



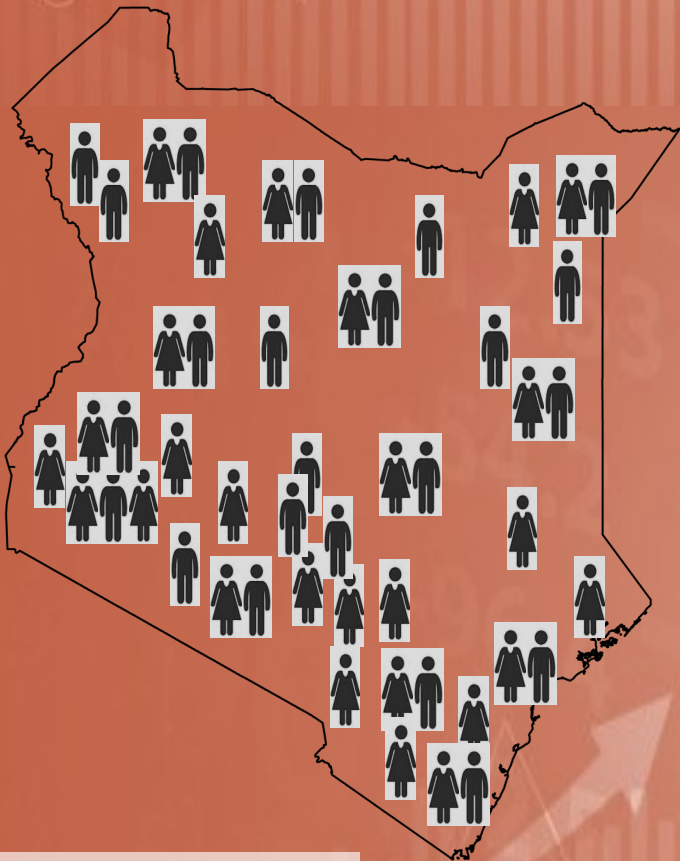
Republic of Kenya



2019 Kenya Population and Housing Census

Analytical Report on Population Dynamics

Volume V



October, 2022

Table of Contents

Table of Contents.....	i
List of Tables	iii
List of Figures	v
Abbreviations	vi
Foreword.....	vii
Acknowledgement	viii
Key indicators at a Glance	ix
Executive Summary	x
Chapter 1: Introduction.....	1
1.1. Background Information.....	1
1.2. Objectives of the 2019 Census.....	1
1.3. Overview of Population Dynamics	2
1.4. Relevance of Population Dynamics	2
1.5. Methodology.....	4
1.6. Data Quality	5
1.7. Summary of Data Quality Issues	11
1.8. Definition of Terms and Key Concepts.....	11
Chapter 2: Population Size, Growth, Structure and Distribution.....	14
2.1. Introduction	14
2.2. Population Size and Growth	14
2.3. Age-Sex Structure.....	19
2.4. Children, Working Age and Elderly Population.....	19
2.5. Population Pyramid.....	21
2.6. Population Ratios.....	22
2.7. Population Distribution and Density	26
2.8. Urbanization	28
Chapter 3: Nuptiality.....	33
3.1. Introduction	33
3.2. Marital Status by Age and Sex.....	33
3.3. Marital Status by Age, Sex and Place of Residence	34
3.4. Trends in Timing of First Marriages	35
Chapter 4: Fertility.....	38
4.1. Introduction	38
4.2. Trends in Current Fertility	38
4.3. Age Specific Fertility Rates, 2019	39
4.4. Total Fertility Rates by County	40
4.5. Lifetime Fertility.....	41

4.6.	Trends in Average Parities	42
4.7.	Childlessness	45
Chapter 5: Mortality and Health		47
5.1.	Introduction	47
5.2.	Reported Estimates of Mortality	47
5.3.	Childhood Mortality	48
5.4.	Adult Mortality	52
5.5.	Overall Mortality	53
5.6.	Maternal Mortality	55
Chapter 6: Migration		57
6.1.	Introduction	57
6.2.	Internal Migration	57
6.3.	Recent Migrants by Age and Sex	60
6.4.	Distribution of Current Internal Migrant Population by Place of Residence, Reason for Migration and Age	62
6.5.	Distribution of recent migrants by main urban centres	62
6.6.	International Migration	63
Chapter 7: Conclusions and Recommendations		66
7.1.	Introduction	66
7.2.	Conclusions	66
7.3.	Recommendations	68
References		70
Appendices		73

List of Tables

Table 1. 1: Summary of Census Counts in Kenya, 1897-2019	1
Table 1. 2: Trends in Enumerated Population by age group, 1979-2019.....	6
Table 1. 3: Age specific growth rates, Kenya, 1979-2019.....	7
Table 1. 4: Sex ratios at birth by County.....	9
Table 1. 5: Highest and lowest Sex ratios of the population age 60 and above, 2009.....	10
Table 1. 6: Highest and lowest Sex ratios of the population age 60 and above, 2019.....	10
Table 1. 7: Adjusted age specific birth rates, 2019.....	11
Table 2. 1: Trends in Population Size and Growth, 1969-2019+	14
Table 2. 2: Natural Growth Rate, 2009 and 2019.....	16
Table 2. 3: Trends in Distribution of Population Size and Inter-censal Growth Rate by County, 1999 – 2019.....	18
Table 2. 4: Trends in Percentage Distribution of Population by Age Groups 1969-2019	19
Table 3. 1: Percentage Distribution of Population by Marital Status, Age and Sex, 2019.....	33
Table 3. 2: Percentage Distribution of Rural Population by Marital Status, Age and Sex, 2019.....	34
Table 3. 3: Percentage Distribution of Urban Population by Marital Status, Age and Sex, 2019	35
Table 3. 4: Trends in Timing of Marriages for Age Group 15-19 by Sex, 1989-2019	35
Table 3. 5: Five Counties with the Highest and Lowest Male-Female Age Differences in SMAM.....	37
Table 4. 1: Age Specific Fertility Rates by Place of Residence, 2019	40
Table 4. 2: Distribution of Counties by level of Total Fertility Rates, 2019.....	40
Table 4. 3: Trends in Percentage Distribution of Women of Reproductive Age by Parity, 1989 – 2019.....	42
Table 4. 4: Trends in Average Parities by Age, 1969-2019.....	43
Table 4. 5: Average Parities for Females 12-19 Years by Place of Residence and County, 2019.....	44
Table 4. 6: Proportion of Childlessness Among Women Age 45-49 by County.....	46
Table 5. 1: Percent Distribution of Reported Deaths in Household by Age and Sex.....	47
Table 5. 2: Percent Distribution of Reported Childhood Deaths by Age, Sex and Place of Residence in the Last 12 Months Prior to Census	48
Table 5. 3: Distribution of deaths in the last 12 months by Age and County, 2019	49
Table 5. 4: Early Childhood Mortality Rates.....	50
Table 5. 5: Childhood Mortality Rates.....	51
Table 5. 6: Trends in Age Specific Mortality Rates for Women and Men Age 15 - 49.....	52
Table 5. 7: Life Expectancy at Age 0, Age 20, Age 60 and Age 80 (in Years)	54
Table 5. 8: Distribution of the Reported Number of Women and Women Dead due to Pregnancy Related Causes in the 1 Year Preceding the Census, 2019	55
Table 6. 1: Top 13 Net Recent In-migration Counties	58
Table 6. 2: Top 13 Net Recent Out-migration Counties.....	59
Table 6. 3: Proportion of recent migrants' reasons for migration by sex and age, Kenya 2019	61
Table 6. 4: Proportion of Recent Migrants' Reasons for Migration by Place of Residence, Sex and Age.....	62
Table 6. 5: Distribution of Recent Migrants by Sex and Main Urban Centres, 2019.....	63
Table 6. 6: Top ten countries of origin of Foreign-Born migrants.....	64
Appendix 1: 2019 KPHC Questionnaires.....	73
Appendix 2: Proportion of Married Persons, Age 15-19 and Singulate Mean Age at Marriage by Sex, Place of Residence and County, 2019.....	79
Appendix 3: Age Specific Fertility Rates by County and Place of Residence, 2019.....	80
Appendix 4: Recent migrants by County of residence 1 year ago and current residence	81
Appendix 4: Recent migrants by County of residence 1 year ago and current residence, cont'd.....	82
Appendix 4: Recent migrants by County of residence 1 year ago and current residence, cont'd.....	83

Appendix 4: Recent migrants by County of residence 1 year ago and current residence, cont'd.....	84
Appendix 5: Trends of Recent in Migration, Outmigration and Net migration by Sex, County and Region.....	85
Appendix 6: Contributors to the 2019 Kenya Population and Housing Census Monographs.....	86

List of Figures

Figure 2.1 Trends in Children Population (0-14 years), 1969-2019.....	20
Figure 2.2 Trends in Working Age Population (15-64 years), 1969-2019.....	20
Figure 2.3 Trends in Population Aged 60 and Above, 1969-2019.....	21
Figure 2.4 Trends in proportions of selected special age groups, 1969-2019.....	21
Figure 2.5 Population Pyramid Kenya, 2019.....	22
Fig 3.1: Singulate Mean Age at Marriage by Sex, 1979 - 2019	36
Figure 4.1: Trend in Total Fertility Rate.....	39
Figure 4.2: Proportion of Childless Women Age 45-49 by Place of Residence, 2019.....	45
Figure 5. 1: Probability of Dying by Age and Sex.....	53
Figure 5. 2: Maternal Mortality by County, 2019.....	56
Figure 6. 2: Counties with top Net Recent Out-migration rates	59
Figure 6. 3: Reasons of Migration Nationally and by Sex	61
Figure 6. 4: Top Ten Countries of Previous Residence in August 2018.....	64
Figure 6. 5: Persons Ever Emigrated by Top Ten Countries/Regions of Current Residence.....	65

Abbreviations

ASAL	Arid and Semi-Arid Land
ASFR	Age Specific Fertility Rate
ASMR	Age Specific Mortality Rates
CEB	Children Ever Born
CSPro	Census and Survey Processing system
DHS	Demographic and Health Survey
EA	Enumeration Area
GPS	Geographical Positioning System
ICT	Information, Communication and Technology
KDHS	Kenya Demographic and Health Surveys
KNBS	Kenya National Bureau of Statistics
KPHC	Kenya Population and Housing Census
MTP	Medium Term Plan
P/F	Period Fertility
SDGs	Sustainable Development Goals
SIDA	Swedish International Development Agency
SMAM	Singulate Mean Age at Marriage
SPSS	Statistical Package for Social Sciences
SRB	Sex Ratio at Birth
TFR	Total Fertility Rate
UN	United Nations
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNFPA	United Nations Population Fund
UNICEF	United Nations Children’s Fund
UNSD	United Nations Statistics Division
US	United States
USAID	United States Agency for International Development
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 information on the mechanisms of how and why populations change in size and structure over time, and how the demographic processes that are determined mainly by age-sex distribution, fertility, mortality, and migration influence the future size of the labour market, unemployment, job creation, poverty and environmental degradation. From the data, early childbearing and marriages are still prevalent among adolescent girls in Kenya, at 53 births per 1000 teenagers. Early childbearing is higher in rural, at 58 births per 1000 teenagers compared to urban areas, at 38 births per 1000 teenagers. However, timing of marriage for both men and women has been increasing over the years, an indication of delayed entry into marriage.

The information in this monograph provides valuable programmatic evidence to policymakers for use in the formulation of policies and plans explicitly intended to achieve development 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.

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.



HON. (AMB.) UKUR YATANI, EGH
CABINET SECRETARY
THE NATIONAL TREASURY AND PLANNING

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 public for the overwhelming support and participation in the successfully implemented 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); United Nations Development Programme (UNDP) led by 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.



MACDONALD G. OBUDHO, MBS
DIRECTOR GENERAL
KENYA NATIONAL BUREAU OF STATISTICS

Key indicators at a Glance

Indicators	2019
Enumerated Population	47,557,273
Proportion Under Age 15 (Children)	39
Proportion age 15-24 (%) (Youth)	20.5
Proportion age 25-34 (%)	15.6
Proportion age 60 and above (%) (elderly)	5.7
Singulate Mean Age at Mariage (years)	27.3 (Males); 23.1 (Females)
Percent ever married in age group 15-19	4.2 (Males); 10.8 (Females)
Total Fertility Rate (TFR)	3.4
Crude Birth rate(CBR) (per 1000 population)	27.9
Crude Death rate (CDR) (per 1000 population)	10.5
Rate of natural increase per annum. (%)	1.7

Executive Summary

Demographic information is the backbone of all socio-economic planning in any country. The collection, analysis and dissemination of accurate demographic information enables policy makers plan for the future development of a country. Censuses are the prime sources for determining the components of population change particularly at the sub-national levels. This report presents the analysis and the results of the population dynamics of Kenya using the 2019 Kenya Population and Housing Census. The analysis and results are presented in 7 chapters.

