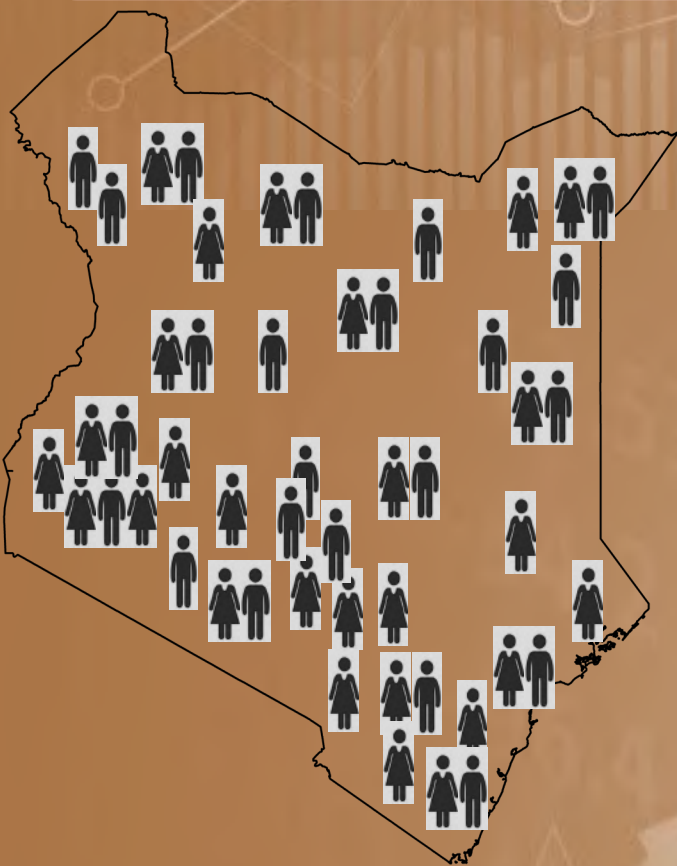


2019 Kenya Population and Housing Census

Analytical Report on Fertility and Nuptiality Volume VI



April, 2022



2019 Kenya Population and Housing Census

“Counting Our People for Sustainable Development
and Devolution of Services”

Analytical Report on Fertility and Nuptiality

Volume VI



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Abbreviations

ASFR	Age Specific Fertility Rate
ASAL	Arid and Semi-Arid Land
AfDB	African Development Bank
AICS	Italian Agency for Development Cooperation
CBR	Crude Birth Rate
CBS	Central Bureau of Statistics
CEB	Children Ever Born
CSPro	Census and Survey Processing system
DK	Don't know
EA	Enumeration Area
GPS	Geographical Positioning System
GRR	Gross Reproductive Rate
GSR	General Sex Ratio
ICT	Information, Communication and Technology
FP	Family Planning
GFR	General Fertility Rate
KDHS	Kenya Demographic and Health Survey
KNBS	Kenya National Bureau of Statistics
KPHC	Kenya Population and Housing Census
MAFB	Mean Age at First Birth
MCH	Maternal and Child Health
NCAPD	National Coordinating Agency for Population and Development
NCPD	National Council for Population Policy and Development
NRR	Net Reproductive Rate
NSO	National Statistics Office
NSS	National Statistical System
NPPSD	National Population Policy for Sustainable Development
ONS-UK	Office of National Statistics, United Kingdom
PPRs	Parity Progression Ratios
RoK	Republic of Kenya
SAPs	Structural Adjustment Programmes
SBA	Skilled Birth Attendant
SDGs	Sustainable Development Goals
SMAM	Singulate Mean Age at Marriage
SPSS	Statistical Package for Social Sciences
TFR	Total Fertility Rate
UN	United Nations
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNECA	United Nations Economic Commission for Africa
UNICEF	United Nations Children Fund
UNSD	United Nations Statistical Division
UNRCO	United Nations Resident Coordinator's Office
WHO	World Health Organization

Foreword

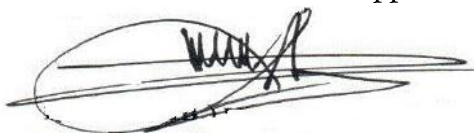
The 2019 Kenya Population and Housing Census (KPHC) was conducted from the night of 24th/25th to 31st August 2019 and followed the United Nations principles and recommendations for conducting the 2020 round of censuses. The theme of the Census was “Counting Our People for Sustainable Development and Devolution of Services”. This resonated very well with Kenya’s development agenda -*Vision 2030* and the Big Four, as well as other regional and international development initiatives such as the Sustainable Development Goals (SDGs) and the African Union Agenda 2063. The main objective was to provide the Government and other stakeholders with essential information for evaluating policies and easing planning and budgeting processes.

The first set of the census reports (basic volumes I-IV) were released in a record 6 months after enumeration. The second set of the census reports covers the thematic areas of: Fertility and Nuptiality; Mortality; Migration; Education and Training; Youth and Adolescents; Information and Communication Technology; Housing Conditions, Amenities and Household Assets; Gender Dimensions; Older and Vulnerable Population; Urbanization; Disability; Household and Family Dynamics; Labour Force Dynamics; Agriculture; Population Dynamics and Population Projections.

This monograph presents levels, trends, and differentials in Fertility and Nuptiality from the 2019 Census data. The data shows that the Crude Birth Rate is 27.9 while the Total Fertility Rate is 3.4. Percentage of women age 15-19 with no child stands at 90 per cent while for the age 20-24 is 46 per cent, an indication of increased age at entry into childbearing. The proportion of ever-married in the age group 15-19 stood at 4.3 per cent for males and 11.2 per cent for females. The Singulate Mean Age at Marriage for males is about 27.3 years and 23.1 years for females.

The information in this monograph provides valuable programmatic evidence to policymakers for use in the formulation of policies and plans explicitly intended to achieve SDG targets. The report not only adds knowledge but also serves as a foundation for assessment, reporting and eventually monitoring achievement of SDGs by 2030, *Vision 2030*, formulation of MTP IV, County Integrated Development Plans, and other sector-specific plans. Specifically, the evidence is expected to contribute immensely towards measuring and monitoring SDGs numbers 3 and 5 that relate to social sector outcomes with a special focus on fertility and nuptiality

On behalf of the Government, I wish to thank the staff, management and Board of Directors of the Kenya National Bureau of Statistics as well as the authors for their contribution towards the preparation of this report. I further wish to extend special thanks to our development partners, especially UNFPA, UNICEF, UN-Women, WHO and UNDP under the coordination of UN Resident Coordinators’ Office and all the other stakeholders who were involved in the process for their technical and financial support.



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Acknowledgement

The 2019 Kenya Population and Housing Census (KPHC) was implemented under the provisions of the Constitution of Kenya, 2010 and the Statistics Act, 2006. The census was the sixth to be conducted in Kenya since independence and the first that was fully digitized, where the latest technology was embraced. This monograph is among the set of 16 such reports, addressing various topical areas regarding the demographic, social, and economic profiles of the Kenyan population.

The 2019 KPHC implementation process was accomplished through a concerted effort of various government ministries, departments, agencies, International and local organizations and individuals who assisted during preparation, collection, compilation, processing, analyzing and publishing the results. Kenya National Bureau of Statistics (KNBS), on behalf of the Government, takes this opportunity to sincerely thank all those who participated in the preparation of this report.

The Bureau is indebted to all the organs of government, the private sector, and the general public for the overwhelming support and participation that led to the successful implementation of the 2019 Census. Special gratitude goes to United Nations Population Fund (UNFPA); United Nations Entity for Gender Equality and the Empowerment of Women (UN Women); United Nations Children's Fund (UNICEF); United Nations Economic Commission for Africa (UNECA); World Health Organization (WHO); and United Nations Development Programme (UNDP) under the coordination of UN Resident Coordinators' Office (UNRCO); African Development Bank (AfDB); Statistics Sweden; Office of National Statistics, United Kingdom (ONS-UK) and Italian Agency for Development Cooperation (AICS) for their immense support. I also recognize the census personnel (coordinators, content and ICT supervisors, enumerators, village elders and security) for the role they played in the overall success of the 2019 KPHC.



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Key indicators at a Glance

INDICATOR	Kenya, 2019		Place of Residence	
	Male	Female	Rural	Urban
Proportion Age 12 and above Ever Married	51.7	60.7	56.1	56.8
Proportion Age 12-15 Ever Married	3.9	4.1	4.5	2.4
Proportion Age 12-18 Ever Married	3.9	6.1	5.5	3.3
Singulate Mean Age at Marriage (SMAM)	27.3	23.1	24.8	25.5
Mean Parity among Women (40-44)		4.2	4.7	3.2
Reported Adolescents Average Parity (15-19)		0.1	0.1	0.1
Crude Birth Rates (CBR)		27.9	24.8	28.2
Total Fertility Rate (TFR)		3.4	3.8	2.9
Total Fertility Rates among Youth (15-24)		1.0	1.2	0.8

Executive Summary

Kenya experienced a rapid fertility increase during the 1960s and 1970s, attaining the highest Total Fertility Rate (TFR) of 8.0 in 1979. The TFR declined to 7.7 in 1984 then to 4.7 in 1998. On the basis of the 1999 Kenya Population and Housing Census, the TFR was projected to continue to decline to 3.2 children per woman by 2015 – 2020 (CBS, 2002d: 27). However, fertility took an upsurge in 1998 reaching a TFR of 4.9 children per woman. The high fertility was attributed to low uptake of contraceptives, low age at marriage, and cultural norms and practices that encourage childbearing.

The government, realizing the challenges associated with a high population on the economy, initiated several strategies to address its effects. Sessional Paper No. 1 of 2000 on National Population Policy for Sustainable Development (NPPSD) was issued to guide the population programmes up to the year 2010 (NCPD, 2000). The policy promoted several programmes such as Reproductive Health, Maternal and Child Health Care and Family Planning (MCH/FP). More importantly, the policy outlined national population goals, objectives and targets to be achieved by population programmes. The efforts by the government yielded positive results. However, much more remained to be done to match the population growth with available resources. The government, therefore, issued Sessional Paper No. 3 of 2012 on Population Policy for National Development, a policy framework whose goal was to attain a high quality of life by managing population growth to a level that could be sustained with the available resources (NCPD, 2012). Specifically, among other demographic targets, the policy aimed at reducing the Crude Birth Rate (CBR) from 38 in 2009 to 30 by 2020; the Total Fertility Rate (TFR) from 4.8 in 2009 to 3.4 by 2020. Other fertility targets were to increase Age at First Birth from 19.8 in 2009 to 20.4 in 2015, and to 21 by 2030; raise Age at First Marriage from 20.2 in 2009 to 23 by 2030; reduce teenage childbearing from 17.7 per cent in 2009 to 8 per cent by 2030, among others.

The achievement of these targets are reflected in the findings of the 2019 Census data on fertility and nuptiality. The analysis and results are presented in 5 chapters.

Chapter 1 presents the general introduction providing the census background, objectives, overview of fertility and nuptiality, general trends, methodology of census data collection and analysis, assessment of data quality, and definition of key terms. Information on age and sex is important in the analysis of any fertility and nuptiality data therefore all modern censuses collect information pertaining to the age and sex of the individuals. However, data often contain errors because some people do not know their actual age and others do not report their age accurately. It is critical to evaluate the reported age and sex composition. Various techniques have been developed for checking such inconsistencies. These include those that check age and sex ratios, among others.

Generally, there was improved age reporting but wide differentials by place of residence and county. There was better reporting of age in rural areas compared to urban areas according to the UN accuracy index. Garissa, Wajir, Mandera, Isiolo, and Marsabit recorded the poorest age reporting and the reported age heaping appears to be recorded by the enumerators based on either guesswork or over the recording of nonexistent populations. In these counties, male adults age 60 and above were over-reported. Analysis of demographic indicators requires that denominators be strongly smoothed to correct for data errors, especially due to digit preference and age misreporting.

Further, the analysis indicates the possibility of under-coverage of births in the 12 months before the census, by as much as 8.5 per cent. In Marsabit, there was an over-reporting of male births compared to females, giving a high sex ratio at birth similar to countries that sex-selective abortions occur. In Mandera, there was a high under-reporting of female births. In addition, deaths in the age range 5 and 65 that occurred in the households prior to the census were under-reported and this was more severe for females. Male coverage was about 61 per cent while female coverage was about 39 per cent if data is considered from age 5 to 65. When the age range was narrowed from 30 to 60, coverage for males was slightly lower at 59 per cent while the female remained the same at (female coverage).

Chapter 2 presents the nuptiality levels and trends. Nuptiality refers to the frequency of marriages between persons of opposite sexes, involving rights and obligations fixed by law or custom. It is a key determinant of fertility. One of the key indicators of marriage is the timing of the first marriage. Two indicators are used namely:-percent married at ages 15-19 and singulate mean age at marriage (SMAM). The proportion married at age 15-19 captures the extent of very young marriages, while SMAM represents a summary indicator of the entire age distribution of first marriages. The proportion of ever-married males in the age group 15-19 increased from 2.9 per cent in 1999 to 4.3 per cent in 2019. The proportion of ever-married females in the age group 15-19 has generally been higher. However, it declined from 18.8 per cent in 1999 to 11.2 per cent in 2019. SMAM for males is about 27.3 years and 23.1 years for females, indicating that young people have lately been postponing entry into marriage. Overall, the gap in SMAM between males and females has constantly been high since 1999.

Chapter 3 presents information on lifetime fertility. One of the key indicators of fertility is the average number of children born. The results show that Kenya is on the path to fertility transition. Percentage of women age 15-19 with no child has increased from 77 per cent in 2009 to 90 per cent in 2019. At the same time, women age 20-24 with no child has gone up from 35 per cent in 2009 to 46 per cent in 2019, an indication of increased age at entry into childbearing. Reported mean parity among women age 40-44 has gone down from 5.4 in 2009 to 4.2 births in 2019. Mean parity in urban is lower, at 3.2 compared to rural Kenya, at 4.7. There exist wide differentials between counties. The observed lifetime fertility indicates that the average number of children ever born is declining for most of the regions except North Eastern. Reported mean parity among adolescents age 15-19 show that the average parity declined from 0.2 in 2009 to 0.1 in 2019. A similar trend is reflected among rural-urban adolescents although, the percentage decline is higher in urban than rural.

Chapter 4 provides information on current fertility. The indicators of current fertility are the Crude Birth Rate and Total Fertility Rate. Analysis by Crude Birth Rate shows that the estimated CBR for Kenya is 27.9 births per 1,000 population. CBR is higher in urban areas, at 30.5 births per 1,000 population than in rural Kenya, at 26.8 births per 1,000 population. At the county level, the estimated CBR range from 19.8 births per 1,000 population in Makueni and 49.4 births per 1,000 population in Mandera. The high percentage of changes in CBR in Mandera, Wajir, Marsabit, and Garissa counties may point to the low quality of reporting population data.

The reported fertility TFR is 3.4 births in 2019, a drop of about one birth, from 4.8 births in 2009. The fertility decline has been dominated by women in urban areas and educated women. TFR has continued to remain higher in rural areas, at 3.8 births than in urban areas, at 2.9 births. In terms of regions, TFR has been declining in most of the counties since 2009, except Mandera, Wajir, and

Marsabit. However, the increase in TFR in those counties could be due to inconsistency in reporting of births and children ever born.

Chapter 5 provides a summary, conclusions, and recommendations. Part of Kenya's population growth is tied to its relatively young population. Today, 70 per cent of Kenyans are below 30 years, while 50 per cent of the total population are below 15 years. It is estimated that in the next two decades, Kenyan youth will have reached 20 million. For these reasons, part of the solution to socio-economic and sustainable environmental development is to drastically reduce the current level of population growth rate. Female higher education has emerged as one of the factors which could accelerate this process. Equally important are the late age at marriage, rapid urbanization, increased employment, improved health care services including increased use of modern contraceptive methods. The government could achieve this by encouraging the new devolved system of governance to implement these processes.

Chapter 1: Introduction

1.1. Background Information

A population census is a total process of collecting, compiling, evaluating, analysing, and publishing or otherwise disseminating demographic, economic, and social data pertaining, at a specified time, to all persons in a country or a well-delimited part of a country. It is vital for effective national development planning because it provides detailed bench-mark data on all population characteristics.

The first known population census in Kenya was conducted in 1897 and was a headcount. This was followed by the 1948 census that focused on non-natives. A complete census that enumerated 8.6 million persons was conducted in 1962 and was used to set up political and administrative structures. The first post-independence census was undertaken in 1969 and enumerated 10.9 million persons. Since then, the country has conducted decennial population and housing censuses on a *de facto* basis with the midnight of 24th/25th August as the reference point. The censuses have been implemented in accordance with the United Nations (UN) Principles and Recommendations for conducting population and housing censuses. Table 1.1 presents trends in census counts since 1897.

Table 1. 1: Summary of Census Counts in Kenya, 1897-2019

Year	Population (millions)
1897	2.5
1948	5.4
1962	8.6
1969	10.9
1979	15.3
1989	21.4
1999	28.5
2009	37.7
2019	47.6

The 2019 Kenya Population and Housing Census was conducted under the provisions of the Constitution of Kenya, 2010 (Fourth Schedule Part 1 Item 11), the Statistics (Amendment) Act, 2019 and the Statistics (Census of Population) Order, 2018 - Legal Notice No. 205 and the Cabinet Memorandum of May 2017 on the implementation of the 2019 population and housing census process. The theme for the census was ***“Counting Our People for Sustainable Development and Devolution of Services”***

1.2. Objectives of the 2019 Census

The main objective of the 2019 KPHC was to collect information on the size, composition, distribution, and socio-economic characteristics of the population. The specific objectives were to ascertain:

- Population size, composition, and spatial distribution;
- Levels of fertility, mortality, and migration;
- Educational attainment;
- Household composition;
- Rate and pattern of urbanization;
- Size and deployment of labour force;
- Distribution of persons with disability;
- Housing conditions and availability of household amenities; and
- Agricultural indicators to inform the creation of an agriculture sampling frame.

This information will be used in planning, budgeting, and programming for important services; future policy formulation, resource allocation; creation of administrative and political units; monitoring and evaluation of programmes and projects; research; development of a master household sampling frame; development of a geospatial database; and benchmark for agricultural censuses and surveys.

