5.8158
Moyamba	0.4314	1.6620	2.9960	4.2025	5.0105	5.5823	5.9719
Pujehun	0.3202	1.4279	2.7128	3.8457	4.7609	5.3804	5.8552
Western	0.1758	0.8621	1.7098	2.5663	3.2794	3.8427	4.2075
Western Rural	0.2620	1.1435	2.1489	3.0943	3.8809	4.4560	4.8992
Western Urban	0.1401	0.7506	1.5391	2.3638	3.0319	3.5975	3.9362

Source: Statistics Sierra Leone, 2015
Population and Housing Census

The mean number of children ever born at national level is 5.4 children. However, there are variations by region and district. Among the regions, the highest mean number of children ever born was in the Northern Region: 5.8 children. The lowest mean number (4.2) was reported in the Western Region. In terms of the districts, Kambia District reported the highest mean number of children (6.1) and the lowest was in the Western Urban (3.9).

4.9 Lifetime Fertility by Place of Residence

The number of children ever born to women aged 15-49 years varies, depending on whether they lived in rural or urban areas. This variation is a reflection of various factors such as supportive customary fertility practices in rural areas and the effects of modernization and urbanization on those living in urban areas.

Women in the rural areas reported a family size of 5.9 children, compared to 4.7 children in the urban areas of Sierra Leone (Table 4.11). This is a difference of about one child.



Table 4.11 Mean number of children ever born in Sierra Leone by place of residence and age

Ages	Place of residence	
	Rural	Urban
15-19	0.3535	0.1935
20-24	1.4948	0.9329
25-29	2.8325	1.8817
30-34	3.9990	2.8834
35-39	4.8725	3.6955
40-44	5.4278	4.2793
45-49	5.8624	4.7089
Implied TFR	5.8624	4.7089

Source: Statistics Sierra Leone, 2015 Population and Housing Census

As well as the overall family size, fertility is higher in every age group in rural areas.

4.10 Birth Order Analysis

This analysis looks at the number of children born alive to women and provides a distribution of all women by birth order at a particular age or age range (Shyrock and Siegel 1976). These results are presented in Table 4.12 for Sierra Leone.



Table 4.12 Percentage distribution of women by parity and age in Sierra Leone 2015

Age of women at census	Parity											Total
	0	1	2	3	4	5	6	7	8	9	10+	
15-19	81.2	12.3	4.4	1.5	0.6	-	-	-	-	-	-	100.0
20-24	42.5	22.6	17.4	9.4	4.8	2.2	1.1	-	-	-	-	100.0
25-29	21.5	15.5	18.4	16.7	12.4	7.7	4.3	2.3	1.2	-	-	100.0
30-34	13.0	8.9	13.7	15.6	15.4	12.5	8.8	5.5	3.6	1.8	1.2	100.0
35-39	9.2	6.1	10.3	13.1	14.6	13.7	11.2	8.3	6.0	3.5	4.0	100.0
40-44	8.6	5.0	8.4	10.9	12.4	12.6	11.3	9.6	8.0	5.2	8.0	100.0
45-49	7.8	4.4	7.3	9.5	11.5	12.0	11.3	10.1	8.9	6.2	11.0	100.0

Source: Statistics Sierra Leone, 2015
Population and Housing Census

Two key points are observed in this analysis:

- The proportion of women with no children decreases with age from 81.2 at age 15-19 to 7.8 per cent at age 45-49 years.
- As expected, the proportion of women with 10 or more children increases with age, that is from 1.2 per cent at age 30-34 to 11.0 per cent at age 45-49 years.

The proportion of women with 10 or more children was significantly lower than in 2004. Then, the percentages were 3.0, 7.2, 12.8 and 16.7 for age groups 30-34, 35-39, 40-44 and 45-49 years respectively.

4.10.1 Childlessness

The concept of childlessness, based on Shyrock and Seigel (1976), is the state of never giving birth to a child alive. UNFPA (1993) considers childlessness or infertility as the inability to conceive after several years.