Chapter 1 presents the general introduction providing the census background, objectives, general methodology of data collection and analysis, the data quality and definition of key terms. Information on age and sex is important in the analysis of any demographic 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 checks age and sex ratios, among others. From the analysis, 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. Some ASAL counties 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.

Chapter 2 presents demographic parameters such as population size and distribution, density, dependency ratios and urbanization. In the 2019 KPHC, a total population of 47.6 million was enumerated of which 23.6 million were males, 24.0 million were females and 1,519 were intersex. Population growth rate declined slightly from 2.7 per cent per annum in 2009 to 2.3 per cent per annum in 2019. The proportion of children over the total population was 48.0 per cent, whereas that of the youth (15-34 years) and working population (15-64 years) were about 36.0 per cent and 57.0 per cent, respectively. Moreover, the proportion of the elderly was about 6.0 per cent.

The total dependency ratio for the country showed that there are about 75 dependents (0-14 and 65+ years) for every 100 working adults (15-64 years). Specifically, there are about 68 children (0-14 years) for every 100-working population (15-64 years) and about 7 persons aged 65 and above for every 100-working population (15-64 years).

Population distribution is generally uneven. Nairobi County continues to have the largest share (9.2 %) of the population followed by Kiambu (5.1%) and Nakuru (4.5%) counties. The number of urban centres has increased from 17 in 1948 to 139 in 1989 and 372 in 2019. Similarly, the population of Kenyans living in the urban centres has increased from 285,000 in 1948 to 14.8 million in 2019.

Chapter 3 presents the nuptiality patterns. Nuptiality is referred to as the frequency, characteristics, and dissolution of marriage in a population. Marriage is an important factor in population change over time

as it affects fertility, by setting the context for reproductive activities such as entry into sexual activities and childbearing. The timing and duration of marriage have an effect on population growth rate, fertility, mortality and migration. Age at first marriage marks the onset of regular exposure to the risk of childbearing. The analysis of timing of first marriages is done by examining the proportion of population married at ages 15-19 and Singulate Mean Age at Marriage (SMAM). The proportion of population married at age 15-19 provides the level of very young marriages whereas SMAM measures the mean age at first marriage for those who marry before age 50. The results indicate that women age 15-19 marry earlier in life compared to men. SMAM for both men and women have been increasing over the years, implying delayed entry into marriage.

Chapter 4 presents information on fertility patterns. The Total Fertility Rate has dropped by about one birth in the last 10 years from 4.8 births in 2009 to 3.4 births in 2019. TFR has continued to remain higher in rural areas, at 3.6 births than in urban areas, at 2.7 births. Further, the results show that early childbearing among teenagers age 15-19, is still common in Kenya, at 53 births per 1000 teenagers. Early childbearing is higher in rural, at 58 births per 1000 teenagers compared to urban areas, at 38 births per 1000 teenagers. The lower childbearing in urban areas could be associated with factors like; increased female education, increased urbanization, increased contraceptive use and the rise in age at first marriage. Regarding lifetime fertility, the proportion of teenage girls age 15-19 with no child has been increasing since 1989, an indication that the young females are postponing entry into motherhood.

Chapter 5 describes the mortality patterns based on the 2019 KPHC. Infant mortality rate is 36 deaths per 1,000 live births while under-five mortality rate is 52 deaths per 1,000 live births. The life expectancy at birth for males and females are 60.6 years and 66.5 years, respectively, which is a great improvement for the 10-year period. Maternal mortality ratio indicator shows that there are 355 maternal deaths in every 100,000 live births.

Chapter 6 presents information on migration. Young adults, age 15-34 dominate migration in Kenya. Six for every ten of migrants are of age 20-39 with age 25-29 accounting for the highest proportion. Men in Kenya are two times more likely to migrate for economic reasons compared to women who mainly migrate for marriage and family related issues.

Male migrants in rural and urban areas cited economic reasons as the main reason for migration. Women mainly moved for economic reasons and marriage in urban and rural areas, respectively. Majority of recent migrants move for economic reasons, followed by marriage and family related issues, settlement and education.

The counties of Kajiado, Kiambu, Mombasa, Nairobi City and Lamu have the highest net in-migration while Vihiga, Kisii, Kitui, Kakamega, and Busia counties have the highest net recent out-migration. Nairobi City and Mombasa counties were the most popular urban centres of destination for recent migrants, followed by Ruiru, Nakuru County and Eldoret.

Foreign born persons (immigrants) mainly originated from Uganda, Somalia, Tanzania, South Sudan and India. Emigrants from Kenya are mainly hosted in Gulf Cooperation Council (G.C.C) countries followed by countries in the Americas.

Somalia, South Sudan and Congo DRC accounted for about three in five of persons reported to have come into the country as refugees.

Chapter 7 provides conclusions and recommendations. Total Fertility Rate has consistently declined since 1999. TFR has declined by about one birth from 4.8 births per woman in 2009 to 3.4 births per woman in 2019. Fertility has declined faster in rural than in urban areas. Further, the proportion of teenage girls, age 15-19 with no children has been increasing since 1989, an indication that the young females are postponing entry into motherhood. Therefore, efforts must be made to reduce the high fertility in the Arid and Semi-Arid parts of the country.

The data further shows that mortality rates have been declining across all regions. However, the rates are still high compared to the set SDG targets of 25 deaths per 1,000 live births. In addition, differentials in the childhood mortality rates by sex across the counties still exists with males dying more compared to the females. The improvement in the life expectancies for sexes shows a higher chance of survival from birth and also in old ages. There is need therefore, to focus interventions to reduce the high childhood and maternal mortality in areas where infant mortality is high. These areas have equally high maternal mortality rates.

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	28.7
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 geo-spatial database; and benchmark for agricultural censuses/surveys.

1.3. Overview of Population Dynamics

Population dynamics is the mechanisms of how and why populations change in size and structure over time (UN, 2001/03). The most important factors in population dynamics include rates of reproduction (fertility), death (mortality) and migration (movement of persons in and out of the country or an area). It is represented symbolically by a "balancing equation" of;

$$P_2 = P_1 + B - D + I - E$$

where P_1 and P_2 are the population totals at times 1 and 2, B and D are the births and deaths which occurred between times 1 and 2; I , is the immigrants who moved into, and E are the emigrants who moved out of the country or area concerned between times 1 and 2.

Population Censuses are the main sources of information on population size while data on births and deaths is compiled from civil registration records. Information on immigrants and emigrants is derived from the administrative records maintained as people enter or leave the country. In practice, data from both the civil registration and migration records are usually incomplete in a number of developing countries. They therefore, rely largely on population censuses which are mostly supplemented by sample surveys to determine the components of population change. This monograph provides a review of the components of population change from the 2019 KPHC. This provides a representation of the current situation and forecast for future prospects.

1.4. Relevance of Population Dynamics

Information on changes in fertility, mortality and migration trends among the population is critical in socio-economic planning. Accurate and timely collection, analysis and dissemination of demographic data enables sound planning that meets the demands of the population and improves their well-being. The demographic processes that are determined mainly by age-sex distribution, fertility, mortality and migration influences the future size of the labour market, unemployment, job creation, poverty and environmental degradation among others. (UN, 2001/03).

Fertility has both positive and negative effects on the wealth creation of any country. The levels of fertility determine the future size of the population, its age and sex composition. Continued high levels of fertility lead

to faster population growth, which in turn results in increased socio-economic demands, while declining fertility may reduce future demand for socio-economic services. For example, sustained fertility decline decreases the proportion and number of persons of school going age in the population thus, may result in reduction of the cost of education provision and also lead into closure of some learning institutions in the long run. The level of fertility and teenage fertility in a population are among the most commonly used indicators of reproductive health. This information can be used as baseline information for monitoring the effectiveness of reproductive health programs. Moreover, declining fertility promotes socio economic development, and the population has a high disposable income. This helps spur the economic growth by enacting policies to improve health, education, and the overall standards of living of the population (Nancy M. Birdsall, Charles C. Griffins, 1988).

Nuptiality indirectly impacts planning relating to population growth. It is one of the direct determinants of fertility. Policies designed to have an effect on fertility levels are usually formulated within the framework of the direct determinants of fertility. Marital patterns may also have implications for social welfare support at the level of the household. Information on marital patterns together with other socio-economic variables such as those contained in the Census can be used in assessing the need for such support (UN, 2001/03).

Mortality is the number of deaths in a certain group of people in a certain period of time or the death rate within the population. It is also a demographic study of death in human populations. The level of mortality is one of the indicators of the well-being and health status of a population. It is also an indicator of the level of human development hence its inclusion in the construction of human development indices. The multidimensional approach to poverty recognizes that the level of mortality is an indicator of poverty in a population (UN, 2001/03)

Migration is the process of moving from one country, place, or locality to another with a purpose of staying. It has two broad components namely, international and internal migration. Migration is one of the components of population growth that affects the size and composition of the population at the national and sub-national levels, though its effects at national level is less important compared with fertility and mortality. At sub-national level, it is an important determinant of population growth.

Net migration partly determines the size and distribution of the labour market. Across the counties, some areas in the country are characterized by inflows of people from neighbouring areas for socioeconomic reasons. The inflows can bring with it problems of unemployment in the receiving areas or counties. Appropriate policies are required to mitigate the volume of movement in and out, to curb any growth in the labour force since migration has great socioeconomic consequences for the country, community and individuals. The Census migration information can provide a baseline for gauging and monitoring rural-urban migration and inform environmental policies aimed at preventing undesirable consequences of migration. The consequences of migration include increased demand for housing and education as well as health, sanitation, water, electricity, safety, and security services. It may also aggravate demand for social services and good infrastructure and encroachment of natural environment (UN, 2001/03).

Important to note is that a change in fertility, mortality, health status and migration leads to change in population size, growth rate, distribution, and age structure. This further leads to change in economic growth

rate, size of economy and poverty incidence. This shows that population dynamics provide insights into the magnitude of future demands in various sectors.

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 Geographical Positioning System (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 supervisors (both content and ICT) 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

The 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 the 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 was 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 CPro, Stata and Statistical Package for Social Sciences (SPSS) softwares. In addition, validation checks were done to ensure that 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 monitoring of activities. Field monitoring teams oversaw technical, logistical, and administrative aspects of enumeration in each region. Further, independent observers, drawn from the international community and national statistics offices 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.

1.6.1. Coverage errors

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.

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

1.6.2. 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.

1.6.3. Comparison of 2019 Census and Previous Censuses

This section 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 1969. The number of persons enumerated during the 2019 Population and Housing Census was 47,564,299 representing an increase of 23.2 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	5,939,306	5,993,267
5-9	2,491,840	3,470,201	3,952,376	5,597,716	6,202,643
10-14	2,074,771	2,990,730	4,009,455	5,034,855	6,346,072
15-19	1,741,845	2,379,439	3,417,064	4,169,543	5,285,857
20-24	1,327,404	1,903,130	2,852,320	3,775,103	4,447,674
25-29	1,055,712	1,629,771	2,351,866	3,201,226	3,854,555
30-34	818,076	1,159,526	1,705,604	2,519,506	3,570,719
35-39	615,594	918,923	1,435,730	2,008,632	2,650,116
40-44	535,182	732,126	1,045,913	1,476,169	2,259,231
45-49	440,879	574,416	848,224	1,272,745	1,786,256
50-54	373,930	476,495	692,376	956,206	1,308,610
55-59	275,311	360,190	464,877	711,953	1,118,094
60-64	217,228	318,451	413,292	593,778	870,022
65-69	183,127	230,712	304,123	390,763	658,178
70-74	128,908	174,221	256,720	339,301	514,539
75+	174,363	303,467	347,916	602,209	697,776
Age NS	29,485	20,772	34,483	21,086	690
Total	15,327,061	21,443,636	28,485,869	38,610,097	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 periods to about 2.8 per cent in the 1989-99. The rate of growth took an upsurge 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 2.1 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	0.031	0.001
5-9	0.033	0.013	0.035	0.010
10-14	0.037	0.029	0.023	0.023
15-19	0.031	0.036	0.020	0.024
20-24	0.036	0.040	0.028	0.016
25-29	0.043	0.037	0.031	0.019
30-34	0.035	0.039	0.039	0.035
35-39	0.040	0.045	0.034	0.028
40-44	0.031	0.036	0.034	0.043
45-49	0.026	0.039	0.041	0.034
50-54	0.024	0.037	0.032	0.031
55-59	0.027	0.026	0.043	0.045
60-64	0.038	0.026	0.036	0.038
65-69	0.023	0.028	0.025	0.052
70-74	0.030	0.039	0.028	0.042
75+	0.055	0.014	0.055	0.015
Overall growth rate (% p.a.)	3.36	2.84	3.04	2.09

1.6.4. Age-Sex Structure

The age-sex data is a structure 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.

1.6.5. 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-sex 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.

1.6.6. Sex Ratio at Birth

Sex Ratio at Birth (SRB) is an analytical tool and is 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 Ratio at infancy below 100 denote under-coverage while those above 100 would imply double counting.