1.3. Overview of Fertility and Nuptiality

Fertility is the actual number of live births a woman would have by the end of her reproductive life which is between 15-49 years. In Kenyan censuses, the reproductive life is from 12 to 49 years, to capture adolescent fertility. Nuptiality refers to marriage as a population phenomenon, including the rate at which it occurs, the characteristics of those united in marriage, and the dissolutions through divorce, separation, widowhood and annulment (Haupt and Kane, 1998: 33). Marriage as an institution is therefore important in human population growth. In 2019 Census, information on fertility was solicited from all the female respondents age 12 years and above, by asking them summary birth history questions on: children ever born alive, children living in the household or elsewhere, children born alive who died, date of the last child born by sex and whether single or multiple births.

Fertility together with mortality and migration are the three dynamics of population change and contribute directly to population growth. It is considered an important variable in deriving other demographic indices, such as life tables, population projections, and mortality indices. Fertility and nuptiality play an important role in the development planning of a nation since projections for social amenities such as education, health, housing, and employment opportunities are partly based on indicators of fertility and nuptiality.

Fertility and nuptiality affect individual and societal well-being. The physical, mental, psychological, and financial costs that accompany childbearing in the society affect the fertility level of society. Family formation is determined by marriage market conditions such as the supply of men and women of marriageable age, cultural norms and practices that govern marriage, and economic conditions, which also affect fertility.

At National Level, the Sustainable Development Goals relevant to fertility and nuptiality are:

- Goal 3: Ensure healthy lives and promote well-being for all at all ages
- Goal 5: Achieve gender equality and empower all women and girls

This analytical report provides useful indicators that may be used to monitor the country's progress towards meeting these goals and to enable international comparison.

1.4. General Trends

Population and Housing Censuses conducted in 1979, 1989, 1999, 2009, and 2019 included questions to solicit information on fertility and nuptiality to help in determining how fertility has been changing over time. Over the period, the Total Fertility Rate (TFR) has consistently shown patterns of decline from high to low fertility levels. The TFR declined to 3.4 births per woman in 2019 from 4.8 births per woman in 2009.

Age at first marriage has been increasing over the period as well as the proportion of never-married for both men and women. The Singulate Mean Age at Marriage (SMAM) for females, was 22.3 years in 1999, which increased to 22.5 years in 2009 and then to 23.1 years in 2019. Males have had higher SMAM during the period than females. The proportion of the married has remained stable while the proportions of polygamous unions have remained low.

1.5. Methodology

1.5.1. Use of Technology

Kenya adopted the use of mobile technology to collect data during the 2019 Census as recommended by the UN for the 2020 round of censuses. This was the first census in Kenya's history to use mobile technology in the capture and transmission of data for both cartographic mapping and enumeration. During mapping, the GPS coordinates for homesteads, households and other points of interests within the locality were collected using the mobile devices with an accuracy of plus or minus 5 Meters. The enumeration area (EA) maps were developed using Arc GIS Software on a background of aerial photographs and satellite imageries that were not more than six months old from the date of the field cartographic data collection. The EA maps were then uploaded into the tablets assembled by two local universities to facilitate the 2019 Census enumeration exercise.

1.5.2. Recruitment and Training

Recruitment of census personnel who included content supervisors, ICT supervisors, and enumerators was undertaken by the County and Sub-County Census Committees through a competitive process. The training of these personnel was conducted in a cascaded manner from the training of trainers to the training of enumerators. The training for various cadres was conducted for seven days for each cadre. These trainings were sequentially conducted between 14th July and 20th August 2019.

1.5.3. Enumeration

Census enumeration was preceded by Enumeration Area (EA) boundary identification and pre-enumeration listing of households in each EA for two days prior to the census night. The pre-enumeration listing exercise helped in gauging the expected workload during the seven days of enumeration and also in monitoring the level of coverage as enumeration progressed.

The actual enumeration took place from the night of 24th/25th August 2019 and ended on 31st August 2019. A mop-up exercise was conducted on 1st and 2nd September 2019. Special populations were strictly enumerated on the night of 24th/25th August 2019. The 2019 Census adopted a *de facto* approach where all persons within the boundaries of Kenya were enumerated depending on where they spent (or were found on) the census night. The canvasser method of enumeration, where information for each individual or household is collected and recorded by a trained census official designated to perform the tasks in the assigned area, was used.

1.5.4. Data Transmission and Storage

Data collected by enumerators using mobile devices (tablets) were subsequently transmitted to a central server. The data were encrypted prior to transmission and backed up in off-site locations.

1.5.5. Data Processing

Editing of the census data was guided by the United Nations Handbook on Population and Housing Census Editing. The data were processed using CSpPro, Stata, and SPSS softwares. In addition, validation checks were done to ensure all EAs aligned to administrative boundaries, were accounted for in the dataset. Outputs were generated based on administrative and geo-political units.

1.5.6. Quality Assurance

Quality assurance was integrated in all phases of the census process. Comprehensive guidelines were developed and shared with census personnel. Field supervision followed a three-tier structure to ensure adequate support, real-time response to emerging issues, and feedback during data collection. In addition, enumeration reporting schedules and control forms were used to facilitate the monitoring of activities. Field monitoring teams oversaw technical, logistical, and administrative aspects of enumeration in each county. Further, independent observers, drawn from the international

community and National Statistics Offices (NSOs) across Africa, monitored and observed the 2019 census enumeration process.

1.6. Data Quality

Evaluation of data is one of the steps in the census process for quality assurance. Evaluation techniques are often necessary to determine whether the data collection was correctly done and whether the data are of acceptable quality. A census, being a massive data collection exercise involving thousands of field interviewers, errors may creep in at any stage of data collection and processing.

An evaluation of census data is desirable to assess the quality of the data. Evaluative studies probe into the qualitative and the quantitative aspects of the data. Errors fall into two broad headings: coverage and content errors. Coverage errors arise due to omissions or duplications of persons or housing units in the census enumeration. Content errors arise from incorrect reporting or recording of the characteristics of persons, households, and housing units enumerated in the census. According to the United Nations, good census practice requires careful consideration and an evaluation of the completeness and accuracy of census results.

1.7. Coverage errors

There are two types of coverage errors. Population under-coverage refers to the error of excluding someone who should have been enumerated. Population over-coverage refers to the error of either enumerating someone more than once or including someone who should not have been enumerated. The latter error is considered negligible. Under-coverage is more common than over-coverage.

Coverage errors are one of the most important types of error since they affect not only the accuracy of the counts of the various census universes but also the accuracy of all of the census data describing the characteristics of these universes.

Coverage errors may occur in various forms, namely: omitting a unit that should have been included; including a unit more than once; or including a unit that should not have been included. In spite of the fact that massive efforts are made in providing good training and up-to-date cartographic maps to the field staff, as well as introducing checks and controls throughout the fieldwork, such errors still occur. Consequently, any census data should be always checked for any inconsistencies as a result of such errors. Various techniques have been developed for checking for such inconsistencies.

1.7.1. Content errors

These types of errors occur when an attribute of an enumerated individual is misreported or not reported at all. One common content error occurs in the reporting of the age of an individual which is one of the basic but vital information provided by a census of a population.

Population data in developing countries are often subject to age misreporting. Irregularities in the age distribution may be a result of a respondent's incorrect age declaration or the interviewer who

estimates the age of a respondent who does not know his or her age. It is, therefore, important to evaluate the accuracy of the age distribution and correct for deficiencies wherever necessary.

1.8. Comparison of 2019 Census and Previous Censuses

This part compares the enumerated population at the 2019 census with the past censuses in terms of absolute size as well as intercensal growth rates. The method is referred to as an external consistency check.

Table 1.2 presents population distribution by age in absolute numbers since 1979. The number of persons enumerated during the 2019 Population and Housing Census was 47,564,299 representing an increase of 26.1 per cent from the 2009 census.

Table 1.2: Trends in Enumerated Population by age group, 1979-2019

Age	1979	1989	1999	2009	2019
0-4	2,843,406	3,801,066	4,353,530	5,803,130	5,993,267
5-9	2,491,840	3,470,201	3,952,376	5,469,372	6,202,643
10-14	2,074,771	2,990,730	4,009,455	4,919,417	6,346,072
15-19	1,741,845	2,379,439	3,417,064	4,073,944	5,285,857
20-24	1,327,404	1,903,130	2,852,320	3,688,548	4,447,674
25-29	1,055,712	1,629,771	2,351,866	3,127,829	3,854,555
30-34	818,076	1,159,526	1,705,604	2,461,739	3,570,719
35-39	615,594	918,923	1,435,730	1,962,578	2,650,116
40-44	535,182	732,126	1,045,913	1,442,324	2,259,231
45-49	440,879	574,416	848,224	1,243,564	1,786,256
50-54	373,930	476,495	692,376	934,282	1,308,610
55-59	275,311	360,190	464,877	695,629	1,118,094
60-64	217,228	318,451	413,292	580,164	870,022
65-69	183,127	230,712	304,123	381,804	658,178
70-74	128,908	174,221	256,720	331,522	514,539
75+	174,363	303,467	347,916	588,402	697,776
Age NS	29,485	20,772	34,483	20,603	690
Total	15,327,061	21,443,636	28,485,869	37,724,850	47,564,299

Table 1.3 shows trends in intercensal growth rates. The rate of growth declined from 3.4 per cent in the 1979-89 intercensal period to about 2.8 per cent in the 1989-99. The rate of growth however, remained unchanged during 1999-2009 period, which was against the expectation that the rate would decline faster given the observed declines in both birth and death rates from the various surveys conducted in the intercensal period. Between 2009-2019 intercensal period, the growth rate declined to 2.3 per cent.

On inspection of the age-specific growth rates in the 2009-2019 intercensal period has the indication of slight undercount for age groups 0-4 and 5-9. This observation is similar to the period 1989-1999.

Table 1. 3: Age specific growth rates, Kenya, 1979-2019

Age	1979-1989	1989-1999	1999-2009	2009-2019
0-4	0.029	0.014	0.029	0.003
5-9	0.033	0.013	0.032	0.013
10-14	0.037	0.029	0.020	0.025
15-19	0.031	0.036	0.018	0.026
20-24	0.036	0.040	0.026	0.019
25-29	0.043	0.037	0.029	0.021
30-34	0.035	0.039	0.037	0.037
35-39	0.040	0.045	0.031	0.030
40-44	0.031	0.036	0.032	0.045
45-49	0.026	0.039	0.038	0.036
50-54	0.024	0.037	0.030	0.034
55-59	0.027	0.026	0.040	0.047
60-64	0.038	0.026	0.034	0.041
65-69	0.023	0.028	0.023	0.054
70-74	0.030	0.039	0.026	0.044
75+	0.055	0.014	0.053	0.017
Overall growth rate (% p.a.)	3.36	2.84	2.81	2.32

1.9. Age-Sex Structure

The age-sex data is a map of a population's demographic history. Persons of the same age structure constitute a cohort born in the same year and have been exposed to similar historical events and conditions.

1.10. Age- Sex Ratio

Although all modern censuses collect information on the age and sex of the population, the data often contain errors because some people do not know their true age and others do not report their age accurately. The distribution of a population by age and sex is one of the most basic types of information needed for future planning. Given the importance of the age structure concerning social and economic characteristics, it is imperative that the information on the population by age and sex be as accurate as possible. For this reason, it becomes critical to evaluate the reported age and sex composition.

1.11. Sex Ratio at Birth

Sex ratios at birth (SRB) are an analytical tool and are calculated by dividing the male population in a given age group by the female population in the same age group, multiplied by 100. The larger the abrupt departure of this ratio from values close to 100, the larger the possibility of errors in the data. All populations have more male than female births at birth, and so the sex ratio at the early ages is

expected to be slightly over 100. However, since mortality is usually higher for males than females, the sex ratio is reduced continuously up to the oldest ages. Sex Ratios at infancy below 100 denote under-coverage while those above 100 would imply double counting.

In a systematic study of several countries using DHS, Chao et al 2019¹ show that, SRB range from 103.1 [102.7; 103.6] in sub-Saharan Africa to 106.3 [105.5; 107.2] in southeastern Asia, 106.3 [105.4; 107.2] in eastern Asia, and 106.7 [105.8; 107.7] in Oceania. The UN assumes 105 for all countries in their estimation. Thus there is a regularity in Male bias at birth. Over decades, SRB has consistently been between 102 males per 100 females to 108 males per 100 females for several decades. In Kenya, all the post-colonial censuses (1969-2009), show that at the national level, SRB has been constant at 104 males per 100 females.

Table 1.4 shows the sex ratios at birth for all the counties based on births 12 months before the national census. Thirty seven counties out of 47 have their sex ratios at birth consistent with past historical norms (SRB between 102 and 107). In Isiolo, Tana River, Wajir, Turkana and Samburu, there appears to be a possible over-reporting of male births. SRB is close to those observed in South East Asian countries with well-known sex-selective abortion. Under-reporting of male births may have occurred in Vihiga County.

¹ Chao Fengqing Patrick Gerlandb, Alex R. Cookc, and Leontine Alkema 2019. Systematic assessment of the sex ratio at birth for all countries and estimation of national imbalances and regional reference levels

Table 1.4: Sex ratios at birth by County

County	Sex ratio at birth	County	Sex ratio at birth
1 Vihiga	99.7	25 Makueni	103.6
2 Kakamega	100.8	26 Mombasa	103.8
3 Busia	100.9	27 Kilifi	103.8
4 Bungoma	101.4	28 Migori	103.9
5 Tharaka-Nithi	101.6	29 West Pokot	104.0
6 Nyamira	102.1	30 Nakuru	104.0
7 Trans-Nzoia	102.2	31 Homabay	104.1
8 Uasin Gishu	102.4	32 Kwale	104.3
9 Nyeri	102.5	33 Kajiado	104.3
10 Kiambu	102.5	34 Kericho	104.3
11 Meru	102.6	35 Laikipia	104.5
12 Nandi	102.6	36 Bomet	104.5
13 Nairobi City	102.6	37 Mandera	105.0
14 Kirinyaga	102.7	38 Narok	105.9
15 Embu	102.8	39 Lamu	106.3
16 Elgeyo-Marakwet	102.8	40 Baringo	106.6
17 Kisii	102.8	41 Garissa	107.0
18 Taita-Taveta	102.9	42 Marsabit	107.0
19 Siaya	103.0	43 Isiolo	108.0
20 Kitui	103.1	44 Tana River	108.8
21 Murang'a	103.1	45 Wajir	109.0
22 Kisumu	103.1	46 Turkana	109.0
23 Machakos	103.3	47 Samburu	109.0
24 Nyandarua	103.5		

Tables 1.5 and 1.6 show sex ratios at older ages (age 60 and above). Worldwide women live longer than men and so that at ages beyond 60 particularly in developing countries like Kenya with higher adult mortality, sex ratios should be below 100 unless there is selective out-migration of women at those ages. In Wajir, Mandera, and Garissa, there was an indication that population of men above age 60 were over-reported. The sex ratio for ages above 60 years for Mandera, Wajir Garissa has not changed, an indication of a possible over-count of population at these ages.

Table 1.5: Highest and lowest Sex ratios of the population age 60 and above, 2009

	Rank	County	60-64	County	65-69	County	70-74	County	75+
Highest	1	Mandera	242.5	Mandera	215.5	Mandera	194.7	Mandera	138.6
	2	Wajir	210.0	Wajir	183.2	Wajir	164.6	Wajir	118.4
	3	Garissa	153.4	Garissa	157.2	Garissa	135.3	Garissa	110.4
	4	Nairobi	148.9	Nairobi	129.9	Nyamira	118.2	Nyamira	108.4
	5	Kiambu	123.5	Tanariver	125.2	Turkana	118.2	Turkana	108.4
Lowest	1	Kitui	73.7	Nyandarua	69.4	Homabay	75.2	Murang'a	61.3
	2	Busia	80.3	Homabay	72.7	Kisumu	75.2	Kirinyaga	64.1
	3	Homabay	81.6	Kisumu	72.7	Busia	79.3	Siaya	65.5
	4	Kisumu	81.6	Machakos	75.3	Siaya	79.3	Nyeri	66.3
	5	Kilifi	82.7	Siaya	77.0	Kisii	79.4	Machakos	66.7

Table 1.6: Highest and lowest Sex ratios of the population age 60 and above, 2019

	Rank	County	60-64	County	65-69	County	70-74	County	75+
Highest	1	Wajir	185.4	Wajir	170.9	Wajir	150.2	Wajir	147.1
	2	Garissa	148.7	Mandera	148.5	Garissa	134.2	Mandera	140.4
	3	Mandera	146.4	Garissa	137.8	Mandera	125.5	Garissa	119.6
	4	Nairobi	130.5	Nairobi	121.2	Marsabit	110.4	Marsabit	109.0
	5	Isiolo	124.5	Isiolo	115.4	Nairobi	110.1	Lamu	97.5
Lowest	5	Busia	78.2	Turkana	78.3	Embu	73.3	Embu	60.1
	4	Migori	77.8	Busia	74.7	Kilifi	72.7	Nyeri	58.7
	3	Homabay	72.2	Migori	72.1	Homabay	70.7	Machakos	58.2
	2	Siaya	66.0	Homabay	70.8	Siaya	67.4	Murang'a	56.4
	1	Kilifi	65.5	Siaya	66.2	Kitui	65.6	Siaya	55.8

1.12. Completeness of birth recording

This analysis was done using the Brass P/F ratio approach. The P/F ratio technique evaluates the consistency between information on lifetime fertility and current fertility. P/F ratio for the combined age group 20–29 years is used as an adjustment factor to compensate for the completeness of recent birth recording. A trend of rapidly increasing P/F ratios with age probably reflects strong effects of declining fertility. Where fertility is falling over time, average parity, which is based on women's lifetime experiences, will exceed cumulated current fertility, assuming complete recording of recent births. Consequently, the P/F ratios will be greater than one. They will also tend to increase with age since lifetime fertility among younger women has occurred more recently and will differ little from cumulated current fertility of constant fertility over an extended period. The results for the application of P/F ratios for the 2009 and 2019 census are presented below. The adjusted number of births would be 1,356,533 against the reported 1,241,546. It therefore, suggests that overall, births may have been under-reported by approximately 8.5 % and compares with the earlier detection using sex ratio and birth and age-specific growth rates.