The concept is tied to replacement or reproductivity in the sense that a high proportion of childless women suggests that replacement may be low because the capability of reproducing would now depend on those women who can reproduce.

The analysis in Table 4.12 deals with women age 40-49 years who are close to menopause or have reached menopause.

The results of the analysis of childlessness are presented in Table 4.13 by regions and districts.



Table 4.13 Childlessness among women aged 40-44 and 45-49 by region and district

Regions/Districts	Age group of women	
	40-44	45-49
Sierra Leone	8.81	7.99
Region		
Eastern	9.10	7.63
Northern	8.16	7.69
Southern	8.57	7.40
Western	9.88	9.43
Place of Residence		
Rural	8.55	7.58
Urban	9.23	8.59
District		
Kailahun	9.13	6.79
Kenema	9.04	7.55
Kono	9.15	8.60
Bombali	7.94	7.63
Kambia	6.70	6.09
Koinadugu	8.14	7.35
Port Loko	8.27	8.01
Tonkolili	9.37	8.70
Bo	9.07	8.07
Bonthe	7.25	6.53
Moyamba	8.70	7.62
Pujehun	8.40	6.42
Western Rural	8.74	8.01
Western Urban	10.34	9.99

Source: Statistics Sierra Leone, 2015 Population and Housing Census

4.11 Reproductivity

Levels of replacement

This concept deals with the extent to which a population is replacing itself by natural means. Such natural increase is measured over a period of one generation or 30 years. Two measures of reproductivity discussed here are the gross and net reproduction rates. The gross reproduction rate (GRR) and net reproduction rate (NRR) measure the rate at which daughters are replacing their mothers to ensure the continuity of the population.

4.11.1 Gross Reproduction Rate (GRR)

A major assumption in estimating this rate is that mortality is held constant, meaning that all females survive to the end of their reproductive span. Mortality, therefore, is assumed to have no effect on the level of the rate. In interpreting the rate, a result of less than 1 implies that the population is not replacing itself. A result of 1 suggests that the population is just replacing, whilst a rate of more than 1 means that the population is more than replacing itself.

Calculating or estimating the GRR involves the following formula:

$$GRR = \frac{B^f}{T} \times \sum \frac{B_a}{P_a} \cdot K$$

Where B^f = total female births

B^T = total births

B_a = births to a specific age group

P_a = female population in same age group

K = constant 1, 100, 1000

Based on the formula above, the GRR for Sierra Leone is 3 daughters. This implies that daughters are adequately replacing their mothers and ensuring continuity.

4.11.2 Net Reproduction Rate (NRR)

The NRR takes into consideration the incidence of mortality among women between the ages of 15 and 49 years. An estimate of this rate requires the use of two life table notations: the L_x or number of women surviving to exact age x and the radix, or the number of women who start reproductive life at age 15 years, as seen in the following formula:

$$NRR = \frac{5 B^f \sum B_a (P_a^f)}{B^T \cdot 5L_x}$$

Where B^f = Total female birth /daughters

B^T = Total births

B_a = Births to age group ('a')

P_a^f = Female population in age group (a)

$5L_x$ = Women surviving between age x and $x+5$

l_0 = Radix of life table

Applying this formula resulted in an estimate of 2 daughters as the net reproduction rate. In interpreting the rate, like the GRR, a result of less than 1 implies that the population is not replacing itself. A result of 1 suggests that the population is just replacing itself whilst a rate of more than 1 means that the population is more than replacing itself

In conclusion, the results of estimating the GRR and the NRR suggest that daughters are adequately replacing their mothers in the population.

CHAPTER 5: NUPTIALITY AND FERTILITY

5.1 Nuptiality-Fertility Relationship

This section describes the relationship between nuptiality and fertility. As indicated earlier, marital status of respondents could affect the level of fertility. However, in this report only marital status and type of marriage are discussed.