In a systematic study of several countries using Demographic and Health Surveys (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 SRBs consistent with past historical norms (SRB between 102 and 107). There appears to be a possible over-reporting of male births in Isiolo, Tana River, Wajir, Turkana and Samburu. The counties SRBs are close to those observed in Southeast 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
1 Vihiga	99.7
2 Kakamega	100.8
3 Busia	100.9
4 Bungoma	101.4
5 Tharaka-Nithi	101.6
6 Nyamira	102.1
7 Trans-Nzoia	102.2
8 Uasin Gishu	102.4
9 Nyeri	102.5
10 Kiambu	102.5
11 Meru	102.6
12 Nandi	102.6
13 Nairobi City	102.6
14 Kirinyaga	102.7
15 Embu	102.8
16 Elgeyo-Marakwet	102.8
17 Kisii	102.8
18 Taita-Taveta	102.9
19 Siaya	103.0
20 Kitui	103.1
21 Murang'a	103.1
22 Kisumu	103.1
23 Machakos	103.3
24 Nyandarua	103.5
25 Makueni	103.6
26 Mombasa	103.8
27 Kilifi	103.8
28 Migori	103.9
29 West Pokot	104.0
30 Nakuru	104.0
31 Homabay	104.1
32 Kwale	104.3
33 Kajiado	104.3
34 Kericho	104.3
35 Laikipia	104.5
36 Bomet	104.5
37 Mandera	105.0
38 Narok	105.9
39 Lamu	106.3
40 Baringo	106.6
41 Garissa	107.0
42 Marsabit	107.0
43 Isiolo	108.0
44 Tana River	108.8
45 Wajir	109.0
46 Turkana	109.0
47 Samburu	109.0

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

1.6.7. 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 in Table 1.7. 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 percent 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 (2009-2019)	Adjusted Births (2)	Adjusted 2019 birth rate
	Initial 2009	Final 2019					
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

1.7. 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.

1.8. Definition of Terms and Key Concepts

Economic activity status: Is the relationship of a person to economic activity, based on a reference period defined in data sources on activity. In the broader sense we distinguish economically active and inactive population.

Emigrant: Is an international migrant, departing to another country by crossing an international boundary

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

Immigrant: Is an international migrant entering an area from a place outside the country. Immigrants’ cross-national borders during their migration from the perspective of the country in which they enter.

Internal Migration: Refers to migration across regional administrative boundaries within a country. Internal migration can be categorized by type (in-migration and out-migration) and directional flow (rural-urban, rural-rural, urban-rural, and urban-urban)

International migration: Is the process by which one changes his place of usual residence by crossing international boundaries into another country.

Lifetime Migration: Is migration that occurs between birth and the time of the census or survey. Thus, a lifetime migrant is one whose current County of residence is different from his or her county/country of birth, regardless of intervening migration.

Migration: Is the change of place of usual residence for a time period of three months or more of an individual or group of persons from an administrative area into another. A migrant is a person who moves from one political area to another.

Net-Migration: Is the balance between in-migration and out-migration. According to direction of the balance, it may be characterized as net in-migration or net out-migration. Thus, net flow in or out is indicated by a plus (+) or minus (-) sign.

Out-migrant: Is a person who departs from a migration-defining area by crossing its boundary to a point outside it, but within the same country.

Refugee: Is a person who has been forced to leave his or her home and seek refuge elsewhere. Under the United Nations Convention Relating to the Status of Refugees of 1951, a refugee is more narrowly defined (in Article 1A) as a person who "owing to a well- founded fear of being persecuted for reasons of race, religion, nationality, membership to a particular social group, or political opinion, is outside the country of his nationality, and is unable to or, owing to such fear, is unwilling to avail himself of the protection of that country". The concept of a refugee was expanded by the Convention's 1967 Protocol and by regional

conventions in Africa and Latin America, to include persons who had fled war or other violence in their home country.

Sex: Refers to condition or character of being female or male

Recent Migration: Is movement in the recent past of persons enumerated during the census, relative to their previous place of residence a year prior to census. A recent migrant is one whose current area of residence is different from his or her previous place of residence, one year ago. Note that if the person was still living in the county, then he/she was not considered as a migrant.

Usual Residence: the place at which the person has lived continuously for most of the last 12 months (that is, for at least six months and one day) or for at least the last 12 months, not including temporary absences for holidays or work assignments, or intends to live for at least six months.

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.

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

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

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

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.

Total Fertility Rate (TFR): Is 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.

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

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.

Small urban centres: These are centres with a population of less than 10,000 people

Medium-size urban centres: These are centres with a population of more than 10,000 but less than 100,000 people.

Chapter 2: Population Size, Growth, Structure and Distribution

2.1. Introduction

There are several demographic parameters that influence population growth or decline. These include population size, population density, age structure, birth rates, sex ratio, among others (Tarsi & Tuff, 2012). Number of individuals within a population is the most fundamental demographic parameter with significant implications in population dynamics (Lebreton et al., 1992). Population size is basically the number of individuals present in a subjectively designated geographic range (Lebreton et al., 1992; Tarsi & Tuff, 2012).

The pattern of where people live describe population distribution, which is usually uneven, some areas are sparsely populated and others densely populated. Population density is a more complete description of a population size which is essentially the size of a population in relation to the amount of space the population occupies; calculated as the number of individuals per unit area (Tarsi & Tuff, 2012).

Age and sex distributions are fundamental characteristics of population. Population pyramids are graphical distributions commonly used to describe these two attributes of a population, sometimes also known as age-sex pyramid or age-sex structure (John, 2001; Tarsi & Tuff, 2012). Individuals are sorted into age-specific cohorts then they are profiled by sex and size. This helps in determining the reproductive potential of the population so as to estimate future and current growth (Lebreton et al., 1992).

The 2019 KPHC questionnaire on column P00 listed all persons who spent the night of August 24th/25th in the household and collected information on age and sex of each person. This chapter describes the size and distribution of persons enumerated on the census night.

2.2. Population Size and Growth

In the 2019 KPHC, a total population of 47,557,273 was enumerated of which 23,544,460 were males, 24,011,294 were females and 1,519 were intersex. Table 2.1 shows some of the indicators of population size and growth since 1969. The 2019 population size was slightly over four-fold compared to 1969, and it is projected to increase by nearly 1 million annually. Further, it is estimated that the 2019 population will take about 30 years to double in size. The annual growth rate has declined from 3.4 percent in 1969 census to 2.3 percent in 2019 census.

Table 2.1: Trends in Population Size and Growth, 1969-2019⁺

Census Year	1969	1979	1989	1999	2009	2019
Population(millions)	10.9	15.3	21.5	28.7	37.7	47.6
Annual growth rate (% p.a.)	3.4	3.4	3.4	2.9	2.7	2.3
Doubling time¹ (Years)	20.7	20.6	20.9	23.8	25.7	30.0
Absolute increase per annum (,000)	..	438,438	612,172	723,784	903,625	983,242
Size relative to 1948 (1969=100)	100	140	197	263	346	437

+Revised

..Data Missing

¹ Doubling Time-Time it takes a population to double in size

Table 2.2 shows the natural growth rate by county in 2009 and 2019. The rate of natural increase is a measure of how quickly a population is growing or declining (Samuel et al., 2001). Notably, immigration or emigration are not factored in the calculation of the natural growth rate, which is solely determined by differences between crude birth and death rates (Samuel et al., 2001).

In both 2009 and 2019, population growth was experienced nationally and in all counties. At national level, the rate of natural increase in 2019 was lower (1.7%) compared with 2009 (2.8%). In urban areas, the rate was higher (2.4%) compared to rural areas (1.7%) in 2019. Additionally, all counties have a lower natural growth rate in 2019 compared to 2009, although the differences vary across the counties.

In 2009, analysis by county show that Kajiado had the highest natural growth rate of 6 percent followed by Nyamira at 5 percent. Whereas in 2019, counties with the highest natural growth rates were Mandera and Turkana at 4.0 percent each, followed by Wajir (3.3%) and Marsabit (3.1%).

Table 2.2: Natural Growth Rate, 2009 and 2019

County	2009			2019		
	Crude Birth	Crude Death	Rate of Natural	Crude Birth	Crude Death	Rate of Natural
	Rate	Rate	Increase	Rate	Rate	Increase
Kenya	38.4	10.4	2.8	27.9	10.5	1.7
Rural	..	..	..	26.8	10.0	1.7
Urban	..	..	..	30.5	6.5	2.4
County						
Mombasa	37.1	8.9	2.8	29.3	9.7	2.0
Kwale	47.5	10.1	3.7	32.3	8.2	2.4
Kilifi	47.0	9.3	3.8	29.0	10.2	1.9
Tana River	42.2	11.0	3.1	35.0	12.9	2.2
Lamu	33.0	11.5	2.2	28.0	7.0	2.1
Taita Taveta	33.0	15.2	1.8	25.2	13.6	1.2
Garissa	51.7	7.8	4.4	31.5	6.5	2.5
Wajir	52.2	9.3	4.3	44.2	11.6	3.3
Mandera	54.9	14.3	4.1	49.4	9.1	4.0
Marsabit	45.4	7.3	3.8	44.3	12.9	3.1
Isiolo	42.1	6.6	3.6	27.9	10.6	1.7
Meru	35.3	7.7	2.8	23.1	8.2	1.5
Tharaka-Nithi	33.1	9.6	2.4	21.6	10.6	1.1
Embu	32.8	8.3	2.5	22.3	7.5	1.5
Kitui	42.8	10.2	3.3	22.7	7.4	1.5
Machakos	45.1	12.0	3.3	22.1	7.4	1.5
Makueni	36.2	11.9	2.4	19.8	5.5	1.4
Nyandarua	35.8	9.9	2.6	23.7	11.6	1.2
Nyeri	36.8	12.6	2.4	20.8	10.2	1.1
Kirinyaga	26.8	9.4	1.7	21.0	10.0	1.1
Murang'a	23.5	11.9	1.2	21.9	10.8	1.1
Kiambu	38.7	8.0	3.1	27.0	8.8	1.8
Turkana	51.2	10.9	4.0	45.7	6.2	4.0
West Pokot	44.0	10.2	3.4	36.5	12.0	2.5
Samburu	47.8	8.5	3.9	33.1	11.2	2.2
Trans Nzoia	44.0	9.7	3.4	27.2	8.9	1.8
Uasin Gishu	42.4	10.8	3.2	26.5	11.5	1.5
Elgeyo Marakwet	43.8	10.2	3.4	26.9	8.1	1.9
Nandi	43.0	11.5	3.2	24.7	12.8	1.2
Baringo	45.9	10.7	3.5	27.4	6.9	2.1
Laikipia	36.3	11.9	2.4	28.0	11.6	1.6
Nakuru	40.2	11.8	2.8	28.1	9.5	1.9
Narok	51.3	6.9	4.4	32.9	14.1	1.9
Kajiado	63.2	7.5	5.6	30.5	8.1	2.2
Kericho	54.3	10.3	4.4	25.1	13.0	1.2
Bomet	46.2	9.4	3.7	26.2	12.9	1.3
Kakamega	44.8	11.7	3.3	25.0	13.9	1.1
Vihiga	36.9	16.8	2.0	22.8	9.4	1.3
Bungoma	46.8	10.2	3.7	26.4	10.2	1.6
Busia	47.2	12.6	3.5	26.8	9.2	1.8
Siaya	46.3	19.1	2.7	26.6	15.5	1.1
Kisumu	45.1	13.7	3.1	27.5	7.0	2.1
Homa Bay	53.7	12.7	4.1	28.3	8.7	2.0
Migori	51.5	13.0	3.9	30.8	12.3	1.9
Kisii	44.4	9.8	3.5	23.5	9.8	1.4
Nyamira	56.5	9.7	4.7	21.7	7.6	1.4
Nairobi	36.0	6.3	3.0	29.0	9.2	2.0

..Data Missing

Table 2.3 shows the distribution of the population and inter-censal growth rate from 1999 to 2019 by County. Counties with high inter-censal growth rates for the 2009-2019 period of over 5.0 percent per annum were: Garissa (8.1), Wajir (6.7) and Isiolo (6.3). The increase in Garissa and Wajir counties could be attributed to an increase in birth rates in the last ten years. Counties that recorded low growth rates of below 1.0 percent per annum during the same period were: Kakamega (0.9,) Nyeri (0.9), Turkana (0.8), Tharaka-Nithi (0.7), Nyandarua (0.7), Vihiga (0.4) and Nyamira (0.1). The reduced growth rates in Kakamega, Nyeri, Tharaka Nithi, Vihiga and Nyamira counties could be attributed to the decrease in birth rates and out-migration which were experienced in the 2009-2019 period.