Table 1.7: Adjusted age specific birth rates 2019

Final Fertility							
Age group	Female Population		ASFR	Intercensal Annual Births	P/F Ratios (2 Censuses)	Adjusted Births(2)	adjusted birth rate
	Initial 2009	Final 2009					
15-19	2,049,578	2,585,125	0.06	134,667	1.034	141,333	0.055
20-24	2,023,751	2,316,271	0.187	402,350	1.083	422,267	0.182
25-29	1,674,971	1,999,654	0.189	344,260	1.06	361,301	0.181
30-34	1,265,034	1,859,889	0.154	234,527	1.039	246,136	0.132
35-39	1,006,133	1,293,038	0.108	121,845	0.961	127,877	0.099
40-44	735,166	1,095,662	0.05	43,828	0.948	45,998	0.042
45-49	639,498	865,089	0.016	11,075	0.875	11,623	0.013
Total	9,394,131	12,014,728	3.82	1,292,550		1,356,533	3.5

More details about the quality of 2019 Kenya Population and Housing Census data are provided in separate document.

1.13. Summary of Data Quality Issues

The summary of data quality issues noted from the 2019 KPHC were;

- That there was a possible under-coverage of births in the last 12 months before the census, by as much as 8.5 per cent. In Marsabit, there was a suspected over-reporting of male births as opposed to females, giving a high sex ratio at birth similar to countries where sex-selective abortions occur. In Mandera, there was a possible under-reporting of female births.
- That deaths in the age range 5 and 65 that occur in the households before the census was under-reported and this was more severe for females. Male coverage was just about 61 per cent while female coverage was about 39 per cent if data is considered from age 5 to 65. When the age range was narrowed from 30 to 60, coverage for males was slightly lower at 59 per cent while the female remained the same (final coverage).
- That there was improved age reporting but wide differentials by place of residence and county. There was better reporting of age in rural areas compared to urban areas according to the UN accuracy index. Garissa, Wajir, Mandera, Isiolo, and Marsabit have the lowest accuracy on age reporting. In these counties, male adults age 60 and above were over-reported. Analysis of demographic indicators require that the denominator need to be strongly smoothed to correct the data errors especially due to digit preference and age misreporting.

1.14. Recommendation

- Care must be taken during training of enumerators with a view to improve age reporting during data collection. In addition, there should be a complete review of the historical calendar of events for various regions.
- More in-depth analysis may be required at the county level and to determine if reporting of age data may be related to socio-economic characteristics such as education.

A full 2019 Kenya Population and Housing Census evaluation report has been prepared and is available for reference.

1.15. Definition of Terms and Key Concepts

Age-Specific Fertility Rate: Refers to the annual number of births to women of a specified age or age group per 1,000 women in that age group.

Children Ever Born (CEB): Refers to the life-time fertility experience of women 12 years and above. It is the total number of children a woman has given birth to in her lifetime.

Crude Birth Rate: This is the ratio of the number of live births in a population during a given year to the total population (usually expressed as a number of live births per 1,000 population).

Current Fertility: Refers to births that occurred to a woman in the 12 months before the census date.

Fertility: Is the actual number of live births a woman has had by the end of her reproductive life span (15-49 years).

Household: Is a person or a group of persons who reside in the same homestead or compound but not necessarily in the same dwelling unit. They have the same cooking arrangement and are answerable to the same household head. For purpose of 2019 KPHC, households were categorized into conventional and non-conventional. Conventional were the ordinary households while non-conventional households referred to people live together but cannot be said to belong to “ordinary” households. Examples were students in boarding schools and colleges, hospital in-patients, people in police cells, guests in hotels, or prison inmates, outdoor sleepers, nuns, brothers in a monastery and other religious organizations with some institution-like living arrangements.

Household Head: Is the most responsible member of a household who makes key decisions of the household on a day-to-day basis and whose authority is recognized by all members of the household. It could be the father, mother or a child, or any other responsible member within the household.

Lifetime Fertility: Refers to the total number of children ever born alive during the entire reproductive period of the woman.

Mean Age at First Birth: Refers to the average age at which women have their firstborn child.

Nuptiality: Refers to the frequency of marriages between persons of opposite sexes which involve rights and obligations fixed by law or custom.

Parity: is the number of live births a woman has had in the past. Woman’s parity can change with time. However, it cannot decrease but can either remain the same or increase with time.

Rural: Are large and isolated areas of an open country (in reference to open fields and not forests, etc.), often with low population density.

Sex Ratio: The number of males per 100 females in a population

Sex Ratio at Birth (SRB): Number of male births per one female birth.

Singulate Mean Age at Marriage: Refers to the average number of years lived in the single state by those who ever marry before age 50.

Total Fertility Rate (TFR): The average number of children a woman would have assuming that current age-specific birth rates remain constant throughout her childbearing years which are considered to be ages 15 to 49. Total Fertility Rates are for the 36-month period prior to the census.

Urban: This is an area with an increased density of human-created structures in comparison to the areas surrounding it and has a population of 2,000 and above. In this definition, urban areas include

the following: Cities, Municipalities, Town Councils, Urban Councils, and all county headquarters, regardless of the population.

Chapter 2: Levels and Trends in Nuptiality

2.1. Introduction

In demography, nuptiality refers to marriage, separation, divorce, widowhood, and remarriage. The importance of nuptiality arises partly from its relationship with the age at which sexual relation begins; and partly with the formation and dissolution of families and households.

Nuptiality and fertility are often studied together because nuptiality affects fertility. If childbearing tends to be confined to married couples, as it is in many societies, higher proportions of women marrying will tend to have higher fertility, and lower proportions will tend to have lower fertility. Population change may therefore be indirectly influenced by nuptiality.

The family is a fundamental social institution in every society, and nuptiality describes the formation of families by marriage and their disruption by divorce. Nuptiality is therefore relevant to the study of society generally, aside from its influence on population growth.

In Kenya, as in many developing countries, the collection, processing, and interpretation of nuptiality data are influenced by problems of definition and categorization. The utility of such data in demographic analyses and socio-economic development planning, therefore, depends on the level of data accuracy and reliability. The 2019 Census data underwent thorough cleaning in an attempt to eliminate content and coverage errors. Conclusively, the data is considered to be of good quality.

All the previous censuses in Kenya have attempted to collect and analyze data on nuptiality. The 2019 Census questionnaire provided vital data on sex, age and marital status. The data was collected at the household level and was based on an individual's declaration of marital status without further probing for legal, religious, or customary proof of status.

2.2. Prevalence of Marriage in Kenya

This section describes the prevalence of marriage in Kenya. The most commonly used indicator of marriage is the proportion of ever-married by age. The proportion ever married by age 50 is used to determine the universality of marriage.

2.2.1. Women 12 Years and above by Marital Status

Table 2.1 presents the percent distribution of the female population age 12 and above by marital status for the country. Marriage among women in Kenya is nearly universal. The proportion never married gradually declined from about 95.8 per cent among the 12-14-year-olds to 5.7 per cent among women of age 50 and above years. Generally, aging women are more likely to be engaged in polygamous marriages than younger ones.

Further, divorce and separation is common among aging women, though the phenomena are generally low. Regarding widowhood, women are more likely than men to be widowed, as provided in Tables 2.1 and 2.4.

Table 2. 1: Percent distribution of women age 12 and above by Marital Status, Kenya 2019

Age	Number	Never	Married	Married	Widowed	Divorced	Separated	DK
		Married	Monogamous	Polygamous				
Total	16,570,847	39.2	48.1	3.0	6.0	1.1	2.5	0.1
12 -14	1,858,052	95.8	3.8	0.2	0.0	0.0	0.0	0.1
15 - 19	2,585,120	88.7	10.4	0.4	0.1	0.1	0.2	0.1
20 - 24	2,316,264	49.6	46.9	1.4	0.2	0.5	1.3	0.1
25 - 29	1,999,649	24.2	68.5	2.5	0.7	1.1	2.9	0.1
30 - 34	1,859,880	14.7	73.7	3.6	2.0	1.6	4.3	0.1
35 - 39	1,293,035	12.4	73.0	3.8	3.3	2.0	5.2	0.1
40 - 44	1,095,655	10.2	71.3	4.9	6.1	2.2	5.1	0.1
45 - 49	865,086	9.3	69.3	5.4	9.0	2.2	4.7	0.1
50+	2,698,106	5.7	55.0	6.7	28.0	1.7	2.7	0.1

2.2.2. Marital Status of Women 12 Years and above by Place of Residence, 2019

Table 2.2 presents the distribution of the female population age 12 and above by marital status and place of residence. Marriage patterns are similar to those in Table 2.1. However, never married is higher in urban areas than rural, especially among the older age groups. Similarly, the prevalence of polygamous marriage is lower in urban areas than in rural. Further, widows are more in rural areas than urban. The data further shows that divorce and separation are higher in urban areas compared to rural areas.

Table 2. 2: Percent Distribution of Women age 12 and above by Marital Status and Rural-Urban, Kenya 2019

Residence	Age	Number	Never	Married	Married	Widowed	Divorced	Separated	DK
			Married	Monogamous	Polygamous				
Rural	Total	11,167,587	37.7	48.4	3.8	7.2	0.8	1.8	0.1
	12 -14	1,411,772	95.4	4.2	0.2	0.0	0.0	0.0	0.1
	15 - 19	1,879,067	87.9	11.2	0.4	0.1	0.1	0.2	0.1
	20 - 24	1,349,540	45.7	50.1	2.0	0.3	0.5	1.3	0.1
	25 - 29	1,108,301	18.7	73.1	3.7	0.9	0.9	2.5	0.1
	30 - 34	1,115,293	10.6	77.4	5.0	2.5	1.2	3.2	0.1
	35 - 39	786,966	9.2	76.5	5.2	3.7	1.5	3.8	0.1
	40 - 44	726,543	7.8	74.2	6.3	6.6	1.5	3.6	0.1
	45 - 49	612,366	7.3	71.7	6.7	9.4	1.5	3.3	0.1
	50+	2,177,739	4.5	55.6	7.7	28.9	1.3	2.0	0.1
Urban	Total	5,403,260	42.2	47.5	1.2	3.6	1.6	3.9	0.2
	12 -14	446,280	97.4	2.4	0.0	0.0	0.0	0.0	0.1
	15 - 19	706,053	91.0	8.4	0.1	0.0	0.1	0.2	0.1
	20 - 24	966,724	55.2	42.3	0.5	0.1	0.5	1.3	0.1
	25 - 29	891,348	31.0	62.7	1.0	0.4	1.2	3.4	0.1
	30 - 34	744,587	20.8	68.0	1.5	1.4	2.2	6.0	0.2
	35 - 39	506,069	17.4	67.7	1.7	2.6	2.9	7.5	0.2
	40 - 44	369,112	15.1	65.7	2.1	5.1	3.6	8.2	0.2
	45 - 49	252,720	14.1	63.4	2.2	8.0	3.9	8.2	0.2
	50+	520,367	10.9	52.8	2.6	23.8	3.6	6.0	0.2

2.2.3. Women age 12 and above by Marital Status and County

Table 2.3 presents the proportion distribution of women age 12 and above by county and marital status. The proportion of married women (monogamous and polygamous) in Kenya is 51.1 per cent. Counties with the highest percentage of married women are Tana River, West Pokot, Narok and Samburu at 59.6, 58.9, 58.7 and 58.3 per cent. Counties with the lowest are Kiambu, Vihiga and Nairobi City at 47.5, 47.7 and 48.0 per cent respectively. 58.3 per cent. Counties with the lowest are Kiambu. Counties with the lowest are Kiambu, Vihiga and Nairobi City at 47.5, 47.7 and 48.0 per cent respectively.

The proportion of never-married women at the national level is 39.2 per cent. Counties with the highest percentage of never married women are Uasin Gishu, Nandi, and Nairobi City at 45.0, 44.5 and 43.5 per cent, respectively. Those with the lowest are Tana River and Kirinyaga at 31.5 per cent and 32.2 per cent, respectively.

Counties with the highest number of women divorced and separated are Kirinyaga (7.5 per cent), Lamu (7.2 per cent), Kiambu (6.2 per cent) and Mombasa (6.0 per cent). Further, widowed women are higher in Western and Nyanza regions compared to other regions. Siaya County was leading with percentage of widows at 13.9 per cent followed by Homabay, Vihiga, and Kisumu at 11.5, 11.3 and 10.1 per cent, respectively.

Table 2. 3: Percent Distribution of Women Age 12 and Above by Marital Status and County, 2019

County	Total	Marital Status						
		Never Married	Married Monogamous	Married Polygamous	Widowed	Divorced	Separated	DK
Kenya	16,570,847	39.2	48.1	3.0	6.0	1.1	2.5	0.1
Mombasa	430,913	37.8	50.9	1.3	3.9	2.9	3.2	0.1
Kwale	283,807	36.9	46.9	4.6	6.6	2.3	2.5	0.1
Kilifi	501,744	38.6	46.0	3.6	7.0	1.8	2.8	0.1
Tana River	95,663	31.5	52.9	6.7	5.5	2.1	1.2	0.1
Lamu	45,395	34.3	51.1	1.7	5.7	4.7	2.5	0.0
Taita-Taveta	120,313	36.8	48.7	0.8	8.3	1.7	3.6	0.1
Garissa	234,928	42.3	49.3	1.9	2.9	2.6	0.6	0.4
Wajir	207,935	40.6	52.4	2.0	2.3	2.1	0.4	0.1
Mandera	224,481	42.2	47.1	5.0	2.3	2.4	0.6	0.4
Marsabit	126,991	39.3	48.9	3.9	5.6	1.4	0.8	0.1
Isiolo	80,217	37.4	48.7	4.2	5.4	2.5	1.6	0.1
Meru	565,534	34.6	51.0	1.8	7.2	1.2	4.0	0.1
Tharaka-Nithi	147,929	35.3	50.9	1.4	7.2	1.3	3.7	0.1
Embu	229,866	35.6	49.9	1.2	7.5	1.1	4.7	0.1
Kitui	417,318	39.7	50.0	2.5	5.8	0.7	1.2	0.1
Machakos	529,131	37.2	52.4	1.0	6.5	0.9	1.9	0.1
Makueni	366,462	38.6	50.9	1.4	7.0	0.9	1.2	0.1
Nyandarua	235,529	38.4	47.9	0.8	7.1	1.3	4.3	0.1
Nyeri	294,718	37.7	48.4	0.4	8.6	1.2	3.6	0.1
Kirinyaga	237,950	32.2	51.4	0.6	8.2	1.2	6.3	0.1
Murang'a	397,454	34.1	51.2	0.5	9.4	1.0	3.8	0.0
Kiambu	920,343	41.2	47.2	0.4	5.0	1.2	5.0	0.1
Turkana	280,853	41.3	43.8	5.8	5.6	1.0	1.7	0.7
West Pokot	181,837	36.9	46.0	12.8	3.0	0.4	0.8	0.1
Samburu	91,025	35.3	44.3	14.0	4.9	0.5	0.8	0.2
Trans Nzoia	335,093	40.6	47.7	2.4	5.5	1.0	2.6	0.2
Uasin Gishu	411,973	45.0	47.0	1.7	3.6	0.5	2.0	0.2
Elgeyo-Marakwet	151,688	43.1	48.4	3.0	3.7	0.2	1.6	0.1
Nandi	309,271	44.5	47.4	1.5	4.7	0.4	1.3	0.2
Baringo	213,695	41.7	46.1	6.4	4.0	0.4	1.3	0.2
Laikipia	181,108	37.9	48.3	2.6	6.2	1.4	3.3	0.1
Nakuru	758,731	40.8	48.0	1.2	4.9	1.3	3.7	0.2
Narok	347,413	35.9	47.6	11.2	3.4	0.6	1.2	0.2
Kajiado	381,229	39.1	48.6	4.8	3.5	1.1	2.7	0.2
Kericho	312,457	42.5	49.3	2.2	4.2	0.4	1.4	0.1
Bomet	300,172	42.7	49.1	2.9	3.7	0.3	1.1	0.1
Kakamega	662,539	38.7	47.2	3.9	7.8	0.6	1.8	0.1
Vihiga	216,008	38.5	46.8	0.9	11.3	0.6	1.9	0.1
Bungoma	566,171	39.4	47.5	4.3	6.1	0.8	1.8	0.1
Busia	316,339	39.5	44.5	5.2	8.1	0.8	1.9	0.1
Siaya	360,703	35.9	44.0	4.7	13.9	0.4	1.1	0.1
Kisumu	414,661	39.3	44.1	4.6	10.1	0.5	1.4	0.1
Homabay	392,858	35.8	44.4	7.5	11.5	0.3	0.5	0.1
Migori	373,071	36.1	45.4	8.5	8.8	0.4	0.7	0.1
Kisii	462,489	36.1	51.8	3.2	7.3	0.3	1.2	0.1
Nyamira	223,980	36.0	53.6	2.0	7.2	0.4	0.9	0.1
Nairobi City	1,630,862	43.5	47.2	0.8	2.7	1.6	4.1	0.2

2.2.4. Men 12 Years and above By Marital Status

Table 2.4 presents the distribution for males age 12 and above by marital status for the country. Although males enter into marriage later than females, after age 40, smaller proportions of men remain single or (never married) compared to women. Other patterns remain similar to those of females.

Table 2.4: Percent distribution of Men age 12 and above by Marital Status, Kenya 2019

Age	Number	Never	Married	Married	Widowed	Divorced	Separated	DK
		Married	Monogamous	Polygamous				
Total	15,936,903	48.2	45.6	2.8	0.9	0.6	1.7	0.1
12 -14	1,924,314	95.9	3.7	0.2	0.0	0.0	0.0	0.1
15 - 19	2,665,819	95.6	4.0	0.2	0.0	0.0	0.1	0.1
20 - 24	2,082,558	80.7	18.1	0.4	0.1	0.1	0.4	0.2
25 - 29	1,805,551	44.7	52.2	1.0	0.1	0.4	1.4	0.2
30 - 34	1,666,825	21.7	72.1	2.2	0.2	0.9	2.8	0.1
35 - 39	1,323,013	13.6	77.6	3.3	0.4	1.2	3.8	0.1
40 - 44	1,137,683	9.0	79.9	4.8	0.8	1.4	4.0	0.1
45 - 49	902,272	6.5	81.1	5.7	1.3	1.4	3.9	0.1
50+	2,428,868	3.7	78.2	9.5	4.7	1.2	2.6	0.1

2.2.5. Marital Status of Men age 12 and above by Place of Residence, 2019

Table 2.5 presents men age 12 and above by marital status and place of residence. Marriage patterns for men are similar to those of women. Never married men are higher in rural areas than urban. Further, men in rural areas are more likely to be polygamous compared to those in urban areas.