5.2 Marital Fertility Rates

In this report, marital fertility is estimated in terms of the mean number of children ever born by women of different marital statuses. Marital fertility is expected to be high in societies where non-marital births are low and girls marry early.

With regard to premarital births, the results of the 2004 Census indicated that most regions and districts had a rate of less than one child born out-of-wedlock. The exceptions were Western Rural Area with a premarital birth rate of 1.3325 and Kambia District with a rate of 1.0781.

In the 1985 Census, premarital births had risen to account for 2.0 per cent of all births. This figure increased further in the 2015 Census, to 6.0 per cent of all births. (Premarital births are estimated as the total number of births by non-married women divided by the total number of births to women in all marital categories).

The result of 6.0 per cent constitutes an increase of three times that recorded in the 1985 Census. This increase may have resulted from changing views of couples about having children out of wedlock. The breakdown in customs and traditions due to urbanization and modernization may also have accounted for this increase. The results of the estimates of marital fertility based on the 2015 Census are presented in Table 5.1.



Table 5.1 Marital fertility by regions and districts in Sierra Leone

	Never married	Monogamous	Polygamous	Separated	Divorced	Widowed
Sierra Leone	0.2368	3.1029	3.9030	3.2630	3.4103	4.8210
Eastern	0.1886	2.9769	4.0335	3.0322	3.5734	4.9183
Kailahun	0.1738	2.8737	4.1026	3.2448	3.4875	4.7904
Kenema	0.1968	3.0247	3.8934	3.2539	3.5455	4.8949
Kono	0,1940	2.9563	4.0404	3.3684	3.5993	4.8756



Table 5.1 Marital fertility by regions and districts in Sierra Leone
(continued)

District	Never married	Monogamous	Polygamous	Separated	Divorced	Widowed
Northern	0.1816	3.2562	4.0758	3.4134	3.5846	5.0836
Bombali	0.2120	3.2306	4.1045	3.3438	3.6284	5.0457
Kambia	0.1611	3.2690	4.1686	3.7165	3.5447	5.3008
Koinadugu	0.1208	3.1022	4.3179	2.5717	2.7771	4.6689
Port Loko	0.2084	3.3671	3.9099	3.5298	3.5627	4.9875
Tonkolili	0.2319	4.9504	7.3984	6.0556	5.7297	8.7630
Southern	0.2490	3.0694	4.0418	3.5234	3.6510	4.8556
Bo	0.2691	3.2651	4.1263	3.5569	3.7982	4.9672
Bonthe	0.2657	3.2744	4.3344	4.0303	4.3426	5.2054
Moyamba	0.2352	3.3088	4.3350	3.7255	3.5603	5.2074
Pujehun	0.2916	5.0353	7.8098	6.4015	6.2963	9.0014
Western	0.0399	2.6537	3.0045	2.7867	2.8718	4.0237
Western Rural	0.3088	2.4009	2.8494	1.6993	3.1071	3.2507
Western Urban	0.3399	2.6227	2.9080	2.7689	2.7386	4.0217

Source: Statistics Sierra Leone, 2015
Population and Housing Census

This tabulation revealed the following pattern of marital fertility:

- The current fertility of non-married women is, as expected, much lower than that of currently married or previously women married at national, regional and district levels. This emphasizes that premarital births are low.
- Previously married women have higher levels of fertility than currently married women, a possible explanation is that such women may have remarried and started childbearing again.
- In almost all regions and districts, women who are in polygamous marriages have higher levels of fertility than monogamously married women. This may be attributed to the possibility of 'mate competition' where each wife endeavours to have larger family sizes than the other to ensure greater benefits from the husband's property.

CHAPTER 6: SUMMARY OF RESULTS, CONCLUSIONS, POLICY IMPLICATIONS AND RECOMMENDATIONS

6.1 Nuptiality

Persons ever married account for almost half the total population aged 10 years and over. The population never married is also equally large. More than 4 out of every 10 persons in the eligible population have been married.