Table 2. 3: Trends in Distribution of Population Size and Inter-censal Growth Rate by County, 1999 – 2019

County	Population			% Change in Population		Annual Intercensal Growth Rate	
	1999	2009	2019	1999~2009	2009~2019	1999~2009	2009~2019
Mombasa	643,060	938,500	1,208,112	45.9	28.7	3.8	2.5
Kwale	490,973	649,588	866,709	32.3	33.4	2.8	2.9
Kilifi	815,994	1,108,770	1,453,599	35.9	31.1	3.1	2.7
Tana River	178,609	240,008	315,874	34.4	31.6	3	2.7
Lamu	71,215	101,483	143,891	42.5	41.8	3.5	3.5
Taita–Taveta	241,942	284,516	340,623	17.6	19.7	1.6	1.8
Garissa	262,694	375,968	841,235	43.1	123.8	3.6	8.1
Wajir	309,268	399,432	781,228	29.2	95.6	2.6	6.7
Mandera	246,063	618,966	867,319	151.5	40.1	9.2	3.4
Marsabit	172,481	291,075	459,598	68.8	57.9	5.2	4.6
Isiolo	98,971	143,211	267,966	44.7	87.1	3.7	6.3
Meru	1,096,325	1,355,359	1,545,468	23.6	14	2.1	1.3
Tharaka-Nithi	303,932	365,142	393,109	20.1	7.7	1.8	0.7
Embu	443,409	515,959	608,553	16.4	17.9	1.5	1.7
Kitui	810,779	1,012,236	1,136,079	24.8	12.2	2.2	1.2
Machakos	895,816	1,097,816	1,421,760	22.5	29.5	2	2.6
Makueni	766,111	884,258	987,550	15.4	11.7	1.4	1.1
Nyandarua	468,458	596,053	638,233	27.2	7.1	2.4	0.7
Nyeri	647,887	693,354	759,125	7	9.5	0.7	0.9
Kirinyaga	454,090	527,880	610,379	16.3	15.6	1.5	1.5
Murang'a	907,446	942,101	1,056,576	3.8	12.2	0.4	1.1
Kiambu	1,204,009	1,622,363	2,417,288	34.7	49	3	4
Turkana	389,319	854,991	926,484	119.6	8.4	7.9	0.8
West Pokot	305,583	512,572	621,135	67.7	21.2	5.2	1.9
Samburu	135,565	223,897	310,316	65.2	38.6	5	3.3
Trans-Nzoia	568,498	818,539	990,289	44	21	3.6	1.9
Uasin Gishu	613,386	893,609	1,163,061	45.7	30.2	3.8	2.6
Elgeyo-Marakwet	282,793	369,902	454,433	30.8	22.9	2.7	2.1
Nandi	568,998	752,665	885,651	32.3	17.7	2.8	1.6
Baringo	400,571	555,441	666,730	38.7	20	3.3	1.8
Laikipia	316,791	398,992	518,532	25.9	30	2.3	2.6
Nakuru	1,176,233	1,602,636	2,161,935	36.3	34.9	3.1	3
Narok	529,711	850,292	1,157,748	60.5	36.2	4.7	3.1
Kajiado	395,905	686,992	1,117,580	73.5	62.7	5.5	4.9
Kericho	461,651	757,948	901,609	64.2	19	5	1.7
Bomet	689,512	723,813	875,630	5	21	0.5	1.9
Kakamega	1,289,233	1,698,576	1,867,283	31.8	9.9	2.8	0.9
Vihiga	496,588	567,387	589,940	14.3	4	1.3	0.4
Bungoma	1,005,094	1,374,477	1,670,449	36.8	21.5	3.1	2
Busia	548,163	743,592	893,621	35.7	20.2	3	1.8
Siaya	712,305	841,746	992,948	18.2	18	1.7	1.7
Kisumu	788,539	968,451	1,155,369	22.8	19.3	2.1	1.8
Homa Bay	745,040	963,441	1,131,897	29.3	17.5	2.6	1.6
Migori	656,935	916,665	1,116,297	39.5	21.8	3.3	2
Kisii	943,202	1,151,898	1,266,759	22.1	10	2	1
Nyamira	495,620	598,029	605,554	20.7	1.3	1.9	0.1
Nairobi City	2,082,191	3,134,261	4,395,749	50.5	40.2	4.1	3.4

2.3. Age-Sex Structure

The age and sex structure of a population is derived from the number of individuals of each sex in each age category, in a particular population (John, 2001). Knowledge of age structure is essential for analysis of the key determinants of population change – fertility, mortality, and migration. Table 2.4 shows the trends in percentage distribution of the population by age groups since 1969. Figure 2.4 shows the trends in proportions of selected special age groups since 1969.

Kenya's population has always been dominated by children; however, the proportion of children age 0-14 years has gradually declined from about 48 per cent in 1969 to 39 per cent in 2019. The proportion of youthful population (15-34 years) has been increasing over time from about 30 per cent in 1969 to about 36 per cent in 2019. Similarly, in the recent past, persons in age 25-34 have been gradually increasing from about 12 per cent in 1969 to nearly 16 per cent in 2019. Notably, the proportion of the working population (15-64 years) has been steadily increasing from about 48 per cent in 1969 to about 57 per cent in 2019. Moreover, there was an increase in the proportion of the elderly to about 6 per cent, which had remained constant at about 5.0 percent from 1969 to 2009. The slight increase in the proportion of elderly could be attributed to advancement in the quality in terms of improved medical care, improved diet and nutrition, as well as the general wellbeing (Maina, 2017).

Table 2. 4: Trends in Percentage Distribution of Population by Age Groups 1969-2019

Census Year	1969		1979		1989		1999		2009		2019	
Group	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
0-4	2,104,482	19.2	2,843,406	18.5	3,801,079	17.7	4,534,902	15.8	5,939,306	15.4	5,991,128	12.6
5-9	1,809,958	16.5	2,491,840	16.3	3,470,208	16.2	3,963,136	13.8	5,597,716	14.5	6,200,719	13.0
10-14	1,378,515	12.6	2,074,771	13.5	2,990,744	13.9	4,038,635	14.1	5,034,855	13	6,345,864	13.3
15-19	1,104,999	10.1	1,741,845	11.4	2,379,466	11.1	3,403,178	11.9	4,169,543	10.8	5,286,535	11.1
20-24	878,111	8	1,327,404	8.7	1,903,300	8.9	2,832,918	9.9	3,775,103	9.8	4,448,037	9.4
25-29	760,839	7	1,055,712	6.9	1,629,914	7.6	2,259,503	7.9	3,201,226	8.3	3,853,955	8.1
30-34	580,189	5.3	818,076	5.3	1,159,612	5.4	1,685,922	5.9	2,519,506	6.5	3,570,133	7.5
35-39	516,955	4.7	615,594	4.0	918,984	4.3	1,419,012	4.9	2,008,632	5.2	2,649,679	5.6
40-44	395,872	3.6	535,182	3.5	732,167	3.4	1,033,491	3.6	1,476,169	3.8	2,258,861	4.7
45-49	336,360	3.1	440,879	2.9	574,441	2.7	838,828	2.9	1,272,745	3.3	1,785,957	3.8
50-54	271,528	2.5	373,930	2.4	476,514	2.2	684,806	2.4	956,206	2.5	1,308,371	2.8
55-59	216,904	2	275,311	1.8	360,196	1.7	460,016	1.6	711,953	1.8	1,117,878	2.4
60-64	196,974	1.8	217,228	1.4	318,457	1.5	409,228	1.4	593,778	1.5	869,837	1.8
65+	391,009	3.6	486,398	3.2	708,409	3.3	932,582	3.3	1,332,273	3.5	1,870,203	3.9
Not Stated	-		29,485	0.2	25,283	0.1	190,443	0.7	21,086	0.1	116	0.0
Total	10,944,664	100	15,329,040	100	21,450,763	100	28,688,599	100	38,610,097	100	47,557,273	100

2.4. Children, Working Age and Elderly Population

Figure 2.1 shows the trends in the children population age 0-14 since 1969. The absolute size of children age 0-14 population has increased over the years, whereas, the proportion of children out of the total population has been declining (from 48.3% to 39.0% in 2019). Further, the growth rate of children (0-14 years) has been declining over time from 3.4 per cent per annum between 1969 and 1979, to 1.1 per cent per annum between 2009 and 2019. This could be attributed to the reduction in the birth rates which has been experienced over time in the country.

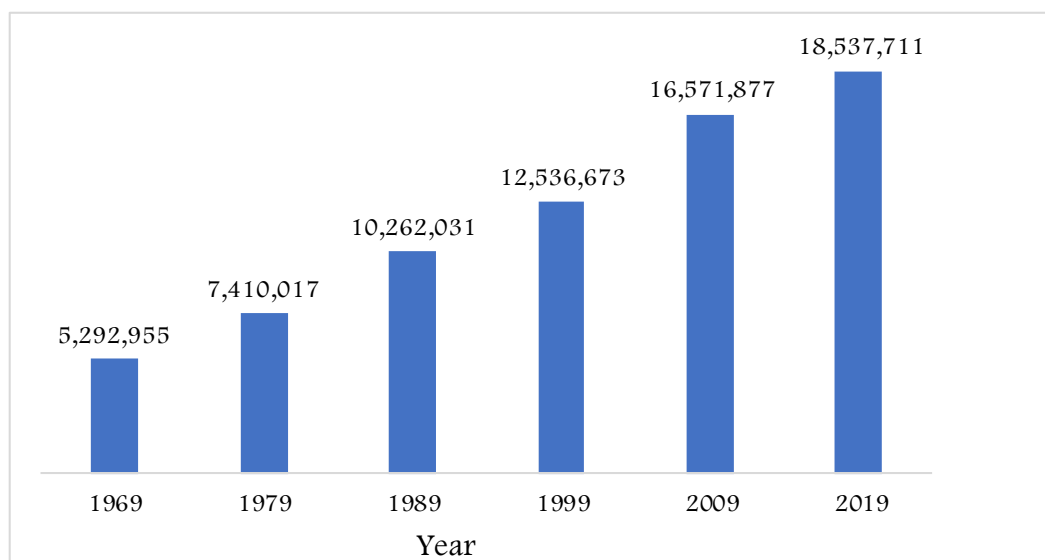


Figure 2.1 Trends in Children Population (0-14 years), 1969-2019

Figure 2.2 shows the trends in the working age population (15-64 years) since 1969 to 2019. The proportion of the working age population out of the total population has been increasing over time (48.1% in 1969 to 57.1% in 2019), so is the absolute size. However, the growth rate of the working population has declined from 3.4 per cent per annum between 1969 and 1979 to 2.7 between 2009 and 2019 attributed to the decline in birth rates.

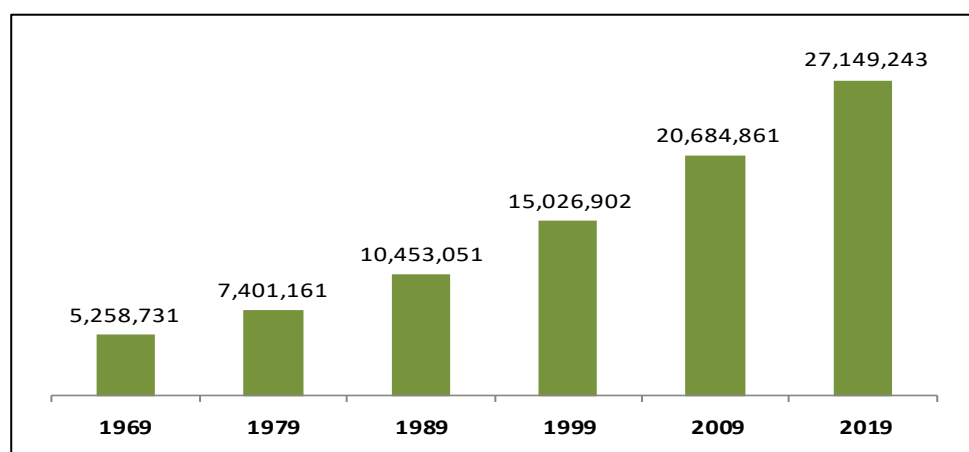


Figure 2.2 Trends in Working Age Population (15-64 years), 1969-2019

Trends in the population aged 60 years and above since 1969 is shown in figure 2.3. Although the proportion of the elderly population (age 60 years and above) to the total population has generally been low over time, the absolute size has increased from slightly above half a million in 1969 to about 2.7 million in 2019. The growth rate of the elderly population between 1969 and 1979 was 1.8 per cent per annum, about two times lower, compared with 3.5 per cent per annum between 2009 and 2019. The increase in growth rate could possibly be as a result of improvement in quality of life, which is also reflected in the increased life expectancy (Maina, 2017).