Table 2.5: Marital Status of Men age 12 and above by Rural-Urban, Kenya 2019

Residence	Age	Number	Never	Married	Married	Widowed	Divorced	Separated	DK
			Married	Monogamous	Polygamous				
Rural	Total	10,736,319	50.2	42.9	3.3	1.1	0.6	1.8	0.2
	12 -14	1,495,113	95.5	4.1	0.2	0.0	0.0	0.0	0.1
	15 - 19	2,042,340	95.1	4.5	0.2	0.0	0.0	0.1	0.1
	20 - 24	1,304,041	80.1	18.6	0.5	0.1	0.2	0.5	0.2
	25 - 29	991,311	44.7	51.6	1.3	0.1	0.5	1.6	0.2
	30 - 34	949,282	23.2	69.6	2.8	0.3	0.9	3.1	0.2
	35 - 39	790,515	15.5	74.7	3.9	0.4	1.2	4.2	0.1
	40 - 44	717,875	10.3	77.5	5.4	0.9	1.4	4.4	0.2
	45 - 49	593,313	7.3	79.3	6.3	1.3	1.4	4.2	0.1
	50+	1,852,529	3.8	77.1	10.3	4.9	1.1	2.6	0.1
Urban	Total	5,200,584	44.0	51.0	1.9	0.6	0.7	1.6	0.1
	12 -14	429,201	97.4	2.3	0.1	0.0	0.0	0.0	0.2
	15 - 19	623,479	97.2	2.5	0.1	0.0	0.0	0.1	0.1
	20 - 24	778,517	81.8	17.3	0.2	0.0	0.1	0.4	0.1
	25 - 29	814,240	44.7	52.9	0.6	0.1	0.4	1.2	0.1
	30 - 34	717,543	19.7	75.4	1.5	0.2	0.8	2.4	0.1
	35 - 39	532,498	11.0	81.9	2.4	0.4	1.1	3.2	0.1
	40 - 44	419,808	6.9	83.9	3.7	0.7	1.3	3.3	0.1
	45 - 49	308,959	5.0	84.5	4.5	1.2	1.4	3.2	0.1
	50+	576,339	3.5	81.9	6.8	3.8	1.4	2.5	0.1

2.2.6. Men age 12 and above by Marital Status and County

Table 2.6 presents the percentage distribution of men age 12 and above by county and marital status. Counties with the highest percentage of polygamous marriages are mostly those in the ASAL areas; Mandera, West Pokot, and Samburu. Generally, the proportion of widowed men is smaller compared to that of women.

Table 2.6: Distribution of Men age 12 and above by County and Marital Status, Kenya 2019

County	Total	Marital Status						
		Never Married	Married Monogamous	Married Polygamous	Widowed	Divorced	Separated	DK
Kenya	15,936,903	48.2	45.6	2.8	0.9	0.6	1.7	0.1
Mombasa	436,447	42.2	52.1	2.2	0.7	1.3	1.4	0.1
Kwale	263,799	50.3	42.1	3.9	0.9	1.2	1.5	0.1
Kilifi	450,522	51.5	42.2	3.0	0.8	1.0	1.3	0.1
Tana River	93,500	46.5	44.7	6.4	0.6	0.9	0.8	0.1
Lamu	52,006	45.3	46.7	2.6	1.0	2.7	1.6	0.1
Taita-Taveta	123,884	48.7	43.9	1.5	1.7	1.4	2.8	0.1
Garissa	294,536	57.6	36.2	3.8	0.6	0.7	0.7	0.5
Wajir	249,580	53.0	40.0	5.3	0.5	0.6	0.5	0.2
Mandera	246,849	54.7	32.6	10.6	0.5	0.6	0.6	0.4
Marsabit	145,700	56.7	38.2	3.5	0.5	0.5	0.4	0.1
Isiolo	89,450	51.1	41.2	4.4	0.9	1.3	1.0	0.2
Meru	550,000	44.2	48.4	1.9	1.3	0.9	3.2	0.1
Tharaka-Nithi	141,538	44.5	47.7	1.5	1.6	1.0	3.7	0.1
Embu	226,981	45.5	47.0	1.2	1.4	0.8	4.2	0.1
Kitui	375,024	53.3	41.5	1.8	1.1	0.7	1.5	0.1
Machakos	522,801	46.9	48.4	1.0	1.2	0.7	1.7	0.1
Makueni	350,724	51.9	43.2	1.2	1.2	0.8	1.5	0.1
Nyandarua	224,665	48.0	45.8	1.1	1.1	0.8	3.1	0.0
Nyeri	280,720	44.8	48.5	0.8	1.6	0.8	3.3	0.1
Kirinyaga	229,764	40.6	50.7	0.9	1.5	0.8	5.4	0.1
Murang'a	385,384	45.1	47.5	0.8	1.8	0.9	3.9	0.1
Kiambu	873,170	43.5	51.1	0.9	0.9	0.6	2.8	0.1
Turkana	304,226	59.1	33.0	4.9	0.6	0.6	0.8	1.0
West Pokot	174,459	50.2	39.6	8.7	0.5	0.3	0.5	0.2
Samburu	92,579	56.4	34.3	7.9	0.4	0.2	0.3	0.4
Trans Nzoia	319,814	50.7	43.2	2.6	0.9	0.6	1.8	0.2
Uasin Gishu	403,583	50.3	45.7	1.6	0.6	0.3	1.3	0.2
Elgeyo-Marakwet	150,374	50.5	44.8	2.4	0.8	0.2	1.2	0.1
Nandi	303,727	51.3	44.7	1.4	0.8	0.3	1.2	0.2
Baringo	213,872	52.9	40.4	4.5	0.8	0.2	1.0	0.2
Laikipia	177,534	47.2	46.3	2.3	1.1	0.8	2.2	0.1
Nakuru	738,126	47.7	47.2	1.6	0.8	0.6	2.0	0.1
Narok	340,514	49.1	42.7	6.7	0.3	0.3	0.6	0.3
Kajiado	372,152	44.9	49.3	3.5	0.4	0.5	1.1	0.3
Kericho	307,930	49.5	46.8	1.8	0.7	0.2	0.9	0.1
Bomet	288,112	51.1	45.5	1.9	0.5	0.2	0.7	0.1
Kakamega	589,943	49.7	42.6	3.5	1.2	0.6	2.1	0.1
Vihiga	194,371	50.3	41.6	1.2	2.4	0.8	3.6	0.1
Bungoma	519,994	50.2	43.2	3.7	0.7	0.6	1.5	0.1
Busia	275,924	51.0	40.6	4.8	1.1	0.6	1.9	0.1
Siaya	310,218	50.2	41.0	4.8	1.6	0.5	1.8	0.1
Kisumu	377,637	49.2	44.1	3.9	1.1	0.3	1.3	0.1
Homabay	339,422	50.4	41.3	6.2	1.0	0.3	0.8	0.1
Migori	331,390	49.4	41.9	7.0	0.7	0.2	0.7	0.1
Kisii	406,087	46.0	48.9	2.6	1.2	0.2	1.0	0.1
Nyamira	199,503	45.2	50.5	1.9	1.3	0.3	0.8	0.0
Nairobi City	1,598,368	41.9	53.9	1.5	0.5	0.6	1.5	0.1

2.2.7. Married Males and Females Age 12-18 by County

Marriage before age 18 is a fundamental violation of human rights. Many factors interact to place a child at risk of marriage, including poverty, the perception that marriage will provide 'protection',

family honor, social norms, customary or religious laws that condone the practice, an inadequate legislative framework, and the state of a country's civil registration system. While the practice is more common among girls than boys, it is a violation of rights.

SDG goal no. 5, indicator 5.3.1 seeks to avail information on the proportion of women age 20-24 years who were married or in a union before age 15 and 18. Table 2.7 presents information on the proportions of married males and females age 12-15 and 12-18 by rural-urban and county. Generally, females are more likely than males to get married before the ages 15 and 18. Marriage among males and females before age 15 and 18 is higher in rural than urban.

Counties with the highest proportion of married males before age 15 are the same as those with the highest proportion of married males before age 18. The counties are West Pokot, Mandera, Wajir, Garissa, and Marsabit. Similarly, counties that registered the highest proportion of married females under age 15 and 18 are West Pokot, Samburu, and Mandera.

Table 2. 7: Proportions of Married Males and Females, Age 12-15 and 12-18 by Rural-Urban and County, 2019

Marital Status	Males		Females	
	12-15	12-18	12-15	12-18
Kenya	3.9	3.9	4.1	6.1
Rural	4.3	4.4	4.6	6.8
Urban	2.4	2.4	2.4	4.1
County				
Mombasa	2.0	2.0	2.2	4.3
Kwale	2.6	2.7	2.8	6.6
Kilifi	2.4	2.5	2.4	4.9
Tana River	4.7	4.8	5.9	12.4
Lamu	2.8	2.9	3.1	6.7
Taita-Taveta	2.4	2.3	2.5	4.6
Garissa	6.2	6.8	6.7	10.4
Wajir	6.0	7.0	6.7	11.4
Mandera	5.8	7.0	7.2	13.6
Marsabit	5.8	6.0	6.6	11.0
Isiolo	4.8	5.0	5.3	10.4
Meru	5.7	5.7	5.9	8.8
Tharaka-Nithi	4.2	4.0	4.3	5.5
Embu	3.8	3.8	3.7	5.4
Kitui	3.7	3.7	3.9	4.8
Machakos	3.6	3.6	3.7	4.6
Makueni	3.0	3.1	3.0	3.6
Nyandarua	2.7	2.7	2.8	3.7
Nyeri	2.8	2.7	2.8	3.4
Kirinyaga	4.0	4.0	4.2	5.6
Murang'a	3.0	2.9	3.2	4.5
Kiambu	2.2	2.2	2.3	3.3
Turkana	4.3	4.6	4.8	8.0
West Pokot	7.4	7.4	7.8	11.5
Samburu	5.0	5.0	7.5	13.4
Trans Nzoia	3.3	3.2	3.6	5.2
Uasin Gishu	3.2	3.2	3.2	4.0
Elgeyo-Marakwet	5.5	5.5	6.2	7.0
Nandi	3.7	3.7	3.9	4.8
Baringo	5.4	5.4	6.0	7.8
Laikipia	3.2	3.2	3.9	6.1
Nakuru	2.8	2.8	3.1	4.4
Narok	5.4	5.3	5.9	9.9
Kajiado	4.2	4.1	4.7	7.3
Kericho	4.6	4.6	4.9	6.5
Bomet	5.5	5.4	5.3	7.2
Kakamega	3.8	3.8	3.9	5.4
Vihiga	3.1	3.1	3.3	4.3
Bungoma	5.3	5.3	5.5	7.2
Busia	3.4	3.4	3.5	5.3
Siaya	2.6	2.6	2.7	4.2
Kisumu	2.8	2.7	2.9	4.3
Homabay	4.0	4.0	4.2	6.2
Migori	4.2	4.2	4.4	7.7
Kisii	4.6	4.7	4.7	6.8
Nyamira	4.6	4.7	4.8	6.4
Nairobi City	1.6	1.6	1.7	3.2

2.2.8. Trends in Proportions Married

Table 2.8 below presents trends of currently married males and females by age group from 1989 - 2019. Overall, the proportion of the married has been declining since 1989. In the 2019 Census, all female age groups experienced a decline in proportions married. Similarly, males reported a fall in proportions married except among the adolescent group, 15-19, whose proportion increased from 2.1 per cent in 1989 to 4.2 per cent in 2019.

Table 2.8: Currently Married Males and Females by Age Group, 1989-2019

Age Group	Male				Female			
	1989	1999	2009	2019	1989	1999	2009	2019
15-19	2.1	2.9	3.2	4.2	18.8	18.8	15.4	10.8
20-24	20.0	22.2	19.7	18.5	61.2	58.9	55.7	48.2
25-29	60.3	57.0	56.5	53.2	76.7	73.7	74.2	71.0
30-34	83.7	80.8	78.7	74.3	84.5	80.5	79.6	77.3
35-39	88.8	88.0	86.4	80.9	85.7	82.1	80.2	76.9
40-44	89.9	90.5	88.9	84.7	84.0	81.8	78.6	76.2
45-49	90.2	90.9	90.2	86.8	82.9	80.8	77.7	74.6

Figure 2.1 presents the proportion of currently males and females married by age in 2019. As observed above, the proportion of currently married females is higher at a young age (less than 29 years) than that of married males. Between ages 30-34, the two curves cross each other so that a higher proportion of males remain married compared to females. This could be explained by the fact that unmarried males, widowed and divorced/separated are more likely to marry/remarry at an older age compared to females.

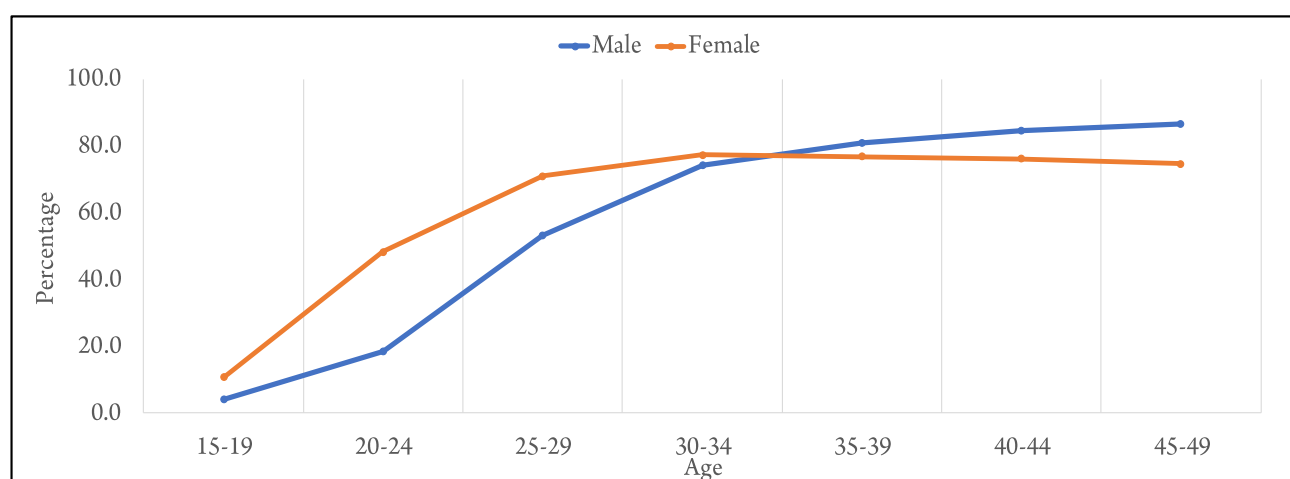


Figure 2. 1: Proportion of Currently Males and Females Married by age, 2019

2.3. Levels and Trends in Timing of First Marriages

Two indicators are used in the analysis of the timing of first marriage namely, percent married at ages 15-19 and singulate mean age at marriage (SMAM). The proportion married at age 15-19 captures the extent of very young marriages, while SMAM represents a summary indicator of the entire age distribution of first marriages.

2.3.1. Timing of Marriage for Age Group 15-19 by Sex

Table 2.9 shows the trends in proportion married in the age group 15-19 and the SMAM for the country between 1999 and 2019. The proportion of ever-married males in the age group 15-19 increased from 2.9 per cent in 1999 to 4.3 per cent in 2019. The proportion of ever-married females in the age group 15-19 has generally been higher. However, it declined from 18.8 per cent in 1999 to 11.2 per cent in 2019, an indication that females are increasingly postponing entry into marriage, given the proportion married in the age group and SMAM. Overall, the gap in SMAM males and females has constantly been higher since 1999.

Table 2.9: Trends in Timing of Marriages for Age Group 15-19 and SMAM by Sex, 1999-2019

	1999		2009		2019	
	Male	Female	Male	Female	Male	Female
Percent ever married (age 15-19)	2.9	18.8	3.2	15.4	4.3	11.2
SMAM (Years)	26.5	22.3	26.7	22.5	27.3	23.1

2.3.2. Timing of Marriage for Age Group 15-19 by Sex and Education

Table 2.10 presents data on the timing of marriage for married males and females age 15-19 by sex and education. It is evident that education plays a significant role in the timing of marriages. Males and females with secondary and above education are more likely to marry later, compared to those with no education. SMAM among males is generally higher compared to females, an indication that men are more likely than women to postpone their entry into marriage.

Table 2.10: Timing of Marriages for Age Group 15-19 and SMAM by Sex and Education, 2019

Age Group	Total		Never Attended		Primary		Secondary and Above	
	Male	Female	Male	Female	Male	Female	Male	Female
Percent ever married (age 15-19)	4.3	11.2	8.9	27.7	3.9	11.9	3.5	7.2
SMAM	27.3	23.1	27.2	22.2	26.5	21.3	27.8	24.3

2.3.3. Timing of Marriage for Age Group 15-19 by Sex and County

Table 2.11 presents the timing of marriage for age group 15-19 and SMAM by sex, rural-urban and county. The proportion of ever married males and females in the age group 15-19 is higher in rural areas than urban. Further, Singulate Mean Age at Marriage among females is higher in urban than rural; however, it remains the same among males in the rural and urban areas.

Counties with the highest proportions of ever married males between ages 15-19 are Mandera, Wajir, Garissa, and West Pokot, while those with the highest proportions of ever-married females are Tana River, Samburu, and Mandera. Nairobi City, Mombasa, Kiambu, and Taita Taveta have the lowest proportions of ever-married men. On the other hand, 23 counties had less than 10 per cent of the proportion of women ever married in the age group 15-19 years.