The pace of marriage is, as expected, faster among females than males. The SMAM suggests that women marry at the average age of 18 at the national level. There are, however, variations across regions and districts in the country.

6.2 Fertility

Due to inaccuracies in the reported data on current fertility, it was necessary to apply indirect techniques of estimation to ensure more accurate levels of the indicators of fertility. Consequently, the Brass Trussell P/F Ratio and the Gompertz Relational models were used.

Total fertility rate at the national level was 5.7 children, after adjustment using the Trussell model. This shows a reduction of less than one child since the 2004 Census. The Gompertz Relational Model resulted in a TFR of 6.3 children.

Lifetime fertility levels have also decreased, though not markedly. The mean age at childbearing is about 30 years, which suggests an increase since the 2004 Census results.

With respect of childlessness, between eight and nine per cent of women of reproductive age have had no child.

Finally, both the gross reproduction and net reproduction rates indicate that daughters are adequately replacing their mothers to ensure continuity of the population of Sierra Leone.

The nuptiality–fertility relationship analyses reveal that non-marital births are low, accounting for six per cent of all births; women in polygamous

marriages have higher levels of fertility than monogamously married women; and women previously married have larger family sizes than currently married women.

6.3 Conclusion

The nuptiality and fertility data recorded in the 2015 Population and Housing Census have provided important data for development planning. It reveals more recent estimates on fertility and nuptiality for the entire country which are important for setting targets for programme and policy matters.

Although there are identified problems with the data for both indicators, these shortcomings do not outweigh their value.

6.4 Policy Implications

In spite of the existence of the Devolution Act, which says girls must be 18 years old to marry, the SMAM suggests that girls are marrying at 17 years, almost across the country. This may suggest the law is not effective.

However, it should be remembered that marriage is a social and cultural practice and monitoring the implementation of the law could face some difficulties, including possible opposition from some gatekeepers of the socio-cultural system quarters .

Nonetheless, delaying marriage has social and demographic consequences. Socially, it could lead to the improvement in the status of women through the acquisition of higher levels of education. Demographically, it could lead to a reduction in fertility levels especially in situations where non-marital births are low.

The decline in fertility has been slow with the average TFR still between five and six children. This slow decline could be explained in terms of the low contraceptive prevalence rate which is currently at about 16 per cent for currently married women.

In addition, there are factors which affect the use of contraceptives. These include: inadequate knowledge; inaccessibility; unaffordability; religion; male opposition; and programme factors such as the concentration of family planning facilities and services in urban areas compared to rural areas, which are home to more than 60 per cent of the population.

6.5 Recommendations

Socio-cultural beliefs and practices such as polygamy are holding back the successful implementation of family planning programmes to reduce fertility.

It is therefore recommended that education beyond the primary level should be encouraged. Educational campaigns using role models in society are particularly effective. Special support programmes such as grants for deserving or deprived female students would help to keep girls in education. They would serve as an inducement to families to educate their children and help reduce pronatalist beliefs and practices. Involving women in the nation's development is essential to reducing fertility levels. Programmes designed to foster women's economic independence should be established. It is recommended that domestic and rural crafts, agro-allied and small-scale medium size industries and enterprises to help improve the economic status of women are set up using micro-financing assistance. This increased social and economic independence of women would help lower fertility.

The report notes that the mean age at marriage is low, which is of great concern as adolescent pregnancies pose health risks to mother and child, as well as many social consequences. Accordingly, the report recommends that the Government revises the present minimum age at first marriage from 18 to 20 years.

Traditional leaders and community-based women's groups should be educated via public education programmes (for example, radio shows) about the dangers of teenage pregnancies. Only by changing attitudes will it be possible to end child marriage.

In order to reduce fertility and improve the quality of life for families, population and development programme committees must be set up at the district and community level using local council structures. These committees must step up information and education campaigns using adult literacy programmes and the mass media. These can increase citizens' awareness of the negative effects of rapid population growth on societal development and encourage them to take some action towards fertility reduction and improved family life.

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