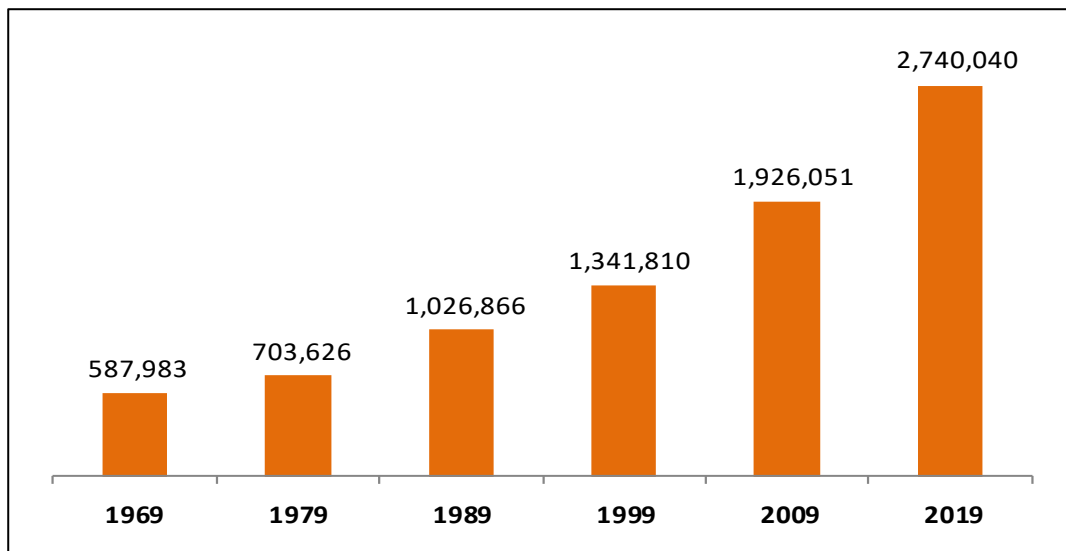


Figure 2.3 Trends in Population Aged 60 and Above, 1969-2019

Figure 2.4 presents the trends in proportions of selected special age groups from 1969 to 2019. The proportion for all selected age groups have increased over time apart from children age 0-14 years (from 48.3 % in 1969 to 39% in 2019). The percentage point increase was highest among the working population, 9 per cent points (from 48.1% in 1969 to 57.1 % in 2019), and lowest in the elderly population, 0.4 per cent points, from 5.4 per cent to 5.8 per cent during the same duration.

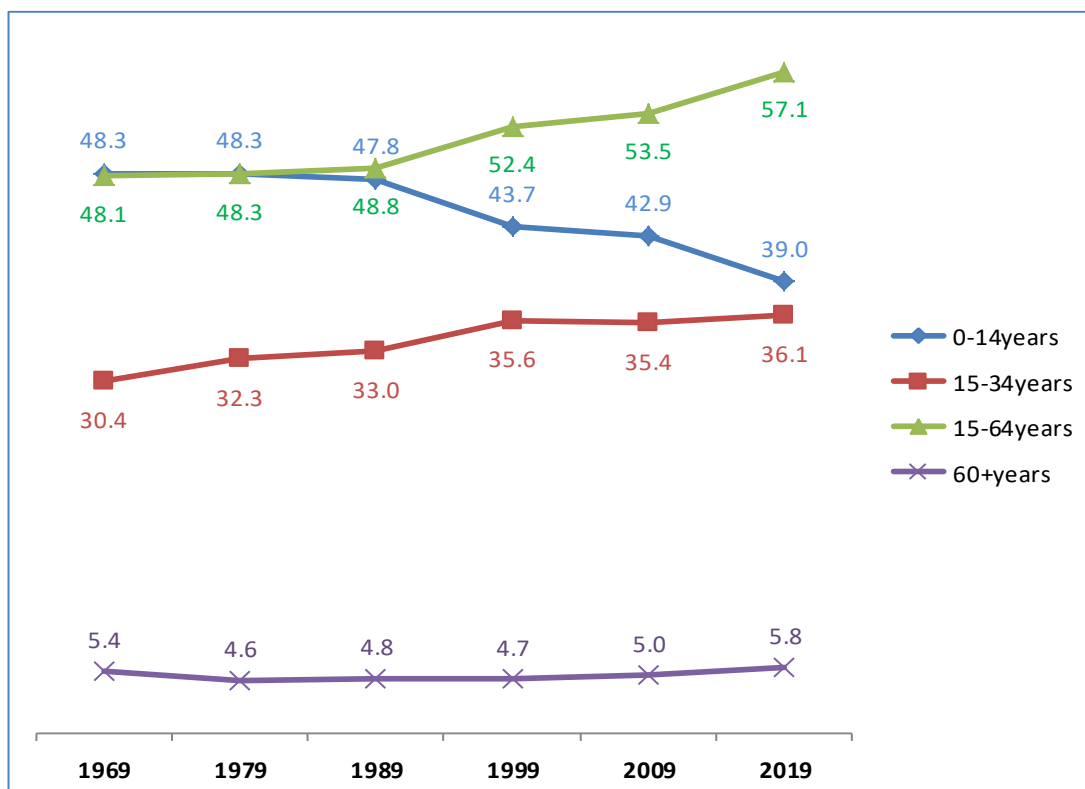


Figure 2.4 Trends in proportions of selected special age groups, 1969-2019.

2.5. Population Pyramid

Population pyramids are graphic representation of the age-sex structure of a population. Figure 2.5 shows the population pyramid for Kenya in 2019. The pyramid remains narrow towards the top replicating a triangular shape with a broader base. This shows a population that is youthful with a much smaller proportion of older

persons at the top of the pyramid, indicative of high fertility rates and mortality rates, although these rates are decreasing gradually over time (Boucher, 2016).

Notably the population pyramid has not changed much since 1969. The pyramid typically shows a high number of young dependents from its broad base with the sides of the pyramid decreasing as fewer people reach old age. Each age cohort is smaller in size than the one below it. However, as much as the base is still broad, the side of the pyramid at the bottom is reducing reflecting the general decrease over the years in proportions of children age 0-14 years.

Efforts needs to be enhanced to advance the population structure from a youthful population to a more mature age structure so as to accelerate economic growth through the demographic dividend. This can be achieved by a shift from high to low fertility and mortality rates. Therefore, the share of the working age population increases which increases the labour supply, human capital and savings, consequently resulting to an increased economic growth (Luoma, 2016).

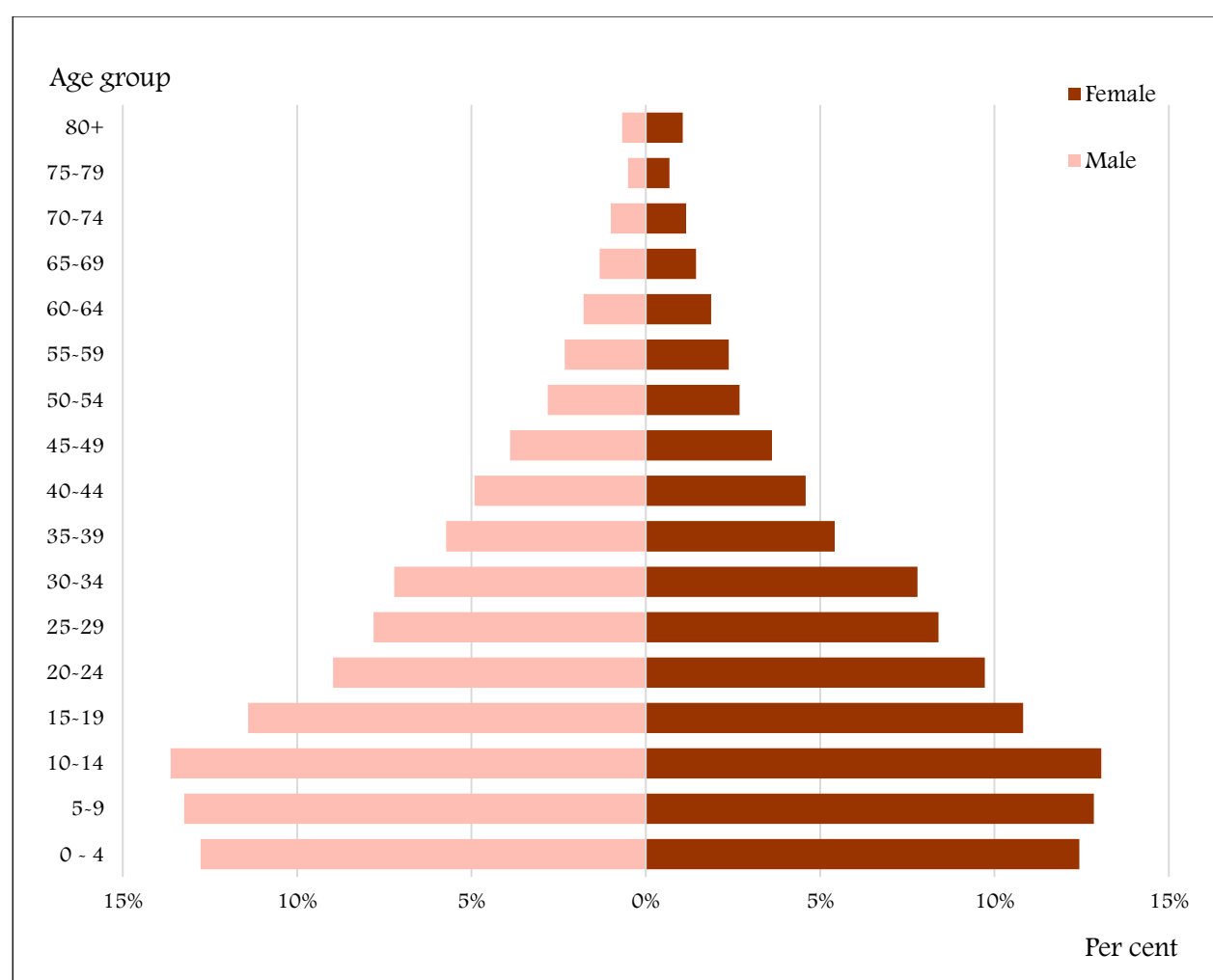


Figure 2.5 Population Pyramid Kenya, 2019

2.6. Population Ratios

The ratios captured in this report include sex ratio, total dependency ratio, child dependency, age dependency, and parent support ratios. Table 2.5 shows total dependency ratio, child dependency, age dependency, and parent support ratios by county.

2.6.1. Total Dependency Ratio

The total dependency ratio is also referred to as dependency ratio. It is used to measure the burden caused by non-working population (0-14 and 65+) on a nation's working age population (15-64 years); in other words, the pressure on the productive population by the non-productive population (United Nations Population Division, 2019). The higher the total dependency ratio, the greater the burden to the working population; a low dependency ratio means that there are enough people who are working to support the dependent population (Amadeo, 2020). Increasing fertility and allowing immigration especially for young working population are a few strategies to lower the dependency ratio, although job reductions in the future could impact the effectiveness of these strategies (Amadeo, 2020).

The total dependency ratio nationally stood at 75.2 per cent. It means that there are about 75 dependents for every 100 working adults. The ratio is higher in rural areas (87 per cent) compared to urban areas (53.7 per cent). In rural areas there are about 9 dependents for every 10 working adults whereas in urban areas, there are about 5 dependents for every 10 working adults. Counties with high total dependency ratio of over 100 are Mandera (128.7%), West-Pokot (117.2%), Samburu (108.2%), Wajir (107.1%), Tana River (106.1%) and Narok (105.5%). In these counties, the pressure and the burden on the productive population is high. The reverse applies for counties with low total dependency ratio which are Nairobi City, Mombasa, Kiambu and Kirinyaga with 46.4, 52.5, 52.6 and 54.5 per cent, respectively.

2.6.2. Child Dependency Ratio

The child dependency ratio is the number of children aged 0-14 years relative to the working age population (15-64 years) (Bryant, Faruquee, Velculescu & Arbatli, 2004). Child dependency ratio at national level is at 68.3 per cent. This means that there were nearly 68 children for every 100 working adults. The child dependency ratio was higher in rural areas (77.9%) compared to urban areas (50.8%); about 78 children for every 100 working adults in rural areas and 51 children for every 100 working adults in urban areas. Counties with high child dependency ratio are Mandera (125.4%), West Pokot (111.0%), Wajir (104.1%), Samburu (101.9%), Narok (100.5%) and Tana River (99.7%). On the other hand, counties with low child dependency ratio were Mombasa, Nyeri, Kiambu, Nairobi City and Kirinyaga at 49.7, 47.4, 47.2, 44.5 and 44.5 per cent respectively. These ratios could be attributed by low fertility rates in these counties.

2.6.3. Old Age Dependency

The proportion of the population who were 60 and above has some implications on the socio-economic status of a country. Two indicators are useful for describing the extent to which older persons in a population depend on the working population. These indicators are: potential support ratio and parent support ratio.

2.6.4. Potential Support/Age Dependency Ratio

Potential support ratio is the alternative way of expressing old age dependency. It is stated as the number of persons in the working age 15-64 per person aged 65 and above (United Nations Population Division, 2019). Nationally, there are about 7 persons aged 65 and above per 100 person aged 15-64 years. In other words, there are nearly 7 elderly persons per 100 working adults. The aged dependency ratio was about three times higher in rural areas compared to urban areas. The ratio varied from a low of 1.9 in Nairobi

City to a high of 14.3 in Murang'a County. A high potential support ratio indicates high dependency burden on the working population and vice versa.