Generally, the proportions of ever married males within the age 15-19 remain low compared to those of females. Conversely, in all counties, males are more likely than females to postpone their entry into marriage.

Table 2. 11: Timing of Marriages for Age Group 15-19 by Sex, Rural-Urban and County, 2019

Residence/ County	Percent ever married (age 15-19)		SMAM (Years)	
	Male	Female	Male	Female
Kenya	4.3	11.2	27.3	23.1
Rural	4.8	12.0	27.3	22.4
Urban	2.6	8.9	27.3	23.6
Mombasa	2.4	10.3	27.4	23.5
Kwale	3.4	15.9	26.9	22.2
Kilifi	3.0	11.3	26.9	23.0
Tana River	5.4	25.6	25.3	20.4
Lamu	3.3	14.2	26.7	22.1
Taita-Taveta	2.6	9.9	28.5	23.0
Garissa	8.7	17.6	26.8	22.6
Wajir	8.8	19.6	25.6	21.9
Mandera	9.6	23.9	25.0	21.4
Marsabit	6.6	18.5	28.0	22.3
Isiolo	5.7	18.3	27.0	22.1
Meru	6.1	15.1	27.5	22.8
Tharaka-Nithi	4.2	9.1	27.9	23.5
Embu	3.9	9.6	28.7	23.4
Kitui	3.9	7.8	28.4	23.1
Machakos	3.6	7.6	28.6	24.0
Makueni	3.1	5.8	29.4	23.7
Nyandarua	2.7	6.7	28.6	22.8
Nyeri	2.7	5.7	29.4	23.6
Kirinyaga	4.2	9.5	28.2	22.9
Murang'a	3.1	8.1	29.0	23.3
Kiambu	2.4	6.8	27.8	23.7
Turkana	5.8	14.3	27.5	22.9
West Pokot	7.8	19.1	25.4	21.5
Samburu	5.1	24.8	27.6	21.2
Trans Nzoia	3.4	9.7	27.0	23.1
Uasin Gishu	3.2	6.7	28.0	24.0
Elgeyo-Marakwet	5.9	9.6	26.8	23.5
Nandi	3.9	7.6	28.1	23.7
Baringo	5.7	12.2	27.1	23.1
Laikipia	3.2	11.3	27.8	22.4
Nakuru	2.8	8.8	27.3	22.9
Narok	5.5	19.9	25.7	21.1
Kajiado	4.1	13.3	27.1	23.1
Kericho	4.7	11.2	27.8	22.9
Bomet	5.5	12.8	27.5	22.8
Kakamega	4.0	9.5	26.7	23.2
Vihiga	3.3	7.3	28.0	24.2
Bungoma	5.5	11.6	26.3	22.8
Busia	3.8	9.8	26.3	23.2
Siaya	2.8	8.4	27.0	23.2
Kisumu	2.9	8.6	27.2	23.7
Homabay	4.3	12.1	26.2	22.2
Migori	4.8	16.1	25.5	21.6
Kisii	5.3	12.0	26.2	22.8
Nyamira	5.0	10.7	26.8	22.8
Nairobi City	1.8	7.8	27.5	23.7

2.4. Conclusion

This chapter has presented the levels and trends in nuptiality in Kenya. The results show that the proportion of ever-married teenage males age 15-19 has increased since 1999. Though the proportion of ever-married teenage females age 15-19 has generally been higher than that of males, it has declined since 1999, from 18.8 per cent to 11.2 per cent in 2019. The Singulate Mean Age at Marriage (SMAM) for both males and females has also increased during the period. However, the gap in SMAM between males and females has remained constantly at about 4 years since 1999.

In addition, the results show that although males enter into marriage later than females, after age 40, smaller proportions of men remain single compared to women. The data shows that the patterns are nearly the same across the years for males and females.

Marriage before age 18 is still common. However, females are more likely than males to get married before age 18. Marriage among males and females before age 18 is higher in rural than urban areas and also varies across counties.

Chapter 3: Lifetime Fertility

3.1. Introduction

This section analyzes levels, trends, and differentials in lifetime fertility, crude birth rates, and adolescent fertility. Emphasis is on how these fertility measurements vary by age group, level of education attained, and marital status. Rural-urban differentials, as well as county-level indices, are also provided for some measurements. Analysis of fertility is based on reported fertility by different demographic techniques.

3.2. Levels, Trends and Differentials in Lifetime Fertility

Lifetime fertility refers to the total number of children ever born alive during the entire reproductive period of the woman. The average number of children born is one of the key indicators of fertility level. However, because of under-reporting of births, especially among the age group 45-49, the average number of children for women in the age group 40-44 is used to summarize the lifetime fertility experience of a woman at the end of her reproductive period.

Table 3.1 presents percentage distribution of women by age group and the reported parity for 1999, 2009, and 2019 censuses. The age group 12-14 is excluded from the analysis because of under-reporting of births among adolescents in this age group.

The percentage of women age 15-19 with no child has increased from 77 per cent in 2009 to 90 per cent in 2019. At the same time, women age 20-24 with no child have gone up from 35 per cent in 2009 to 46 per cent in 2019. This is an indication of increased age at entry into childbearing.

Peak childbearing occurs among women age 25-29. After age 29, the percentage of childless women declines to less than 8 per cent. Between age 35 and 49, the percentage of childless women is almost constant, which could be taken as a proxy measure of infertility. Overall, the average parity is at a peak among women with parity 3 and 4, after which it starts to decline.

Table 3. 1: Percent Distribution of Women by Age Group and Parity, 1999-2019

Age	Year	Total	0	1	2	3	4	5	6	7	8	9	10+	NS
15-19	1999	100	79.4	13.9	5.7	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	-
	2009	100	77.5	10.1	3.2	0.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	8.0
	2019	100	89.9	8.1	1.5	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-
20-24	1999	100	33.3	28.2	20.2	11.1	4.9	1.7	0.5	0.1	0.0	0.0	0.0	-
	2009	100	35.2	25.1	19.1	9.5	4.2	1.5	1.4	0.0	0.0	0.0	0.0	3.9
	2019	100	45.7	30.7	15.2	5.5	2.0	0.7	0.2	0.0	0.0	0.0	0.0	-
25-29	1999	100	15.0	16.0	21.0	18.0	14.0	8.4	4.4	2.0	0.9	0.3	0.2	-
	2009	100	14.0	19.0	22.0	18.0	12.0	6.6	3.3	1.4	1.3	0.0	0.0	2.6
	2019	100	16.9	26.1	26.4	15.9	8.3	3.9	1.8	0.6	0.1	0.0	0.0	-
30-34	1999	100	5.7	7.4	13.1	16.1	16.1	14.1	11.1	7.5	4.5	2.3	2.0	-
	2009	100	6.0	9.7	17.7	17.7	15.8	11.8	8.7	5.1	3.2	1.4	0.7	2.3
	2019	100	7.1	13.1	24.1	21.2	14.5	9.2	5.5	2.9	1.6	0.5	0.2	-
35-39	1999	100	4.0	4.1	7.3	11.0	13.0	14.0	13.0	11.0	8.8	5.9	7.6	-
	2009	100	3.6	5.8	12.0	15.0	15.0	13.0	12.0	8.8	6.9	3.7	2.1	1.9
	2019	100	5.0	8.5	19.5	22.6	16.6	11.0	7.3	4.4	2.7	1.4	1.0	-
40-44	1999	100	2.5	2.3	34.4	4.9	6.5	7.6	8.2	8.2	7.6	6.1	11.7	-
	2009	100	3.0	4.3	8.8	13.0	14.0	13.0	12.0	10.0	9.5	6.1	4.3	1.9
	2019	100	4.1	6.5	14.3	19.0	16.5	12.5	9.5	6.7	4.8	2.9	3.2	-
45-49	1999	100	3.5	2.9	4.1	5.6	7.4	9.1	10.9	11.9	11.9	9.9	22.8	-
	2009	100	2.7	3.6	6.6	10.0	13.0	13.0	13.0	12.0	11.0	7.7	5.9	1.7
	2019	100	3.6	5.8	12.0	16.4	15.7	12.8	10.4	8.0	6.0	3.9	5.2	-

3.3. Reported Mean Parity among Women age 40-44

Table 3.2 presents the reported mean parity among women age 40-44 by place of residence and county. Mean parity has gone down from 5.4 in 2009 to 4.2 births in 2019, an indication of declining fertility. As expected, mean parity in urban Kenya is lower at 3.2, compared to rural Kenya, at 4.7. Counties with the highest mean parity are Mandera with 6.7, West Pokot with 6.3, and Marsabit, Narok, and Wajir with 5.8. Those with the lowest mean parity are Kirinyaga with 2.7, Nairobi City with 2.8, Nyeri and Kiambu with 3.0. The reported mean parity among women 12 years and above by age, residence, and the county is presented in Appendix III.

Table 3.2: Reported Mean Parity among Women age 40-44 by County and Residence, 2019

Region	2019	Region	2019
Kenya	4.2	Turkana	5.4
Rural	4.7	West Pokot	6.3
Urban	3.2	Samburu	5.7
Mombasa	3.3	Trans Nzoia	5.0
Kwale	5.3	Uasin Gishu	4.1
Kilifi	5.2	Elgeyo-Marakwet	5.1
Tana River	5.5	Nandi	4.6
Lamu	4.7	Baringo	5.2
Taita-Taveta	3.7	Laikipia	4.0
Garissa	5.1	Nakuru	4.1
Wajir	5.8	Narok	5.8
Mandera	6.7	Kajiado	3.8
Marsabit	5.8	Kericho	4.6
Isiolo	5.0	Bomet	5.0
Meru	3.6	Kakamega	4.9
Tharaka-Nithi	3.4	Vihiga	4.4
Embu	3.2	Bungoma	5.2
Kitui	4.7	Busia	5.2
Machakos	3.5	Siaya	5.1
Makueni	4.1	Kisumu	4.5
Nyandarua	4.0	Homabay	5.3
Nyeri	3.0	Migori	5.5
Kirinyaga	2.7	Kisii	4.4
Murang'a	3.4	Nyamira	4.2
Kiambu	3.0	Nairobi City	2.8

3.4. Lifetime Fertility by Place of Residence

Table 3.3 shows reported average parities for 1999, 2009, and 2019 censuses by rural and urban. For all ages, the average number of children ever born for both rural and urban has declined since 2009. The decline could be closely associated with several factors like; increased female education, increased urbanization, increased contraceptive use, and the rise in age at first marriage. The analysis of rural-urban differences in reported average parities for the three censuses (1999, 2009, and 2019) indicate that parities were lower in urban than rural areas for all women age 20 and above. The decline in reported parity increases with the age of a woman and is higher in urban than rural areas. Declining average parities is an indication that fertility in Kenya has been declining over the years.

Table 3. 3: Trends in Reported Average Parities by Age and Rural-Urban, 1999-2019

Age group	Kenya			Rural			Urban		
	1999	2009	2019	1999	2009	2019	1999	2009	2019
15-19	0.3	0.2	0.1	0.3	0.2	0.1	0.3	0.2	0.1
20-24	1.5	1.3	0.9	1.5	1.5	1.1	1.0	0.9	0.7
25-29	2.9	2.4	2.0	2.9	2.9	2.4	1.9	1.8	1.5
30-34	4.5	3.6	3.0	4.5	4.2	3.5	3.1	2.8	2.3
35-39	7.7	4.6	3.6	7.7	5.2	4.1	4.7	3.6	2.8
40-44	6.7	5.4	4.2	6.7	5.9	4.7	4.7	4.5	3.2
45-49	7.2	6	4.6	7.2	6.4	5.1	5.2	4.8	3.4

3.5. Lifetime Fertility by Level of Education

Education is one of the most important socio-economic factors that influence fertility. Extended formal education is one of the main reasons for the postponement of marriage among women (Kpedkepo, 1982). In Kenya, higher educational attainment is associated with effective use of contraceptive methods (KDHS, 2014), better nutrition, and better access to health care services (Hawson et al, 1996).

Table 3.4 show trends in average parities by age and education attainment for 1999, 2009, and 2019 censuses. Overall, the average parities among women have been declining since 1999. In terms of educational attainment, there is a clear difference in average parities between women with no education and those with higher education. However, it is observed that average parities among women age 20-39 with no education have been increasing since 1999.

Table 3.4: Trends in Reported Average Parities by Age and Education Attainment, 1999-2019

Education Attainment	Reported Average Parities			Percent change
	1999	2009	2019	2009-2019
NONE				
15-19	0.4	0.4	0.4	-3.6
20-24	1.7	1.8	2.1	15.1
25-29	3.2	3.4	4.2	22.8
30-34	4.9	5	5.7	14.8
35-39	6.1	6	6.3	4.4
40-44	6.9	6.6	6.3	-4.6
45-49	7.2	7	5.8	-17.2
PRIMARY				
15-19	0.3	0.2	0.2	-21.5
20-24	1.6	1.6	1.4	-10.1
25-29	2.9	2.8	2.5	-9.4
30-34	4.5	4	3.5	-12.4
35-39	5.7	5	4.0	-19.8
40-44	6.6	5.8	4.7	-19.1
45-49	7.1	6.3	5.2	-18.0
SECONDARY AND ABOVE				
15-19	0.2	0.1	0.1	-20.4
20-24	0.8	0.6	0.6	-4.3
25-29	1.9	1.5	1.3	-10.6
30-34	3.2	2.5	2.1	-14.9
35-39	4.2	3.4	2.7	-21.9
40-44	4.9	4	3.1	-21.4
45-49	5.2	4.5	3.5	-22.4

3.6. Lifetime Fertility by Marital Status

Marriage is a primary indication of regular exposure of women to the risk of pregnancy. Marital status has therefore has an influence on the number of children ever born by a woman (KDHS, 2014). Table 3.5 presents average parities for women age 15-49 by marital status between 1999 and 2019. Generally, average parities among women have been declining since 1999 regardless of marital status and age.

Women who were never married experienced the lowest decline in average parity between 2009 and 2019 compared with those married, widowed or divorced/ separated. Generally, the highest decline in average parity between 2009 and 2019 was among married women. In general, a woman's marital status can greatly influence one's fertility decision.

Table 3. 5: Average Parities for Women age 15-49 by Age and Marital Status, 1999-2019

Marital Status	2009 – 2019 %		
	1999	2009	2019
Never Married			
15-19	0.2	0.1	0.1
20-24	0.6	0.4	0.3
25-29	1.2	0.8	0.8
30-34	2.3	1.4	1.4
35-39	2.7	2.0	1.7
40-44	3.1	2.3	2.0
45-49	3.1	2.7	2.3
Married			
15-19	0.8	0.9	0.7
20-24	1.8	1.9	1.5
25-29	3.0	2.8	2.3
30-34	4.4	4.0	3.3
35-39	5.7	5.0	3.9
40-44	6.7	5.8	4.6
45-49	7.2	6.3	5.0
Widowed			
15-19	0.8	0.9	0.6
20-24	2.1	2.5	2.0
25-29	3.4	3.3	3.0
30-34	4.6	4.2	3.8
35-39	5.6	4.8	4.0
40-44	6.4	5.5	4.5
45-49	6.9	6.0	4.8
Divorced/			
15-19	0.9	1.1	1.0
20-24	1.7	1.8	1.6
25-29	2.6	2.4	2.2
30-34	3.6	3.0	2.7
35-39	4.3	3.6	3.0
40-44	4.9	4.0	3.4
45-49	5.3	4.4	3.6

3.7. Reported Average Parity among Adolescents

Early childbearing has consequences on the health outcomes and educational attainment of a women. Early childbearing can reduce the capability of an individual to participate in labour force, thus limiting chances for empowerment and improved well-being, leading to greater vulnerability. Sustainable Development Goal (SDG) No. 3 seeks to ensure healthy lives and promote well-being for all people of all ages. Specifically, indicator 3:7.2 seeks to continuously monitor data on adolescent births. To achieve healthy lives, early pregnancy and childbirth complications, which are the leading cause of death among girls age 15–19 years, must be reduced to zero.

In this analysis, due to the magnitude of error in reporting of parity among adolescents age 12-14, females age 15-19 are used to provide information on fertility history. Table 3.6 presents the trend in reported average parity among adolescents, age 15-19 by rural-urban, marital status, and education. The average parity among adolescents was 0.13 in 2019 down from 0.2 in 2009, indicating a decline in adolescent fertility between the two censuses. The trend is reflected among rural-urban adolescents, although the percentage decline is higher in urban than rural. The same pattern is similar in marital status and educational attainment.

Table 3. 6: Reported Average Parity among Adolescents age 15-19 by Urban-Rural, Marital Status, and Education, 1999-2019

Region	Reported Average Parities			2009 – 2019 %
	1999	2009	2019	Change
Kenya	0.30	0.20	0.13	-37.0
Rural	0.30	0.20	0.14	-30.8
Urban	0.30	0.20	0.09	-53.7
Marital Status				
Never married	0.20	0.10	0.06	-41.3
Married	0.80	0.90	0.65	-27.6
Widowed	0.70	0.90	0.57	-37.1
Divorced/ Separated	0.90	1.10	0.99	-9.9
Education				
None	0.4	0.4	0.39	-3.6
Primary	0.3	0.2	0.16	-21.5
Secondary Plus	0.2	0.1	0.08	-20.4

3.8. Conclusion

This chapter has looked at levels, trends, and differentials in lifetime fertility, crude birth rates, and adolescent fertility. The results reveal that the proportion of female teenagers age 15-19 with no child, has been increasing. At the same time, women age 20-24 with no child have been increasing since 2009. Peak childbearing occurs at age 25-29. Average parity is at peak among women with parity 3 and 4, after which it starts to decline. The reported mean parity among women age 40-44 has declined since 2009. Mean parity in urban Kenya is lower compared to rural Kenya.

Results further show that the average parity among adolescents age 15-19 has been declining, an indication that teenage childbearing has been going down. The trend is reflected among rural-urban adolescents, although the percentage decline is higher in urban than rural.

Chapter 4: Current Fertility

4.1. Introduction

Current fertility refers to the occurrence of live birth in the last 12 months before the census night. It is impracticable that in one year a woman will have more than one birth – especially as twins are usually considered as one birth.