2.6.5. Parent Support Dependency Ratio

Parent support ratio is the number of persons aged 85 and above to number of persons aged 50-64 expressed per 100 persons (United Nations Population Division, 2019). This measure is commonly used to assess the demands on families to provide support to the oldest members of the society. Basically, parent support ratio is only a rough indicator of changes expected in the family support system. In Kenya there were about 6 persons aged 85 and above per 100 persons aged 50- 64. The parent support dependency ratio was about three times higher in rural areas compared to urban areas. Kitui (11.6) and Makueni (11.2) counties had the highest parent support ratio, whereas, Nairobi City (1.5) and Mombasa (1.8) had the lowest ratio.

Table 2.5: Total, Child, Aged and Parent Support Dependency Ratios by County, 2019

County	Total Dependency Ratio	Child Dependency Ratio	Age Dependency Ratio	Parent Support Dependency Ratio
KENYA	75.2	68.3	6.9	6.4
Rural	87	77.9	9.1	7.7
Urban	53.7	50.8	2.8	2.8
Mombasa	52.5	49.7	2.9	1.8
Kwale	94.2	86.8	7.4	5.4
Kilifi	85.4	78.3	7.1	5.4
Tana River	106.1	99.7	6.4	4.9
Lamu	75.0	68.0	6.9	4.2
Taita- Taveta	66.1	56.5	9.6	6.5
Garissa	89.6	86.4	3.2	3.6
Wajir	107.1	104.1	3.1	3.2
Mandera	128.7	125.4	3.3	4.6
Marsabit	99.8	93.7	6.0	6.9
Isiolo	92.5	86.7	5.8	6.5
Meru	68.2	58.8	9.4	8.2
Tharaka- Nithi	68.3	56.4	12.0	9.9
Embu	60.4	50.2	10.2	9.1
Kitui	83.2	71.6	11.6	11.6
Machakos	61.8	52.8	9.0	9.0
Makueni	71.2	59.7	11.6	11.2
Nyandarua	70.4	60.8	9.6	6.6
Nyeri	60.2	47.4	12.8	8.1
Kirinyaga	54.5	44.5	10.0	8.0
Murang'a	69.2	54.8	14.3	9.9
Kiambu	52.6	47.2	5.4	5.4
Turkana	91.1	86.3	4.8	4.3
West Pokot	117.2	111.0	6.2	5.4
Samburu	108.2	101.9	6.2	6.8
Trans Nzoia	85.4	79.0	6.4	5.4
Uasin Gishu	65.9	61.0	4.9	5.6
Elgeyo- Marakwet	86.2	78.3	7.9	7.6
Nandi	76.6	69.4	7.2	7.6
Baringo	93.3	85.9	7.5	7.0
Laikipia	73.9	65.4	8.5	5.9
Nakuru	69.8	64.0	5.8	5.3
Narok	105.5	100.5	5.0	5.6
Kajiado	68.7	65.1	3.6	4.0
Kericho	75.5	69.0	6.4	6.7
Bomet	82.8	76.1	6.6	8.4
Kakamega	87.7	79.1	8.6	5.6
Vihiga	87.1	73.1	14.0	8.6
Bungoma	91.8	84.9	6.9	5.7
Busia	87.8	79.8	8.1	6.5
Siaya	89.9	78.5	11.4	7.9
Kisumu	75.7	68.9	6.8	5.2
Homabay	95.6	87.1	8.5	6.9
Migori	96.7	90.4	6.4	6.2
Kisii	81.3	73.1	8.2	6.4
Nyamira	78.9	69.9	9.0	6.3
Nairobi City	46.4	44.5	1.9	1.5

2.7. Population Distribution and Density

Population distribution describes how people are spread across a specific area, basically, this shows where people live; population density on the other hand, is expressed as number of persons per square kilometers (Tarsi & Tuff,2012).

Table 2.6 shows the population distribution and density by County from 1999 to 2019. Population distribution is generally uneven. Nairobi City continues to have the largest share of the population followed by Kiambu, Nakuru, Kakamega and Bungoma counties. Lamu county, followed by Isiolo, Samburu, Tana River, Taita Taveta, Tharaka–Nithi, Elgeyo-Marakwet and Marsabit counties had the smallest share of the total population in 2019. There were marginal differences in the share of the total population across all counties in 2019 compared to 1999.

In 2019, Nairobi City had the highest population density of 6,245, followed by Mombasa and Vihiga counties at 5,494 and 1,046 respectively. The other densely populated counties are Kisii (957), Kiambu (952), Nyamira (675), Kakamega (619), Kisumu (554), Bungoma (552) and Busia (526). Marsabit (6), Tana River (8) and Isiolo (11), are the least populated counties.

A range of both human and natural factors affect the population distribution which is uneven. Natural resources, climatic conditions, political stability, cultural propensity, job opportunities and agriculture potential play a role in population density (Tarsi & Tuff,2012). The densely populated counties of Nairobi City, Mombasa, Kiambu and Kisumu could be attributed to employment opportunities, availability of social amenities, well developed physical infrastructure, among others. On the other hand, Kakamega, Vihiga, Kisii, Nyamira and Busia counties and their environs have reliable rainfall with fertile soils. The sparsely populated counties like Marsabit, Tana River and Isiolo, are those in Arid and Semi-Arid areas with unreliable rainfall and are prone to insecurity (KNBS, 2009).

Table 2.6: Population Distribution and Density by County, 1999-2019

County	Land		Total Population			% share of total population			Population Density		
	Area(Area in square km)-	Land Area(Area in square km)	1999	2009	2019	1999	2009	2019	1999	2009	2019
	1999 and 2009	2019									
Mombasa	218.9	219.9	643,060	938,500	1,208,112	2.3	2.5	2.5	2,938	4,287	5,494
Kwale	8,270.2	8,253.7	490,973	649,588	866,709	1.7	1.7	1.8	59	79	105
Kilifi	12,609.7	12,553.3	815,994	1,108,770	1,453,599	2.9	2.9	3.1	65	88	116
Tana River	38,436.9	37,903.6	178,609	240,008	315,874	0.6	0.6	0.7	5	6	8
Lamu	6,273.1	6,283.0	71,215	101,483	143,891	0.3	0.3	0.3	11	16	23
Taita-Taveta	17,084.0	17,152.0	241,942	284,516	340,623	0.9	0.8	0.7	14	17	20
Garissa	44,175.0	44,753.2	262,694	375,968	841,235	0.9	1.0	1.8	6	9	19
Wajir	56,585.8	56,773.8	309,268	399,432	781,228	1.1	1.1	1.6	5	7	14
Mandera	25,991.5	25,942.2	246,063	618,966	867,319	0.9	1.6	1.8	9	24	33
Marsabit	70,961.2	70,944.3	172,481	291,075	459,598	0.6	0.8	1.0	2	4	6
Isiolo	25,336.1	25,349.2	98,971	143,211	267,966	0.4	0.4	0.6	4	6	11
Meru	6,936.2	7,013.9	1,096,325	1,355,359	1,545,468	3.9	3.6	3.2	158	195	220
Tharaka-Nithi	2,638.8	2,564.4	303,932	365,142	393,109	1.1	1.0	0.8	115	138	153
Embu	2,818.0	2,820.7	443,409	515,959	608,553	1.6	1.4	1.3	157	183	216
Kitui	30,496.5	30,429.6	810,779	1,012,236	1,136,079	2.9	2.7	2.4	27	33	37
Machakos	6,208.2	6,037.3	895,816	1,097,816	1,421,760	3.2	2.9	3.0	144	177	235
Makueni	8,008.8	8,176.7	766,111	884,258	987,550	2.7	2.3	2.1	96	110	121
Nyandarua	3,245.3	3,285.8	468,458	596,053	638,233	1.7	1.6	1.3	144	184	194
Nyeri	3,337.1	3,325.0	647,887	693,354	759,125	2.3	1.8	1.6	194	208	228
Kirinyaga	1,479.1	1,478.3	454,090	527,880	610,379	1.6	1.4	1.3	307	357	413
Murang'a	2,558.8	2,522.8	907,446	942,101	1,056,576	3.2	2.5	2.2	355	368	419
Kiambu	2,543.4	2,538.7	1,204,009	1,622,363	2,417,288	4.3	4.3	5.1	473	638	952
Turkana	68,680.3	68,233.1	389,319	854,991	926,484	1.4	2.3	1.9	6	12	14
West Pokot	9,169.4	9,123.3	305,583	512,572	621,135	1.1	1.4	1.3	33	56	68
Samburu	21,022.2	21,089.7	135,565	223,897	310,316	0.5	0.6	0.7	6	11	15
Trans-Nzoia	2,495.5	2,495.2	568,498	818,539	990,289	2.0	2.2	2.1	228	328	397
Uasin Gishu	3,345.2	3,398.6	613,386	893,609	1,163,061	2.2	2.4	2.4	183	267	342
Elgeyo-Marakwet	3,029.8	3,032.1	282,793	369,902	454,433	1.0	1.0	1.0	93	122	150
Nandi	2,884.2	2,849.4	568,998	752,665	885,651	2.0	2.0	1.9	197	261	311
Baringo	11,015.3	10,984.6	400,571	555,441	666,730	1.4	1.5	1.4	36	50	61
Laikipia	9,461.9	9,507.6	316,791	398,992	518,532	1.1	1.1	1.1	33	42	55
Nakuru	7,495.1	7,504.9	1,176,233	1,602,636	2,161,935	4.2	4.2	4.5	157	214	288
Narok	17,933.1	17,931.7	529,711	850,292	1,157,748	1.9	2.3	2.4	30	47	65
Kajiado	21,901.0	21,871.2	395,905	686,992	1,117,580	1.4	1.8	2.3	18	31	51
Kericho	2,479.0	2,436.1	461,651	590,371	901,609	1.6	1.6	1.9	186	238	370
Bomet	2,471.3	2,507.1	689,512	891,390	875,630	2.5	2.4	1.8	279	361	349
Kakamega	3,051.2	3,016.6	1,289,233	1,698,576	1,867,283	4.6	4.5	3.9	423	557	619
Vihiga	530.9	563.8	496,588	567,387	589,940	1.8	1.5	1.2	935	1,069	1,046
Bungoma	35,828.0	3,023.9	1,005,094	1,374,477	1,670,449	3.6	3.6	3.5	28	38	552
Busia	1,134.4	1,699.8	548,163	743,592	893,621	1.9	2.0	1.9	483	655	526
Siaya	2,530.4	2,529.7	712,305	841,746	992,948	2.5	2.2	2.1	281	333	393
Kisumu	2,085.9	2,085.4	788,539	968,451	1,155,369	2.8	2.6	2.4	378	464	554
Homa Bay	3,183.3	3,152.5	745,040	963,441	1,131,897	2.6	2.6	2.4	234	303	359
Migori	2,596.4	2,613.5	656,935	916,665	1,116,297	2.3	2.4	2.3	253	353	427
Kisii	1,317.5	1,323.3	943,202	1,151,898	1,266,759	3.4	3.1	2.7	716	874	957
Nyamira	899.3	897.3	495,620	598,029	605,554	1.8	1.6	1.3	551	665	675
Nairobi City	695.1	703.9	2,082,191	3,134,261	4,395,749	7.4	8.3	9.2	2,996	4,509	6,245

2.8. Urbanization

Population dynamics, the forces behind the growth and movement of populations, play a central part in the urbanization process. The urban phenomenon in developing countries is intimately linked in many complex ways with high fertility and rapid population growth. Estimating the level of urbanization in any country is difficult and there is no internationally accepted standard for identifying urban areas. The United Nations argues that “given the variety of situations in the countries of the world, it is not possible or desirable to adopt uniform criteria to distinguish urban areas from rural areas. There are three different perspectives which are often utilized to contextualize the definition: politico-administrative context; human settlements perspective and statistical perspective. Each of these perspectives has different spatial units of analysis. A common denominator of the three mentioned urban perceptions is that none of them explicitly accounts for population density. A fourth designation of “urban” based on population density is thus examined in this report and contrasted with the three above-mentioned urban perspectives.

2.8.1. Urban Population by County

Table 2.7 shows the urban population of the 47 counties in Kenya as well as the proportion of urban population to the county population. Demographic, social, economic, and political variables have impacted greatly on the urbanization process in Kenya, resulting in varied county urbanization levels. The entire population of Nairobi City and Mombasa counties are urban. They are followed by Kiambu (70.6% urban) and Kajiado (55.7% urban) counties. Kisumu is ranked as the eighth urbanized county despite being one of the cities in the country. On the other hand, Kitui, Elgeyo-Marakwet and Bomet are the least urbanized counties with less than 5 percent urban population, respectively as shown in Table 2.7.