In this report, current fertility is measured using three indices of fertility: Age-Specific Fertility Rates, Total Fertility Rate, and Crude Birth Rate. Age-Specific Fertility Rates (ASFR) measures the average number of children a woman in that age group would have, under the prevailing fertility rates. Total Fertility Rate (TFR) is the number of live births a woman would have if she were subject to the current age-specific fertility rates throughout her reproductive period (age 15-49). Crude Birth Rate (CBR) is defined as the number of live births per thousand persons in a given region for a particular year. It is a crude measure of fertility since the denominator (mid-year population) used in the calculation of CBR includes all the population, even those who are not at risk of giving birth like men, children, and those beyond age 50. It is bound to be sensitive to unique environmental changes which may occur in a particular year such as famine, wars, diseases, and floods. Despite these limitations, the CBR is a good indicator of showing the changes in total population in terms of births that have occurred over a period of time.

4.2. Levels and Trends in Crude Birth Rates 1999 - 2019

Over the last decade, the crude birth rate has been declining in most African Countries. CBR in the continent dropped from about 36 births per 1,000 population in 2009 to 32 births in 2020 (UN - World Population Prospects, 2021). In 2020, countries with the highest crude birth rate in Africa were Niger, with 48 births per 1,000 inhabitants, and Angola with 43 births for every 1,000 population. Countries with the lowest CBR were Mauritius, Libya, Morocco and Tunisia, all with less than 20 births in every 1,000 population. Like many other African countries, the crude birth rate in Kenya fell gradually from about 50 births per thousand population in the 1970s to 27.9 births per thousand population in 2019.

Table 4.1 gives a summary of estimated crude birth rates (CBR) for Kenya by place of residence and counties for the period 1999 to 2019. In 2019, the estimated CBR for Kenya was 27.9 births per 1,000 population. CBR is higher in urban areas, at 30.5 births per 1,000 population than in rural Kenya, at 26.8 births per 1,000 population. This is majorly due to the effects of age structure (high proportion of people who are at risk of giving birth are in urban compared to those in rural areas). At the county level, the estimated CBR ranged between 19.8 births per 1,000 population in Makueni and 49.4 births per 1,000 population in Mandera. The high percentage of changes in CBR in Mandera, Turkana, Marsabit, and Wajir counties, may be due to low quality of the reported population data. The base for women of reproductive age in these counties may have been distorted by over-reporting the number of women.

Table 4. 1: Trend in Crude Birth Rates by Place of Residence and County, 1999 to 2019

County	Crude Birth Rate			Change in CBR 2009/2019	CBR Percentage Change 2009/2019
	1999	2009	2019		
Kenya	41.3	38.4	27.9	-10.5	-27.2
Rural	*	42.9	26.8	-16.1	-37.5
Urban	*	31.1	30.5	-0.6	-1.9
County					
Mombasa	35.1	37.1	29.3	-7.8	-21.0
Kwale	48.3	47.5	32.3	-15.2	-32.0
Kilifi	46.6	47.0	29.0	-18.0	-38.3
Tana River	48.4	42.2	35.0	-7.2	-17.0
Lamu	36.9	33.0	28.0	-5.0	-15.1
Taita-Taveta	36.1	33.0	25.2	-7.8	-23.7
Garissa	47.7	51.7	31.5	-20.2	-39.0
Wajir	47.7	52.2	44.2	-8.0	-15.4
Mandera	49.3	54.9	49.4	-5.5	-10.0
Marsabit	44.8	45.4	44.3	-1.1	-2.4
Isiolo	43.8	42.1	27.9	-14.2	-33.8
Meru	45.6	35.3	23.1	-12.2	-34.5
Tharaka-Nithi	44.8	33.1	21.6	-11.5	-34.8
Embu	32.8	32.8	22.3	-10.5	-32.0
Kitui	45.6	42.8	22.7	-20.1	-46.9
Machakos	38.5	36.2	22.1	-14.1	-39.0
Makueni	41.6	45.1	19.8	-25.3	-56.2
Nyandarua	39.4	35.8	23.7	-12.1	-33.9
Nyeri	29.4	36.8	20.8	-16.0	-43.4
Kirinyaga	30.3	26.8	21.0	-5.8	-21.6
Murang'a	30.4	23.5	21.9	-1.6	-6.6
Kiambu	32.7	38.7	27.0	-11.7	-30.2
Turkana	44.3	51.2	45.7	-5.5	-10.7
West Pokot	54.7	44.0	36.5	-7.5	-17.0
Samburu	52.1	47.8	33.1	-14.7	-30.8
Trans Nzoia	45.1	44.0	27.2	-16.8	-38.1
Uasin Gishu	42.2	42.4	26.5	-15.9	-37.6
Elgeyo-Marakwet	47.5	43.8	26.9	-16.9	-38.6
Nandi	44.3	43.0	24.7	-18.3	-42.5
Baringo	50.0	45.9	27.4	-18.5	-40.4
Laikipia	39.4	36.3	28.0	-8.3	-22.7
Nakuru	40.9	40.2	28.1	-12.1	-30.2
Narok	51.1	51.3	32.9	-18.4	-36.0
Kajiado	40.9	63.2	30.5	-32.7	-51.8
Kericho	43.2	54.3	25.1	-29.2	-53.8
Bomet	48.8	46.2	26.2	-20.0	-43.3
Kakamega	44.0	44.8	25.0	-19.8	-44.3
Vihiga	37.6	36.9	22.8	-14.1	-38.1
Bungoma	46.6	46.8	26.4	-20.4	-43.6
Busia	47.5	47.2	26.8	-20.4	-43.3
Siaya	42.7	46.3	26.6	-19.7	-42.5
Kisumu	43.5	45.1	27.5	-17.6	-39.1
Homabay	50.8	53.7	28.3	-25.4	-47.4
Migori	50.5	51.5	30.8	-20.7	-40.2
Kisii	42.8	56.5	23.5	-33.0	-58.4
Nyamira	43.3	44.4	21.7	-22.7	-51.2
Nairobi City	32.0	36.0	29.0	-7.0	-19.5

* Data unavailable

4.3. Age-Specific Fertility Rates (ASFR) by County and Place of Residence, 2019

ASFRs are obtained by dividing the number of births by women in a particular age group, x to $x+n$, in a specific calendar year, to the mid-year population of women in the same age group. It measures the average number of children a woman of that age group would have under the current fertility conditions of that year.

Table 4.2 presents the ASFRs by county and place of residence. Nationally, ASFR peak at 25-29 age group in 2019 which is a shift from the reported ASFRs in 2009 that peaked at 20-24 age group. This is an indication that fertility is declining. The rural-urban differences in age-specific fertility rates show that ASFRs for the urban areas in 2019 were lower than those in rural areas in all age groups. The rural-urban ASFRs in 2019 were all lower than those that were derived from the 2009 census and peak at the 25-29 age group as opposed to the 20-24 age group as it was in 2009. The problem of teenage childbearing is also rampant in both the rural and urban areas at 58 births per 1,000 teenagers and 38 births per 1,000 teenagers respectively.

Analysis by county shows that ASFR in most counties peaks at 25-29 age group except for Narok, Migori, Nyamira, Kisii, Bomet, Makueni, Kitui, Samburu, Kericho, Siaya, Homabay, Laikipia, Kirinyaga, Trans Nzoia, and Meru, where childbearing peaks at 20-24 age group. The data also indicate that the problem of teenage childbearing at the age group 15-19 was still rampant in all counties in Kenya. Teenage childbearing has a negative impact on the health outcomes and educational attainment of women. It can reduce the capability of a woman to participate in the labour force, thus leading to vulnerability and especially in the later years of life.

The counties with childbearing rates between 60 and 100 births per 1,000 teenagers are; Garissa at 86, Narok at 82 births, Migori at 79 births, West Pokot at 75 births, Tana River at 75 births, Samburu at 74 births, Homa Bay at 68 births and Kwale at 66 births. Counties with over 100 births per 1,000 women include Mandera, Wajir, Marsabit, and Turkana. The counties with teenage childbearing rates less than 30 births per 1,000 teenagers are; Nyeri at 23 births, Kiambu at 27 births, and Makueni at 28 births.

Table 4. 2: Age Specific Fertility Rates by County and Place of Residence, 2019

Residence/ County	Age group							TFR
	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	
Kenya	0.053	0.169	0.175	0.141	0.098	0.041	0.008	3.4
Rural	0.058	0.194	0.195	0.149	0.104	0.045	0.009	3.8
Urban	0.038	0.134	0.151	0.129	0.089	0.035	0.005	2.9
County								
Mombasa	0.035	0.129	0.149	0.128	0.089	0.035	0.006	2.9
Kwale	0.066	0.206	0.213	0.182	0.126	0.060	0.014	4.3
Kilifi	0.048	0.172	0.189	0.160	0.112	0.052	0.012	3.7
Tana River	0.075	0.223	0.248	0.213	0.167	0.088	0.030	5.2
Lamu	0.051	0.185	0.205	0.172	0.112	0.066	0.019	4.0
Taita-Taveta	0.046	0.169	0.172	0.141	0.103	0.043	0.005	3.4
Garissa	0.086	0.207	0.216	0.178	0.125	0.054	0.006	4.4
Wajir	0.117	0.267	0.304	0.283	0.231	0.123	0.020	6.7
Man dera	0.162	0.310	0.340	0.323	0.277	0.163	0.031	8.0
Marsabit	0.113	0.282	0.325	0.299	0.236	0.119	0.018	7.0
Isiolo	0.048	0.168	0.187	0.178	0.129	0.080	0.037	4.1
Meru	0.057	0.149	0.148	0.115	0.080	0.031	0.007	2.9
Tharaka-Nithi	0.037	0.149	0.159	0.116	0.081	0.030	0.006	2.9
Embu	0.036	0.150	0.151	0.121	0.081	0.034	0.005	2.9
Kitui	0.040	0.183	0.174	0.123	0.079	0.031	0.007	3.2
Machakos	0.033	0.144	0.147	0.111	0.073	0.023	0.004	2.7
Makueni	0.028	0.167	0.158	0.108	0.066	0.023	0.002	2.8
Nyandarua	0.030	0.176	0.184	0.142	0.098	0.042	0.008	3.4
Nyeri	0.023	0.144	0.161	0.129	0.081	0.032	0.004	2.9
Kirinyaga	0.037	0.146	0.143	0.110	0.073	0.027	0.004	2.7
Murang'a	0.036	0.167	0.176	0.138	0.090	0.036	0.005	3.2
Kiambu	0.027	0.123	0.146	0.127	0.086	0.032	0.005	2.7
Turkana	0.102	0.264	0.304	0.274	0.212	0.103	0.014	6.4
West Pokot	0.075	0.234	0.267	0.243	0.188	0.089	0.029	5.6
Samburu	0.074	0.230	0.220	0.193	0.144	0.077	0.034	4.9
Trans Nzoia	0.057	0.182	0.180	0.149	0.112	0.046	0.010	3.7
Uasin Gishu	0.036	0.141	0.156	0.131	0.093	0.040	0.007	3.0
Elgeyo-Marakwet	0.043	0.180	0.202	0.157	0.103	0.046	0.008	3.7
Nan di	0.047	0.161	0.162	0.122	0.091	0.042	0.009	3.2
Baringo	0.047	0.178	0.194	0.173	0.130	0.052	0.017	4.0
Laikipia	0.047	0.193	0.189	0.155	0.104	0.047	0.011	3.7
Nakuru	0.041	0.166	0.170	0.140	0.100	0.044	0.009	3.4
Narok	0.082	0.234	0.215	0.166	0.131	0.073	0.025	4.6
Kajiado	0.056	0.157	0.164	0.136	0.089	0.043	0.014	3.3
Kericho	0.050	0.162	0.153	0.117	0.087	0.035	0.008	3.1
Bomet	0.054	0.176	0.166	0.124	0.090	0.042	0.009	3.3
Kakamega	0.046	0.186	0.187	0.136	0.093	0.033	0.005	3.4
Vihiga	0.038	0.181	0.194	0.145	0.100	0.033	0.005	3.5
Bungoma	0.055	0.183	0.188	0.143	0.107	0.042	0.008	3.6
Busia	0.049	0.185	0.192	0.143	0.097	0.037	0.006	3.5
Siaya	0.053	0.196	0.188	0.141	0.095	0.031	0.004	3.5
Kisumu	0.049	0.165	0.166	0.128	0.084	0.028	0.005	3.1
Homabay	0.068	0.193	0.189	0.140	0.094	0.036	0.007	3.6
Migori	0.079	0.207	0.190	0.145	0.103	0.043	0.010	3.9
Kisii	0.059	0.166	0.156	0.098	0.062	0.020	0.003	2.8
Nyamira	0.051	0.167	0.152	0.093	0.053	0.016	0.004	2.7
Nairobi City	0.030	0.117	0.132	0.115	0.077	0.029	0.004	2.5

4.4. Age Specific Fertility Rates by Education Attainment, 2019

Table 4.3 on age-specific fertility rate by education attainment shows that childbearing peaks at age 25-29 for most of the categories of education attainment except those with primary and other/ informal education, which peaks at 20-24 age group. This shows that the age pattern of fertility for those women with primary education has not changed since 2009. The peak of childbearing for women with no education has shifted implying a decline in fertility among these women. Although teenage childbearing is still a problem for all women with various levels of educational attainment, the burden was found to be high among women with no education and those with other/ informal education at 73 births and 95 births per 1,000 teenagers, respectively. The results also indicate that the ASFRs declined with an increase in the level of education attained.

Table 4. 3: Age Specific Fertility Rates by Education Attainment, 2019

Highest Level of Education Completed	Age Group							TFR
	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	
Kenya	0.046	0.160	0.166	0.134	0.093	0.040	0.009	3.4
Primary	0.056	0.213	0.173	0.125	0.087	0.037	0.007	3.5
Secondary	0.032	0.149	0.161	0.126	0.081	0.029	0.004	2.9
Tertiary	0.026	0.098	0.151	0.146	0.101	0.036	0.004	2.8
None/Never Attended	0.073	0.177	0.184	0.157	0.122	0.066	0.026	4.0
Other (Informal)	0.095	0.217	0.176	0.129	0.091	0.043	0.009	3.8
Not Stated/DK	0.047	0.109	0.123	0.094	0.069	0.034	0.013	2.4

4.5. Age-Specific Fertility Rates by Marital Status, 2019

Table 4.4 presents age-specific fertility rates by marital status. ASFRs for the never-married women have declined in all age groups since 2009. Similarly, for the married (monogamous and polygamous), the ASFRs in 2019 was less than in 2009. Childbearing for the married (monogamous and polygamous), widowed, and never married peaks at age 20-24 while for the divorced and separated, at age 15-19. The problem of early childbearing (age 15-19) is rampant in all categories of marital status.

Table 4. 4: Age Specific Fertility Rates by Marital Status, 2019

Marital Status	Age Group							TFR
	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	
Kenya	0.046	0.160	0.166	0.134	0.093	0.040	0.009	3.4
Never Married	0.024	0.062	0.059	0.053	0.041	0.018	0.004	1.3
Married Monogamous	0.226	0.259	0.206	0.155	0.107	0.046	0.011	5.0
Married Polygamous	0.200	0.280	0.237	0.180	0.128	0.060	0.018	5.5
Widowed	0.107	0.163	0.115	0.073	0.046	0.018	0.004	2.6
Divorced	0.191	0.136	0.086	0.060	0.043	0.019	0.005	2.7
Separated	0.292	0.175	0.097	0.065	0.044	0.018	0.004	3.5
DK	0.028	0.071	0.066	0.059	0.055	0.022	0.010	1.6

4.6. Levels and Trends in Total Fertility Rate (TFR)

The analysis of 2019 Census data is based on direct estimates of TFR, since the difference between direct and indirect estimates were small for all counties, except for counties in the North-Eastern region, which were estimated using Gompertz relational model to adjust for inconsistencies in reporting births and number of children ever born.

Table 4.2 presents trends in the total fertility rate between 2009 and 2019. The reported TFR for Kenya in 2019 was 3.4 births which showed a drop of about one birth from 4.8 births in 2009. All the counties show a decline in TFR between 2009 and 2019, except Marsabit, Mandera, and Wajir that have shown an increase. The increase in TFR could be due to under reporting of births and children ever born in the three counties. All the counties had a decline of between 10 and 40 per cent except Nyeri, Kirinyaga, and Murang'a where the TFR declined by less than 10 per cent implying the decline is slowing in the three counties. Analysis by place of residence shows that TFR has remained higher in rural compared to urban areas. However, between 2009 and 2019, the decline in TRF in rural has been faster compared to that in rural areas.

Table 4. 5: Trends in Total Fertility Rate (TFR), 2009 – 2019

County	Census Years		Absolute Change in TFR	Percentage change in TFR
	2009	2019		
Kenya	4.8	3.4	-1.4	-28.6
Rural	5.2	3.8	-1.4	-26.9
Urban	3.3	2.9	-0.4	-12.1
Mombasa	3.3	2.9	-0.4	-13.4
Kwale	5.2	4.3	-0.9	-16.7
Kilifi	4.8	3.7	-1.1	-22.5
Tana River	6.4	5.2	-1.2	-18.4
Lamu	4.6	4.0	-0.6	-12.1
Taita-Taveta	4.0	3.4	-0.6	-15.2
Garissa	6.4	4.4	-2.0	-31.9
Wajir	6.5	6.7	0.2	3.5
Mandera	7.3	8.0	0.7	10.0
Marsabit	5.7	7.0	1.3	22.1
Isiolo	5.2	4.1	-1.1	-20.4
Meru	4.1	2.9	-1.2	-28.3
Tharaka-Nithi	3.8	2.9	-0.9	-23.8
Embu	3.4	2.9	-0.5	-15.0
Kitui	4.9	3.2	-1.7	-35.0
Machakos	3.6	2.7	-0.9	-25.6
Makueni	4.2	2.8	-1.4	-34.4
Nyandarua	3.7	3.4	-0.3	-8.2
Nyeri	2.9	2.9	0.0	-1.1
Kirinyaga	2.7	2.7	0.0	-0.1
Murang'a	3.4	3.2	-0.2	-4.8
Kiambu	3.1	2.7	-0.4	-11.8
Turkana	6.4	6.4	0.0	-0.5
West Pokot	6.7	5.6	-1.1	-16.0
Samburu	5.8	4.9	-0.9	-16.3
Trans Nzoia	5.5	3.7	-1.8	-33.2
Uasin Gishu	4.7	3.0	-1.7	-35.8
Elgeyo-Marakwet	5.3	3.7	-1.6	-30.4
Nandi	4.9	3.2	-1.7	-35.1
Baringo	6.3	4.0	-2.3	-37.3
Laikipia	3.9	3.7	-0.2	-4.3
Nakuru	4.4	3.4	-1.0	-23.8
Narok	6.3	4.6	-1.7	-26.7
Kajiado	4.4	3.3	-1.1	-25.1
Kericho	5.1	3.1	-2.0	-39.8
Bomet	5.5	3.3	-2.2	-40.0
Kakamega	5.4	3.4	-2.0	-36.5
Vihiga	4.5	3.5	-1.0	-22.7
Bungoma	6.1	3.6	-2.5	-40.5
Busia	5.8	3.5	-2.3	-38.9
Siaya	5.5	3.5	-2.0	-35.6
Kisumu	5.0	3.1	-1.9	-37.5
Homabay	6.1	3.6	-2.5	-40.4
Migori	6.4	3.9	-2.5	-39.4
Kisii	5.1	2.8	-2.3	-44.7
Nyamira	4.6	2.7	-1.9	-41.8
Nairobi City	3.0	2.5	-0.5	-15.8

4.7. Total Fertility Rates among Youth age 15-24

Table 4.6 presents the TFR among the youthful population, age 15-24 by place of residence and county. The reported TFR among youthful females age 15-24 in Kenya is about one child. The total fertility rate is higher among females in rural areas, about 1.2 births, compared with 0.8 births in urban areas. Counties with the highest TFR (1.3 and above) among youthful females are; Narok, West Pokot, Samburu, Tana River, Migori, Kwale, and Homa Bay.

Table 4.6: Total Fertility Rates among Youth age 15-24 by Place of Residence and County, 2019

Region	Proportions		TFR
	15 - 19	20 - 24	
Kenya	0.046	0.160	1.0
Rural	0.051	0.183	1.2
Urban	0.033	0.126	0.8
County			
Mombasa	0.035	0.129	0.8
Kwale	0.066	0.206	1.4
Kilifi	0.048	0.172	1.1
Tana River	0.075	0.223	1.5
Lamu	0.051	0.185	1.2
Taita-Taveta	0.046	0.169	1.1
Garissa	0.027	0.096	0.6
Wajir	0.034	0.113	0.7
Mandera	0.063	0.167	1.1
Marsabit	0.046	0.176	1.1
Isiolo	0.048	0.168	1.1
Meru	0.057	0.149	1.0
Tharaka-Nithi	0.037	0.149	0.9
Embu	0.036	0.150	0.9
Kitui	0.040	0.183	1.1
Machakos	0.033	0.144	0.9
Makueni	0.028	0.167	1.0
Nyandarua	0.030	0.176	1.0
Nyeri	0.023	0.144	0.8
Kirinyaga	0.037	0.146	0.9
Murang'a	0.036	0.167	1.0
Kiambu	0.027	0.123	0.8
Turkana	0.039	0.135	0.9
West Pokot	0.075	0.234	1.5
Samburu	0.074	0.230	1.5
Trans Nzoia	0.057	0.182	1.2
Uasin Gishu	0.036	0.141	0.9
Elgeyo-Marakwet	0.043	0.180	1.1
Nandi	0.047	0.161	1.0
Baringo	0.047	0.178	1.1
Laikipia	0.047	0.193	1.2
Nakuru	0.041	0.166	1.0
Narok	0.082	0.234	1.6
Kajiado	0.056	0.157	1.1
Kericho	0.050	0.162	1.1
Bomet	0.054	0.176	1.1
Kakamega	0.046	0.186	1.2
Vihiga	0.038	0.181	1.1
Bungoma	0.055	0.183	1.2
Busia	0.049	0.185	1.2
Siaya	0.053	0.196	1.2
Kisumu	0.049	0.165	1.1
Homabay	0.068	0.193	1.3
Migori	0.079	0.207	1.4
Kisii	0.059	0.166	1.1
Nyamira	0.051	0.167	1.1
Nairobi City	0.030	0.117	0.7

4.8. Place of Occurrence of Births

The presence of a skilled health professional (doctor, nurse, or midwife) during delivery is crucial in reducing maternal and child deaths. The percentage of live births attended by a skilled birth attendant (SBA) is a key global indicator and proxy for monitoring progress in maternal and newborn health. Question on the place of occurrence of last birth in the census was meant to be a proxy for births that receive skilled attendance in the country.

Table 4.7 gives the percent distribution of recent births (last 12 months preceding the census) by county and place of occurrence. The results indicate that in Kenya, about 86 per cent of the births that occurred during the last one year before the census date took place in a health facility. By place of residence, more births in the urban areas took place in a health facility (about 97 per cent) than in the rural areas (80 per cent).

Analysis at the county level reveals that in 27 counties the proportion of births that occurred in a health facility were above the national average of 86 per cent. Counties with less than 80 per cent of births occurring in a health facility were mainly those from the ASAL areas namely; Samburu (45), Wajir (49), Mandera (52), West Pokot (52), Turkana (55), Marsabit (57), Tana River (57), Narok (61), Garissa (65), Isiolo (71), Baringo (75), Trans Nzoia (76), Laikipia (77) and Kajiado (78).

Table 4. 7: Percentage of Recent Births by County and Place of Occurrence

Region	Place of Occurrence			
	Total	In a Health Facility	Non Health Facility	DK
Kenya	100	85.8	14.0	0.2
Rural	100	80.3	19.5	0.2
Urban	100	96.6	3.4	0.1
Mombasa	100	95.1	4.8	0.0
Kwale	100	82.6	17.3	0.1
Kilifi	100	84.8	15.1	0.1
Tana River	100	57.3	42.5	0.2
Lamu	100	82.3	17.7	0.0
Taita-Taveta	100	91.6	8.4	0.0
Garissa	100	64.6	33.0	2.5
Wajir	100	49.2	50.0	0.8
Mandera	100	51.8	46.7	1.4
Marsabit	100	56.5	43.3	0.2
Isiolo	100	70.7	29.0	0.3
Meru	100	94.5	5.4	0.1
Tharaka-Nithi	100	93.0	6.9	0.1
Embu	100	94.7	5.3	0.0
Kitui	100	81.8	18.1	0.1
Machakos	100	92.3	7.7	0.1
Makueni	100	91.0	8.9	0.1
Nyandarua	100	95.1	4.9	0.0
Nyeri	100	98.6	1.4	0.0
Kirinyaga	100	98.7	1.3	0.0
Murang'a	100	95.5	4.5	0.0
Kiambu	100	97.6	2.4	0.0
Turkana	100	54.5	44.3	1.2
West Pokot	100	51.9	47.7	0.4
Samburu	100	45.1	54.5	0.4
Trans Nzoia	100	76.3	23.5	0.2
Uasin Gishu	100	92.8	7.1	0.1
Elgeyo-Marakwet	100	90.1	9.8	0.1
Nandi	100	83.0	16.8	0.2
Baringo	100	74.7	24.9	0.4
Laikipia	100	76.5	23.4	0.1
Nakuru	100	88.6	11.3	0.1
Narok	100	60.6	39.1	0.4
Kajiado	100	78.1	21.7	0.2
Kericho	100	85.7	14.2	0.1
Bomet	100	86.5	13.4	0.1
Kakamega	100	90.8	9.2	0.1
Vihiga	100	92.5	7.5	0.1
Bungoma	100	89.2	10.7	0.1
Busia	100	89.9	10.0	0.1
Siaya	100	94.6	5.3	0.0
Kisumu	100	94.6	5.3	0.0
Homabay	100	89.8	10.1	0.1
Migori	100	90.9	9.0	0.1
Kisii	100	95.3	4.7	0.0
Nyamira	100	95.7	4.2	0.1
Nairobi City	100	98.4	1.6	0.0

4.9. Births, Place of Occurrence, and Notification Status

Birth notification is a key milestone towards acquiring personal rights and accessing services in any part of the country. Table 4.8 presents the percentage of recent births (last 12 months before the census) among women 12 years and above, by place of occurrence and notification status. Births that occur in a health facility are more likely to be notified, at 97 per cent, compared to those that occur outside a health facility, at 50 per cent.

Table 4.8: Percentage of Recent Births among Women 12 Years and Above by Place of Occurrence and Notification Status

Place of Birth Occurrence	Notification Status			
	Total	Notified	Not Notified	DK
Kenya	100.0	90.4	9.3	0.2
In a Health Facility	100.0	97.1	2.8	0.1
Non Health Facility	100.0	50.3	49.2	0.4
DK	100.0	38.4	25.6	36.1

Table 4.9 presents births in the last five years among women 12 years and above by place of occurrence and notification status. The patterns are similar to those in Table 4.8(a) above.

Table 4.9: Births in the last 5 years by Place of Occurrence and Notification Status

Place of Birth Occurrence	Notification Status			
	Total	Notified	Not Notified	DK
Kenya	100.0	89.0	10.7	0.3
In a Health Facility	100.0	96.6	3.3	0.1
Non Health Facility	100.0	52.3	47.2	0.5
DK	100.0	37.5	23.2	39.3

4.10. Birth Notification by County

Table 4.10 presents the percentage of births in the last 12 months preceding the census, among women 12 years and above by notification status, place of residence, and county. Births in urban areas are more likely to be notified compared with births in rural areas.

Counties with the highest notification of births are Nyeri, Kirinyaga, Murang'a, Embu, Nyandarua, Kiambu, and Nairobi City with over 97 per cent. Those with the lowest notification of births are Wajir, Mandera, West Pokot, Samburu, and Turkana with less than 70 per cent.

Table 4. 10: Notification Status of Births in the Last 12 months by Place of Residence and County

Region	Notification Status			DK
	Total	Notified	Not Notified	
Kenya	1,236,423	90.4	9.3	0.2
Rural	818,575	87.5	12.2	0.3
Urban	417,848	96.1	3.7	0.1
Mombasa	34,730	94.5	5.4	0.1
Kwale	27,532	90.5	9.3	0.2
Kilifi	41,496	94.3	5.6	0.2
Tana River	11,012	72.7	26.9	0.4
Lamu	3,950	92.2	7.7	0.1
Taita-Taveta	8,373	95.3	4.7	0.0
Garissa	14,722	74.5	24.1	1.4
Wajir	14,255	64.6	35.0	0.4
Mandera	23,011	65.3	33.8	0.9
Marsabit	12,644	73.0	26.7	0.2
Isiolo	7,431	81.4	18.4	0.3
Meru	35,415	95.9	4.0	0.1
Tharaka-Nithi	8,411	95.4	4.5	0.1
Embu	13,421	97.6	2.4	0.0
Kitui	25,577	88.5	11.2	0.3
Machakos	31,044	94.6	5.3	0.1
Makueni	19,208	93.6	6.1	0.3
Nyandarua	14,915	97.4	2.6	0.0
Nyeri	15,520	98.7	1.2	0.1
Kirinyaga	12,638	98.7	1.3	0.0
Murang'a	22,931	97.9	2.1	0.0
Kiambu	64,339	97.3	2.6	0.1
Turkana	24,236	69.9	29.4	0.7
West Pokot	22,651	69.2	30.2	0.5
Samburu	10,270	69.8	29.9	0.3
Trans Nzoia	26,663	85.6	14.1	0.2
Uasin Gishu	30,260	93.8	6.0	0.2
Elgeyo-Marakwet	12,122	94.3	5.6	0.1
Nandi	21,717	89.7	10.1	0.2
Baringo	18,191	81.1	18.5	0.4
Laikipia	14,330	86.8	13.1	0.1
Nakuru	59,773	92.3	7.5	0.2
Narok	37,790	79.9	19.7	0.4
Kajiado	33,685	88.9	10.8	0.3
Kericho	22,340	91.7	8.1	0.1
Bomet	22,747	92.7	7.1	0.2
Kakamega	46,089	92.4	7.5	0.1
Vihiga	13,249	94.8	5.1	0.2
Bungoma	43,688	91.8	8.0	0.2
Busia	23,523	91.4	8.5	0.1
Siaya	26,120	94.8	5.0	0.2
Kisumu	31,175	94.8	5.1	0.1
Homabay	31,777	91.3	8.5	0.1
Migori	34,042	91.3	8.5	0.2
Kisii	29,502	94.9	5.0	0.1
Nyamira	13,012	95.2	4.7	0.1
Nairobi City	124,896	97.1	2.8	0.1

4.11. Conclusion

This chapter has looked at three indices of fertility: Age-Specific Fertility Rates, the Total Fertility Rate, and the Crude Birth Rate. The results review that the Crude Birth Rate has declined since 2009. On the other hand, the total fertility rate has dropped by about a birth since 2009. The peak of childbearing has shifted from the 20-24 age group in 2009 to the 25-29 age group in 2019, an indication that fertility has been declining among women.

Chapter 5: Summary, Conclusion and Recommendation

5.1. Nuptiality

Fertility levels are largely defined by nuptiality patterns. Marriage in Kenya is still nearly universal. The proportion never married gradually declines from about 95.8 per cent among the 12-14-year-olds, to 5.7 per cent among those age 50 and above. Generally, aging women are more likely to be engaged in polygamous marriages than younger women. Further, divorce and separation are common among aging women, though the phenomenon is generally low. Regarding widowhood, women are more likely than men to be widowed.

Although males enter marriage later than females, after age 40 smaller proportions of men remain single or (never get married) compared to women. The data shows that the patterns are nearly the same across the years for males and females. In general, entry into marriage is gradually changing.

Further, the data shows that marriage before age 18 is still common among girls and boys. Generally, females are more likely than males to get married before the age 15 and 18. Marriage among males and females before age 15 and 18 is higher in rural than urban. Further, counties with the highest proportion of married males and females before age 15 and 18 are mostly those in ASAL areas.

Over the last 10 years, the proportion of ever-married females in the age group 15-19 has declined to 11.2 per cent, which is an indication that females are increasingly postponing entry into marriage. Singulate Mean Age at Marriage (SMAM) among males has increased by about 1 year while that of females has increased by 0.5 years.

5.2. Lifetime Fertility

Among teenagers age 15-19, the proportion with no children has been increasing over time, indicating that younger women are postponing entry into motherhood. At the same time, women age 20-24 with no child have been increasing since 2009. Peak childbearing occurs at age 25-29. After 29 years, the percentage of childless women declines. Between age 35 and 49 years, the percentage of childless women is almost constant, which could be taken as a proxy measure of infertility. Average parity is at peak among women with parity 3 and 4, after which it starts to decline. The reported mean parity among women age 40-44 has gone down by about 1.2 births. Mean parity in urban Kenya is lower at 3.2, compared to rural Kenya, at 4.7.

Over the period, reported average parity among adolescents age 15-19 has gone down to 0.13, an indication of declining fertility among adolescents. The trend is reflected among rural-urban adolescents, although the percentage decline is higher in urban than rural.

5.3. Current Fertility

Over the period, the Crude Birth Rate (CBR) has declined by about 27 per cent from 38.4 births per 1,000 population in 2009 to 27.9 births per 1,000 population in 2019. CBR is higher in urban areas, at 30.5 births per 1,000 population than in rural Kenya, at 26.8 births per 1,000 population.

The reported Total Fertility Rate (TFR) is 3.4 births in 2019, a drop of about one birth, from 4.8 births in 2009. The peak of childbearing shifted from the 20-24 age group in 2009 to the 25-29 age group in 2019. The gap between the highest and lowest TFR continues to increase (which is lowest at 2.5 children per woman in Nairobi County and 8.0 children per woman in Mandera County). High TFR of above 4 children per woman was mainly from ASAL counties (Mandera (8.0), Marsabit (7.0), Wajir (6.7), Turkana (6.4), Tana River (5.2), and Samburu (4.9).

5.4. Conclusion

Results from nuptiality and fertility data show that on average, fertility has declined by about 23 per cent since 2009.

One of the key strategic motivators toward low fertility among women in Kenya is education, as portrayed by those who had attained the secondary and above level of education.

In conclusion, the data on nuptiality and fertility has provided important information for development planning. It reveals more recent estimates on fertility and nuptiality for the entire country, which are important for setting targets for programmes and policies. Although there are identified problems with the data for both indicators, these shortcomings do not outweigh their value.

5.5. Recommendations

- I. Programmes should be developed targeted to address child marriages and early childbearing with the aim of reducing the burden to zero.
- II. As provided in Sessional Paper No. 3 of 2012 on Population Policy for National Development, there is a need to support the implementation of policies that promote education such as the “back-to-school” policy for girls who fall pregnant. Generally, factors leading to school dropout need to be addressed.
- III. Programmes targeting ASAL counties should be developed with a view to accelerating fertility decline in those counties.
- IV. Involving women in the nation’s development is essential to reducing fertility levels. Programmes designed to foster women’s economic independence should be established.
- V. There is a need for the development of a human fertility database for benchmarking and future references.
- VI. The increasing marriage among male adolescent needs further investigation.