Table 2.7 Urban Population by County, 2019

County	Total Population	Urban Population	% of Urban Population	% of total urban population	County	Total Population	Urban Population	% of Urban Population	% of total urban population
KENYA	47,557,273	14,835,425	31.2	100.0	Migori	1,116,297	167,530	15	1.1
Mombasa	1,208,112	1,208,112	100.0	8.1	Kwale	866,709	126,414	14.6	0.9
Nairobi City	4,395,749	4,395,749	100.0	29.6	Busia	893,621	113,731	12.7	0.8
Kiambu	2,417,288	1,705,921	70.6	11.5	Embu	608,553	75,919	12.5	0.5
Kajiado	1,117,580	622,533	55.7	4.2	Kisii	1,266,759	151,395	12	1.0
Nakuru	2,161,935	1,046,938	48.4	7.1	Bungoma	1,670,449	190,096	11.4	1.3
Isiolo	267,966	125,645	46.9	0.8	Baringo	666,730	75,288	11.3	0.5
Uasin Gishu	1,163,061	510,146	43.9	3.4	Murang'a	1,056,576	118,436	11.2	0.8
Kisumu	1,155,369	440,788	38.2	3.0	Kericho	901,609	93,506	10.4	0.6
Mandera	867,319	270,444	31.2	1.8	Nyandarua	638,233	66,533	10.4	0.4
Machakos	1,421,760	413,953	29.1	2.8	Homabay	1,131,897	113,069	10	0.8
Taita-Taveta	340,623	93,764	27.5	0.6	Kakamega	1,867,283	185,318	9.9	1.2
Lamu	143,891	39,489	27.4	0.3	Vihiga	589,940	58,376	9.9	0.4
Kilifi	1,453,599	393,804	27.1	2.7	Meru	1,545,468	138,887	9	0.9
Garissa	841,235	210,850	25.1	1.4	Narok	1,157,748	100,327	8.7	0.7
Tana River	315,874	78,000	24.7	0.5	Siaya	992,948	85,371	8.6	0.6
Laikipia	518,532	127,355	24.6	0.9	Nyamira	605,554	50,131	8.3	0.3
Marsabit	459,598	107,239	23.3	0.7	Tharaka-Nithi	393,109	32,739	8.3	0.2
Wajir	781,228	177,148	22.7	1.2	Makueni	987,550	77,067	7.8	0.5
Kirinyaga	610,379	136,218	22.3	0.9	Nandi	885,651	59,479	6.7	0.4
Nyeri	759,125	150,739	19.9	1.0	West Pokot	621,135	31,839	5.1	0.2
Trans Nzoia	990,289	178,711	18	1.2	Kitui	1,136,079	54,017	4.8	0.4
Samburu	310,316	47,131	15.2	0.3	Elgeyo-Marakwet	454,433	20,573	4.5	0.1
Turkana	926,484	140,741	15.2	0.9	Bomet	875,630	27,966	3.2	0.2

2.8.2. Trends in urbanization

The trends of urbanization in Kenya between 1948 and 2019 are shown in Table 2.8. The number of urban centres has increased from 17 in 1948 to 139 in 1989 and 372 in 2019. As the number of urban centres increased, the population of Kenyans living in the urban centres also increased from 285,000 in 1948 to 3.9 million in 1989 and 14.8 million in 2019. The proportion of Kenyans living in urban centres is still relatively low even though the percentage of urban population to the total population has gradually increased from 5.3 percent in 1948 to 31.3 percent in 2009. However, because of excluding the peri-urban areas in 2019, the proportion decreased marginally to 31.2 per cent.

In all the population and housing censuses, the urban population has been disproportionately concentrated in Nairobi City and Mombasa county. The growth of urban centres both in numbers and population accelerated immediately after independence, when Africans were allowed to migrate to towns without any legal and administrative restrictions. This explains the high urban growth rates in 1969, 1979 and 1989, largely a consequence of rural-urban migration. As the population become more urbanized, the urban growth rate has declined from a peak of 7.7 percent in 1979 to 2.1 percent in 2019. However, in 2009 the urban growth rate rose to a high of 8.3 percent due to rural-urban migration.

Table 2.8 Urbanization Trends in Kenya, 1948-2019

Year	Total population (Million)	No. of urban centres	Urban population (Million)	Percentage of urban to total population	Intercensal growth rate (percent)
1948	5.4	17	0.3	5.3	-
1962	8.6	34	0.7	8.7	6.3
1969	11.0	47	1.1	9.8	7.1
1979	15.3	91	2.3	15.1	7.7
1989	21.4	139	3.9	18.1	5.2
1999	28.2	180	5.4	19.3	3.4
2009*	38.4	230	12.0*	31.3	8.3
2019	47.6	372	14.8	31.2	2.1

* 2009 Urban Population included Peri-Urban

2.8.3. Trends in Population of Urban Centres by Size Category

The numbers and populations of small and medium-size urban centres have shown an upward trend over the years and is expected to do so in future as shown in Table 2.9. In 2019, the number of small urban centres increased to 160 with a total population of 753,873 people. On the other hand, the number of medium-size urban centres rose to 126 with a total population of 3.8 million people due to rural-urban migration.

Table 2.9 Urban Populations by Size and Category of Urban Centres, 1962-2019

Year	Category of urban centres by population size							
	1 million and over		100,000-999,999		10,000-99,999		2,000-9,999	
	No.	Population	No.	Population	No.	Population	No.	Population
1962	0	0	2	523,075	5	105,712	27	118,864
1969	0	0	2	756,359	9	79,267	36	153,282
1979	0	0	6	1,321,566	24	717,855	64	276,275
1989	1	1,324,570	5	1,046,588	40	1,080,726	93	426,813
1999	1	2,083,509	4	1,214,927	62	1,508,180	113	623,174
2009	1	3,109,861	22	4,617,114	97	3,665,486	110	631,109
2019	2	5,603,861	20	4,533,035	126	3,856,072	160	753,873

2.8.4. Urban Primacy in Kenya

Urban primacy occurs when the largest city in a country dominates the urban hierarchy in terms of its population size. Urban primacy is quantitatively measured in terms of a two-city, a four-city or 11-city primacy index. This report uses the 11-city primacy index which is the ratio of the population of the largest city in the country or region to the combined population of the next 10 cities in population rank. A primacy index of less than 1 is “low”; 1-2.9 is “medium” while 3 and above is “high”, (UNECA,

1989). Figure 2.6 gives the 11-city primacy index for Kenya over the years. Although the primacy index has been generally “low” over time, the trends illustrate the continued dominance of Nairobi City County in the urban hierarchy. It also indicates that the growth of medium-size urban centres has stabilized the primacy index, even as Nairobi continues to have the largest share of the urban population.

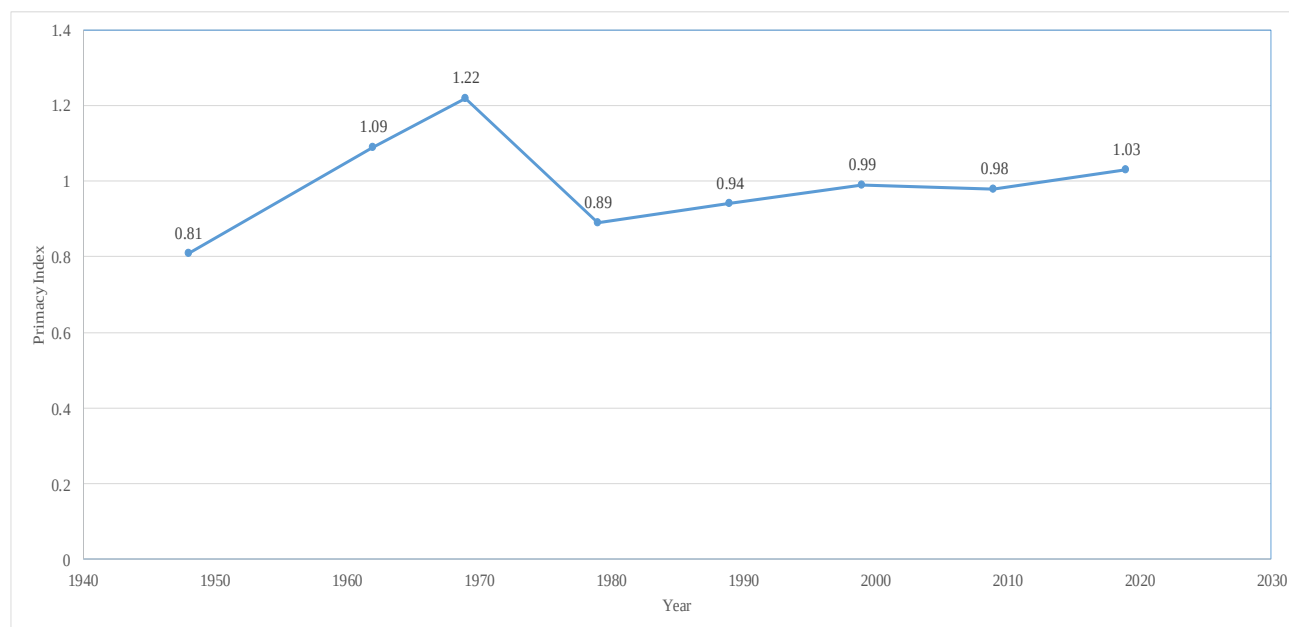


Figure 2.6: The 11-City Primacy Index, 1948 - 2019

2.8.5. Urban Settlements

The 2019 KPHC also captured the population living in informal settlements particularly in the urban centres. Urban informal settlement is a settlement characterized by at least two of the following: inadequate access to safe water; inadequate access to sanitation and other infrastructure; poor structural quality of housing; overcrowding; and insecure residential status.

The total urban population living in informal settlements is 1,016,913. This represents 6.9 percent of the total urban population as shown in Table 2.10. The informal settlements are located in only 19 out of the 372 urban centres falling within 16 counties in Kenya. Nairobi City contributes a disproportionately larger share (80%) of the total urban informal settlements’ population in the country, followed by Kisumu and Mombasa.

Table 2.10 Urban Informal Settlements Population by County and Urban Centers, 2019

County	Urban Centre	Total Urban Population	Informal settlements population	Share of Population in Informal Settlement to Total Urban Population	Proportion of total urban informal settlements population (%)
Kenya	Kenya (Urban)	14,835,425	1,016,913	6.9	100.0
Nairobi City	Nairobi City	4,395,749	813,848	18.5	80.0
Kisumu	Kisumu	397,853	85,314	21.4	8.4
Mombasa	Mombasa	1,208,112	32,387	2.7	3.2
Machakos	Athi River	81,286	27,680	34.1	2.7
Nakuru	Naivasha	198,399	12,694	6.4	1.2
Kiambu	Thika	251,360	11,963	4.8	1.2
Makueni	Wote	19,724	6,975	35.4	0.7
Kitui	Kitui	29,062	6,111	21.0	0.6
Nakuru	Nakuru	570,614	5,136	0.9	0.5
Taita Taveta	Voi	53,345	4,527	8.5	0.4
Nyeri	Nyeri	80,069	3,975	5.0	0.4
Narok	Narok	65,415	1,659	2.5	0.2
Trans Nzoia	Kitale	162,154	1,058	0.7	0.1
Kiambu	Kikuyu	323,825	866	0.3	0.1
Kakamega	Kakamega	107,205	844	0.8	0.1
Meru	Meru	80,169	685	0.9	0.1
Turkana	Lodwar	82,927	419	0.5	0.0
Embu	Embu	64,974	390	0.6	0.0
Machakos	Machakos	63,761	382	0.6	0.0

Chapter 3: Nuptiality

3.1. Introduction

Nuptiality refers to the frequency of marriages between persons of opposite sexes which involve rights and obligations fixed by law or custom. Marriage is a significant factor in population dynamics since it affects fertility by setting the context for reproductive activities such as entry into sexual activities and childbearing. The propensity to marry and the timing and duration of marriage have effects on the rate of population growth, mortality, migration, and fertility (Keely, 1979). The 2019 Census classified marital status as never married, married monogamous, married polygamous, widowed, divorced, or separated. This chapter examines the association between marital status and other demographic variables such as sex, age and place of residence (rural and urban areas).

3.2. Marital Status by Age and Sex

Age at marriage is an important factor of population because it marks the onset of regular exposure to the risk of childbearing. Table 3.1 shows the percentage distribution of population by marital status, age and sex in 2019. The results reveal that the proportion of never married men and women is highest among adolescents (age 15 – 19) and declines with increase in age. More women (51.1%) than men (48.4%) are married, with more women marrying younger compared with men. Notably, adolescent marriage is more prevalent among women (10.8%) than men (4.2%). Six per cent of women compared with less than one per cent of men are widowed. Furthermore, the proportion of population widowed increases with age. At age 50 and above, more women are widowed compared with men, results which are similar to those obtained from the 2009 Census. The proportion of population divorced or separated is generally low, each accounting for less than 10 per cent of men and women age 15 years and above.