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Appendices

Appendix 1: 2019 KPHC Questionnaires

(CONFIDENTIAL)



Republic of Kenya

Population and Housing Census - 24th/25th August 2019



REPUBLIC OF KENYA

County		Sub-County		Division		Location		Sub-Location		E.A. Number		E.A. Type		E.A. Status		Household No.		Household Type		Structure No.		Total Household Population																																												
Constituency		Ward								Males =		Females =				Others =						Total Household Population																																												
A: Information Regarding All Persons <table border="1"> <thead> <tr> <th rowspan="2">Name</th> <th rowspan="2">Sex</th> <th rowspan="2">Age</th> <th rowspan="2">Date of Birth</th> <th rowspan="2">Time of Birth</th> <th rowspan="2">Total number of children</th> <th rowspan="2">Ethnicity / Nationality</th> <th rowspan="2">Religion</th> <th rowspan="2">Marital Status</th> <th rowspan="2">Birth Place</th> <th rowspan="2">Previous Residence</th> <th rowspan="2">Duration of Residence</th> <th rowspan="2">Reason for migration</th> <th rowspan="2">Occupational</th> <th colspan="12">Particulars of All Live Births</th> </tr> <tr> <th>(P-24)</th> <th>(P-25)</th> <th>(P-26)</th> <th>(P-27)</th> <th>(P-28)</th> <th>(P-29)</th> <th>(P-30)</th> <th>(P-31)</th> <th>(P-32)</th> <th>(P-33)</th> <th>(P-34)</th> <th>(P-35)</th> <th>(P-36)</th> <th>(P-37)</th> <th>(P-38)</th> <th>(P-39)</th> <th>(P-40)</th> <th>(P-41)</th> </tr> </thead> </table>																							Name	Sex	Age	Date of Birth	Time of Birth	Total number of children	Ethnicity / Nationality	Religion	Marital Status	Birth Place	Previous Residence	Duration of Residence	Reason for migration	Occupational	Particulars of All Live Births												(P-24)	(P-25)	(P-26)	(P-27)	(P-28)	(P-29)	(P-30)	(P-31)	(P-32)	(P-33)	(P-34)	(P-35)	(P-36)	(P-37)	(P-38)	(P-39)	(P-40)	(P-41)
Name	Sex	Age	Date of Birth	Time of Birth	Total number of children	Ethnicity / Nationality	Religion	Marital Status	Birth Place	Previous Residence	Duration of Residence	Reason for migration	Occupational	Particulars of All Live Births																																																				
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B: Information Regarding Females Aged 12 Years and Above <table border="1"> <thead> <tr> <th rowspan="2">Name</th> <th rowspan="2">Sex</th> <th rowspan="2">Age</th> <th rowspan="2">Date of Birth</th> <th rowspan="2">Time of Birth</th> <th rowspan="2">Total number of children</th> <th rowspan="2">Ethnicity / Nationality</th> <th rowspan="2">Religion</th> <th rowspan="2">Marital Status</th> <th rowspan="2">Birth Place</th> <th rowspan="2">Previous Residence</th> <th rowspan="2">Duration of Residence</th> <th rowspan="2">Reason for migration</th> <th rowspan="2">Occupational</th> <th colspan="12">Particulars of All Live Births</th> </tr> <tr> <th>(P-24)</th> <th>(P-25)</th> <th>(P-26)</th> <th>(P-27)</th> <th>(P-28)</th> <th>(P-29)</th> <th>(P-30)</th> <th>(P-31)</th> <th>(P-32)</th> <th>(P-33)</th> <th>(P-34)</th> <th>(P-35)</th> <th>(P-36)</th> <th>(P-37)</th> <th>(P-38)</th> <th>(P-39)</th> <th>(P-40)</th> <th>(P-41)</th> </tr> </thead> </table>																							Name	Sex	Age	Date of Birth	Time of Birth	Total number of children	Ethnicity / Nationality	Religion	Marital Status	Birth Place	Previous Residence	Duration of Residence	Reason for migration	Occupational	Particulars of All Live Births												(P-24)	(P-25)	(P-26)	(P-27)	(P-28)	(P-29)	(P-30)	(P-31)	(P-32)	(P-33)	(P-34)	(P-35)	(P-36)	(P-37)	(P-38)	(P-39)	(P-40)	(P-41)
Name	Sex	Age	Date of Birth	Time of Birth	Total number of children	Ethnicity / Nationality	Religion	Marital Status	Birth Place	Previous Residence	Duration of Residence	Reason for migration	Occupational	Particulars of All Live Births																																																				
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C: Information Regarding All Persons (Continued) <table border="1"> <thead> <tr> <th rowspan="2">Name</th> <th rowspan="2">Sex</th> <th rowspan="2">Age</th> <th rowspan="2">Date of Birth</th> <th rowspan="2">Time of Birth</th> <th rowspan="2">Total number of children</th> <th rowspan="2">Ethnicity / Nationality</th> <th rowspan="2">Religion</th> <th rowspan="2">Marital Status</th> <th rowspan="2">Birth Place</th> <th rowspan="2">Previous Residence</th> <th rowspan="2">Duration of Residence</th> <th rowspan="2">Reason for migration</th> <th rowspan="2">Occupational</th> <th colspan="12">Particulars of All Live Births</th> </tr> <tr> <th>(P-24)</th> <th>(P-25)</th> <th>(P-26)</th> <th>(P-27)</th> <th>(P-28)</th> <th>(P-29)</th> <th>(P-30)</th> <th>(P-31)</th> <th>(P-32)</th> <th>(P-33)</th> <th>(P-34)</th> <th>(P-35)</th> <th>(P-36)</th> <th>(P-37)</th> <th>(P-38)</th> <th>(P-39)</th> <th>(P-40)</th> <th>(P-41)</th> </tr> </thead> </table>																							Name	Sex	Age	Date of Birth	Time of Birth	Total number of children	Ethnicity / Nationality	Religion	Marital Status	Birth Place	Previous Residence	Duration of Residence	Reason for migration	Occupational	Particulars of All Live Births												(P-24)	(P-25)	(P-26)	(P-27)	(P-28)	(P-29)	(P-30)	(P-31)	(P-32)	(P-33)	(P-34)	(P-35)	(P-36)	(P-37)	(P-38)	(P-39)	(P-40)	(P-41)
Name	Sex	Age	Date of Birth	Time of Birth	Total number of children	Ethnicity / Nationality	Religion	Marital Status	Birth Place	Previous Residence	Duration of Residence	Reason for migration	Occupational	Particulars of All Live Births																																																				
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C. Information Regarding Persons with Disabilities in the Household (If Applicable)										D. Information Regarding Education Attainment										E. Information Regarding Employment										F. Information Regarding Health																																																																					
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Republic of Kenya



POPULATION AND HOUSING CENSUS 24TH/25TH AUGUST 2019

Statistics Act 2006

STRICTLY CONFIDENTIAL

HOTEL/ LODGE RESIDENTS, HOSPITAL IN-PATIENTS, PRISON/ POLICE CELLS AND SCHOOLS/ CHILDREN HOMES

County=		Sub-County=		Division=		Location=		Sub-Location=		E.A. Number	
E.A. Type=		E.A. Status=		Constituency=		Ward=		Males =		Females =	
Total Population =										Other =	
Type of Institution: Hotel/Lodge Residents ☐				Hospital In-patients ☐				Prison/Police Cells ☐			
Name of Institution:				Schools/learning institution ☐							

Line Number (SQ01)	Name (SQ02)	Sex (SQ03)	Age (SQ04)	Country/ Country of Birth (SQ05)	Nationality/ Ethnicity (SQ07)
0 1	JOHN MOGAKA				
0 1					
0 2					
0 3					
0 4					
0 5					
0 6					
0 7					
0 8					
0 9					
1 0					



REPUBLIC OF KENYA



CONFIDENTIAL

REPUBLIC OF KENYA

POPULATION AND HOUSING CENSUS 24th /25th AUGUST 2019 SHORT QUESTIONNAIRE FOR EMIGRANTS

E-01: Serial No.	E-01(a): Line No. of Respondent	E-02: Name of Emigrant Please give me the name(s) of the emigrant(s)?	E-03: Sex What is <NAME>'s Sex? Male=1 Female=2	E-04: Age How old was <NAME> at the time of his/her departure?	E-05: Level of Education What was the highest level of education that <NAME> had completed at the time of his/her departure?	E-06: Professional training What professional training had <NAME> acquired before departure from Kenya? <i>(Applicable to persons age 15 years & above)</i>	E-07: Country of first Destination What was <NAME>'s country of first destination during his/her departure?	E-08: Year of Departure When did <NAME> depart from Kenya?	E-09: Main reason for Departure What was the main reason for <NAME> departing from Kenya?	E-10: Country of current residence What is the current country of residence of <NAME>?	E-10a: Select the Name of the Emigrant if currently in Kenya.	E-11: Remittances Did <NAME> remit money to any member of this household while outside Kenya in the last 12 months? Yes= 1 No= 2 DK= 9	E-12: Utilization of funds How was the money utilized? <i>(Allow for maximum of 3 responses)</i>
1													
2													
3													
4													
5													
6													
7													
8													



Republic of Kenya

POPULATION AND HOUSING CENSUS 24TH/25TH AUGUST 2019

Republic of Kenya

TRAVELLERS AND PERSONS ON TRANSIT

[illegible]



REPUBLIC OF KENYA



POPULATION AND HOUSING CENSUS 24th /25th AUGUST 2019

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SHORT QUESTIONNAIRE FOR STREET PERSONS/OUTDOOR SLEEPERS/VAGRANTS

County Sub-county Division

Location Sub-Location EA Number

Constituency Ward

Name of the street.....Code.....

Line /NO	Name (List at least two names)	SEX 1. Male 2. Female Stated	AGE in Completed years	COUNTRY/ COUNTRY OF BIRTH	ETHNICITY/ NATIONALITY <i>What is <NAME>'s Nationality/Ethnicity?</i>
1					
2					
3					
4					
5					
6					
7					
8					

TOTAL: MALES _____ FEMALES _____ OTHER _____ UNSPECIFIED SEX _____ TOTAL _____

Appendix 2: Reported Mean Parity among Women 12 and above years by Residence, County and Age, 2019

County	Average Parities										
	Total	12 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55+
Kenya	2.5	0.0	0.1	0.9	2.0	3.0	3.6	4.2	4.6	5.0	6.3
Rural	2.5	0.0	0.1	0.9	2.0	3.0	3.6	4.2	4.6	5.0	6.3
Urban	2.8	0.0	0.1	1.1	2.4	3.5	4.1	4.7	5.1	5.5	6.5
Mombasa	1.8	0.0	0.1	0.7	1.5	2.3	2.8	3.2	3.5	3.8	4.9
Kwale	2.8	0.0	0.2	1.2	2.5	3.9	4.6	5.3	5.5	5.5	6.1
Kilifi	2.7	0.0	0.1	0.9	2.2	3.7	4.2	5.2	5.4	5.9	6.3
Tana River	2.9	0.0	0.2	1.4	2.9	4.2	5.1	5.6	5.9	5.9	6.1
Lamu	2.7	0.0	0.1	1.0	2.2	3.4	4.0	4.8	5.1	5.2	6.2
Taita-Taveta	2.6	0.0	0.1	0.8	1.7	2.6	3.3	3.7	4.2	4.4	6.1
Garissa	2.2	0.0	0.2	1.0	2.2	3.5	4.6	5.2	5.5	5.4	5.0
Wajir	2.4	0.0	0.2	1.2	2.6	4.1	5.2	5.9	6.3	6.1	5.6
Mandera	2.7	0.0	0.3	1.6	3.1	4.7	6.0	6.9	7.2	7.0	6.4
Marsabit	2.6	0.0	0.2	1.3	2.7	4.3	5.2	5.9	6.2	6.1	5.3
Isiolo	2.4	0.0	0.2	1.1	2.4	3.7	4.3	5.1	5.4	5.4	5.3
Meru	2.5	0.0	0.1	0.8	1.7	2.6	3.1	3.6	4.1	4.4	5.7
Tharaka-Nit	2.6	0.0	0.1	0.7	1.5	2.4	3.0	3.4	3.9	4.3	6.0
Embu	2.5	0.0	0.1	0.7	1.5	2.2	2.8	3.2	3.7	4.2	6.2
Kitui	2.9	0.0	0.1	0.9	2.0	3.3	4.0	4.7	5.3	5.7	6.5
Machakos	2.4	0.0	0.1	0.7	1.5	2.4	2.9	3.5	3.9	4.3	6.1
Makueni	2.8	0.0	0.1	0.7	1.8	2.8	3.5	4.2	4.8	5.2	6.6
Nyandarua	2.8	0.0	0.1	0.8	1.8	2.7	3.4	4.0	4.5	4.9	6.9
Nyeri	2.6	0.0	0.0	0.6	1.4	2.2	2.7	3.0	3.2	3.6	5.7
Kirinyaga	2.4	0.0	0.1	0.7	1.4	2.1	2.4	2.7	3.0	3.4	5.7
Murang'a	2.9	0.0	0.1	0.8	1.7	2.5	3.0	3.4	3.8	4.3	6.3
Kiambu	2.0	0.0	0.1	0.6	1.3	2.1	2.6	3.0	3.3	3.6	5.5
Turkana	2.5	0.0	0.2	1.1	2.4	3.9	4.8	5.4	5.6	5.5	5.1
West Pokot	2.9	0.0	0.2	1.4	3.0	4.7	5.7	6.4	6.6	6.4	5.8
Samburu	2.9	0.0	0.3	1.6	3.1	4.4	5.0	5.8	6.3	6.4	6.1
Trans Nzoia	2.7	0.0	0.1	1.0	2.2	3.4	4.1	5.0	5.5	6.0	7.2
Uasin Gishu	2.3	0.0	0.1	0.7	1.7	2.7	3.4	4.1	4.8	5.2	6.6
Elgeyo-Mara	2.6	0.0	0.1	1.0	2.3	3.6	4.3	5.1	5.6	5.8	6.1
Nandi	2.6	0.0	0.1	0.9	2.1	3.2	3.8	4.6	5.3	5.8	6.9
Baringo	2.7	0.0	0.2	1.1	2.4	3.6	4.4	5.2	5.8	6.2	6.6
Laikipia	2.6	0.0	0.1	0.9	2.0	3.0	3.4	4.0	4.4	4.7	6.2
Nakuru	2.4	0.0	0.1	0.8	1.9	2.9	3.5	4.1	4.6	5.0	6.5
Narok	2.9	0.0	0.2	1.5	3.0	4.3	5.0	5.8	6.4	6.4	6.6
Kajiado	2.1	0.0	0.2	0.9	1.8	2.8	3.2	3.8	4.3	4.6	5.5
Kericho	2.6	0.0	0.1	1.0	2.2	3.3	3.7	4.6	5.2	5.6	6.8
Bomet	2.7	0.0	0.1	1.0	2.3	3.6	4.1	5.0	5.7	6.2	7.4
Kakamega	2.8	0.0	0.1	0.9	2.2	3.5	4.1	4.9	5.4	5.8	6.9
Vihiga	3.0	0.0	0.1	0.8	2.0	3.1	3.8	4.4	4.9	5.4	7.0
Bungoma	2.8	0.0	0.1	1.0	2.3	3.7	4.4	5.3	5.8	6.2	7.2
Busia	2.8	0.0	0.1	1.0	2.3	3.7	4.4	5.2	5.6	6.1	6.7
Siaya	3.1	0.0	0.1	1.1	2.4	3.7	4.4	5.2	5.7	6.2	6.8
Kisumu	2.6	0.0	0.1	1.0	2.1	3.3	3.8	4.6	5.1	5.7	6.7
Homabay	2.9	0.0	0.2	1.4	2.7	4.0	4.6	5.3	5.9	6.1	6.6
Migori	2.8	0.0	0.2	1.4	2.8	4.1	4.8	5.6	6.1	6.3	6.7
Kisii	2.8	0.0	0.2	1.0	2.2	3.4	3.8	4.4	5.0	5.3	6.9
Nyamira	2.8	0.0	0.1	1.0	2.2	3.2	3.6	4.2	4.6	4.9	6.7
Nairobi City	1.5	0.0	0.1	0.6	1.3	2.1	2.5	2.8	3.0	3.2	4.0

Appendix 3: Computation Procedure for Relational Gompertz Method

Like the logit life table system, the relational Gompertz fertility model consists essentially of a standard schedule of fertility by age which is modified mathematically until it fits the observed distribution. The modification is made with three parameters, two of which determine the relative shape of the age-specific distribution, and the third, the level of fertility. The first of the shape parameters, alpha (α), controls the general location of the curve on the age scale, and the second, beta (β), the width of the distribution. The third parameter is the Total Fertility Rate. Further descriptions of the model may be found in the UN Manual X (1983, pp. 25-26), and in Newell (1988, pp. 175-178).

The model was used to estimate fertility from the data on current births (children ever born in the last 12 months and average parities of the intercensal hypothetical cohorts. The fitting procedure used was that devised by Zaba (1981) and described by Brass (1981); Brass' notation has been used. The steps of the calculations for the first of these applications were as follows:

The current age-specific fertility rates, $f(x)$, were cumulated (multiplying by 5), to the upper end of each age group, $f(i)$. As the rates were based on births occurring during the previous 12 months, the women were, on average, half a year younger when the births occurred.

The cumulated fertilities at age x , $f(x)$, were divided by those at age $x+5$, and the Gompertz transformations or "Gompits" (double negative logarithms) of these ratios were calculated, $z(x)$.

A set of standard values, $e(x)$, were subtracted from the Gompits and the results were plotted against another set of standard values, $g(x)$. After the exclusion of the deviant points at the upper end of the distribution, a straight line was fitted by least squares. The slope of this line gives the beta parameter of the model, and the intercept, after a small modification, alpha.) The modification consists of subtracting 0.48 ($\beta - 1$) from the intercept. When beta is close to 1, this correction can be ignored.)

Similar calculations were carried out using the average parities in place of the cumulated current fertilities and the points plotted on the same graph. These points were not used in the computation of the parameters but can be used to throw light on the trends in fertility and the patterns of error in the data.

The Gompits of the average parities of the standard fertility distribution, $Y_s(i)$, were multiplied by beta and added to alpha; and "anti -Gompits" (double negative exponential) were calculated. These values represented the model relative parities and the proportion which each average parity would form of the total fertility, $P(i)/F$ where F is the Total Fertility Rate.

Division of the reported average parities by these model relative parities gives the implied TFRs which were inspected for consistency, and those for the 20-24, 25-29, and 30-34 age groups were averaged to give the best estimate of the TFR.

Model ASFRs were then obtained by repeating step 5 with the model Gompits at ages 15, 20...etc, calculating the differences, and then multiplying them by the estimated TFR.

The use of the model with the intercensal hypothetical cohorts was followed essentially by the same procedure except that only the average parities were used, and the parameters were obtained from the slope and the intercept of the line to the “P” points. The line need not necessarily be fitted by least squares, and the “group average” method can sometimes be used with an advantage. Lotus spreadsheets were constructed to carry out these calculations.

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