Table 3. 1: Percentage Distribution of Population by Marital Status, Age and Sex, 2019

Age group	Never Married		Married		Widowed		Divorced/ Separated		Total population aged 15 years and above	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Kenya	48.2	39.2	48.4	51.1	0.9	6.0	2.4	3.6	13,992,966	14,693,567
15 - 19	95.6	88.7	4.2	10.8	0.0	0.1	0.1	0.3	2,662,163	2,581,801
20 - 24	80.7	49.6	18.5	48.2	0.1	0.2	0.6	1.8	2,079,234	2,313,393
25 - 29	44.7	24.2	53.2	71.0	0.1	0.7	1.9	4.0	1,802,699	1,997,152
30 - 34	21.7	14.7	74.3	77.3	0.2	2.0	3.6	5.9	1,664,397	1,857,596
35 - 39	13.6	12.4	80.9	76.9	0.4	3.3	5.0	7.2	1,321,359	1,291,301
40 - 44	9.0	10.2	84.7	76.2	0.8	6.1	5.3	7.4	1,136,115	1,094,050
45 - 49	6.5	9.3	86.8	74.6	1.3	9.0	5.3	6.9	901,176	863,947
50 - 54	5.1	8.5	88.0	71.8	2.0	13.2	4.8	6.4	652,343	640,545
55 - 59	3.9	7.0	89.0	69.4	2.8	18.0	4.3	5.5	539,974	567,614
60+	2.9	4.1	87.0	54.5	6.9	38.1	3.0	3.2	1,233,506	1,486,168

3.3. Marital Status by Age, Sex and Place of Residence

The percentage distribution of rural and urban populations by marital status, age and sex in 2019 is presented in Tables 3.2 and 3.3, respectively. A pattern similar to the national level distribution is observed in the rural and urban areas. The results show that the proportion of women who remain unmarried is slightly higher in urban areas than rural areas among the older age groups. The proportion of ever married women is much lower in urban areas (52.8%) than in rural areas (59.2%). In addition, the proportion of married men exceeds that of women by age 30 in urban areas compared with age 40 in rural areas. In both places of residence, the pattern of proportion of population widowed is similar. Divorce and separation for women is higher in urban areas compared with rural areas.

Table 3. 2: Percentage Distribution of Rural Population by Marital Status, Age and Sex, 2019

Age group	Never Married		Married		Widowed		Divorced/ Seperated		Total population aged 15 years and above	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Kenya	42.8	29.4	53.0	59.2	1.2	8.3	2.8	3.0	9,226,816	9,744,436
15-19	95.1	87.9	4.7	11.6	0.0	0.1	0.1	0.3	2,039,536	1,876,671
20-24	80.1	45.7	19.0	52.1	0.1	0.3	0.6	1.8	1,301,633	1,347,858
25-29	44.7	18.7	52.9	76.8	0.1	0.9	2.1	3.4	989,374	1,107,014
30-34	23.2	10.6	72.4	82.5	0.3	2.5	4.0	4.4	947,645	1,114,165
35-39	15.5	9.2	78.6	81.7	0.4	3.7	5.4	5.2	789,361	786,188
40-44	10.3	7.8	82.9	80.4	0.9	6.6	5.8	5.1	716,702	725,708
45-49	7.3	7.3	85.6	78.3	1.3	9.4	5.6	4.8	592,470	611,688
50-54	5.6	6.6	87.1	75.1	2.0	13.6	5.1	4.5	441,950	469,027
55-59	4.1	5.6	88.5	72.1	2.8	18.3	4.4	3.9	390,617	442,709
60+	2.8	3.3	87.1	55.7	7.0	38.4	2.9	2.5	1,017,528	1,263,408

Table 3. 3: Percentage Distribution of Urban Population by Marital Status, Age and Sex, 2019

Age group	Never Married		Married		Widowed		Divorced/ Seperated		Total population aged 15 years and above	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Kenya	39.2	37.2	57.5	52.8	0.7	3.9	2.5	6.0	4,766,150	4,949,131
15-19	97.2	91.0	2.5	8.6	0.0	0.0	0.1	0.3	622,627	705,130
20-24	81.8	55.2	17.5	42.9	0.0	0.1	0.5	1.7	777,601	965,535
25-29	44.7	31.0	53.5	63.7	0.1	0.4	1.6	4.7	813,325	890,138
30-34	19.7	20.8	76.8	69.5	0.2	1.4	3.2	8.2	716,752	743,431
35-39	11.0	17.4	84.3	69.4	0.4	2.6	4.3	10.4	531,998	505,113
40-44	6.9	15.1	87.7	67.8	0.7	5.1	4.6	11.8	419,413	368,342
45-49	5.0	14.1	89.0	65.6	1.2	8.0	4.7	12.0	308,706	252,259
50-54	4.0	13.4	89.8	62.6	1.8	12.1	4.2	11.7	210,393	171,518
55-59	3.3	12.1	90.1	59.8	2.6	17.1	3.8	10.8	149,357	124,905
60+	3.2	8.3	86.5	47.5	6.6	36.6	3.6	7.3	215,978	222,760

3.4. Trends in Timing of First Marriages

Marital timing differs by sex, with more women marrying earlier in life than men. This sex differential holds across contexts (Allendorf K., 2017). Age at first marriage determines the length of time women are exposed to the risk of childbearing. The analysis of timing of first marriages is done by examining the proportion of population married at ages 15 – 19 and Singulate Mean Age at Marriage (SMAM). The proportion of population married at age 15-19 provides the level of very young marriages whereas SMAM measures the mean age at first marriage for those who marry before age 50.

Table 3.4 presents the trend in proportion of population ever married in the age group 15 – 19 by sex and the SMAM for the country. Generally, the results show that women in the age group 15-19 marry earlier than men. There is a slight increase in the proportion of population ever married men in the age group 15-19, from three per cent in 2009 to four per cent in 2019. However, the proportion of married men in this age group remains low compared with women. Over the same period, there is a decrease in the proportion of married women in the age group, from 15 per cent to 11 per cent. The SMAM for both sexes have been increasing over the years, implying delayed entry into marriage. In 2019, SMAM for men and women rose by 0.6 years to stand at 27.3 years and 23.1 years, respectively. The results reveal that men marry later than women with an average difference of 4 years.

Table 3. 4: Trends in Timing of Marriages for Age Group 15-19 by Sex, 1989-2019

	1989		1999		2009		2019	
	Male	Females	Male	Females	Male	Females	Male	Females
Percent Ever Married (age 15-19)	2.1	18.8	2.9	18.8	3.2	15.4	4.3	11.2
SMAM (Years)	26.0	21.6	26.5	22.3	26.7	22.5	27.3	23.1

3.4.1. Differentials in Age at Marriage

Age differences between marital partners have been observed across different cultures, such that men are usually older than their marriage partners (Nascimento, 2019). The age when men and women enter marital unions is influenced by social norms and expectations regarding their roles as spouse and parent—factors that are plausibly changing with globalization, urbanization, and rising educational attainment (Barbara et al, 2005).

This section provides differentials in Singulate Mean Age at Marriage among male-female between 1979 and 2019. The difference in Singulate Mean Age at Marriage among male-female declined from 5.1 years in 1979 to 4.2 years in 1999. Between 1999 and 2019, the difference in SMAM has remained constant, at 4.2 years.

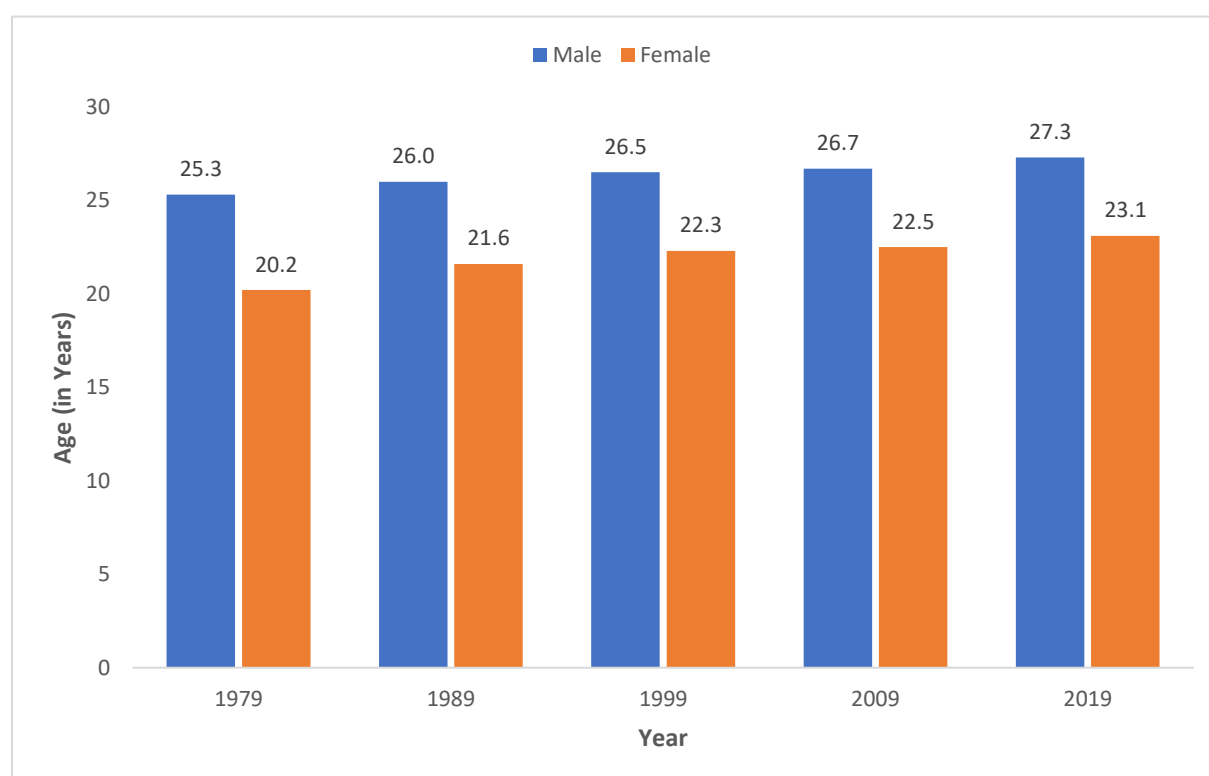


Fig 3.1: Singulate Mean Age at Marriage by Sex, 1979 - 2019

3.4.2. Differentials in Age at Marriage by County

The proportion of population ever married (15 – 19), SMAM and the age differentials in SMAM by counties are presented in Appendix 2. Generally, the proportion of ever married men age 15 – 19 is low across all counties compared with women. The results show that Tana River County (25.6%) and Samburu County (24.8%) had the highest proportion of ever married women age 15 – 19. On the

other hand, Nyeri and Makueni counties had the lowest proportion of ever married women at six per cent.

SMAM for males is lowest in Mandera County (25.0 years) and highest in Nyeri and Makueni counties (29.4 years). Conversely, SMAM for females is lowest in Tana River County (20.4 years) and highest in Vihiga County (24.2 years). Table 3.5 illustrates the five counties with the highest and the lowest male-female age difference. The age difference in the five counties with the highest age difference is 6 years while the least have an age difference ranging between 3 to 4 years.

Table 3. 5: Five Counties with the Highest and Lowest Male-Female Age Differences in SMAM

Counties with the highest male-female age difference	Age Difference	Counties with the lowest male-female age difference	Age Difference
Samburu	6.4	Kakamega	3.5
Nyandarua	5.8	Bungoma	3.5
Nyeri	5.8	Kisii	3.4
Makueni	5.7	Elgeyo Marakwet	3.3
Marsabit	5.7	Busia	3.1

Chapter 4: Fertility

4.1. Introduction

Fertility, one of the components of population dynamics, holds a very important place in any population study. As a positive force in population dynamics, fertility is responsible for biological replacement and continuation of human society. Fertility levels determine the age structure of a population, which in turn influence the social, economic, and demographic characteristics of the population. Several indicators are used to measure fertility. These indicators can be grouped into two: lifetime fertility and current fertility. Lifetime fertility is measured by Children Ever Born (CEB) by women in each reproductive age group. Current fertility is measured by the count of births at a given time relative to the female population in the age group, often referred to as Age Specific Fertility Rate (ASFR). A summary measure of age specific fertility rate is the Total Fertility Rate (TFR) which is defined as the number of live births a woman would have if she survived to age 50 and experienced the current fertility rate in each reproductive age group.

4.2. Trends in Current Fertility

Population growth rate in Kenya has been largely driven by fertility levels. The rapid rise in fertility levels in Kenya in the early periods of 1970s reached its peak in the late 1970s, when Total Fertility Rate (TFR) reached a high of 8.1. This rate was one of the highest in the world. The high fertility was followed by rapid decline in the 1980s reaching a TFR of 4.7 in 1998. The rate of fertility decline was about 0.34 births per annum between 1989 and 1993, and 0.14 births per annum between 1993 and 1998 (Blacker, 2002). The most important source of decline being the timing and spacing of births (Brass and Jolly, 1993).

Figure 4.1 presents the trend in TFR from 1999 to 2019 by place of residence. Over the period, the TFR has consistently declined from high to low fertility levels. The TFR has declined by one birth within 10 years, from 4.4 births per woman in 2009 to 3.4 births per woman in 2019. Over the same period, fertility has declined faster in rural than in urban areas.

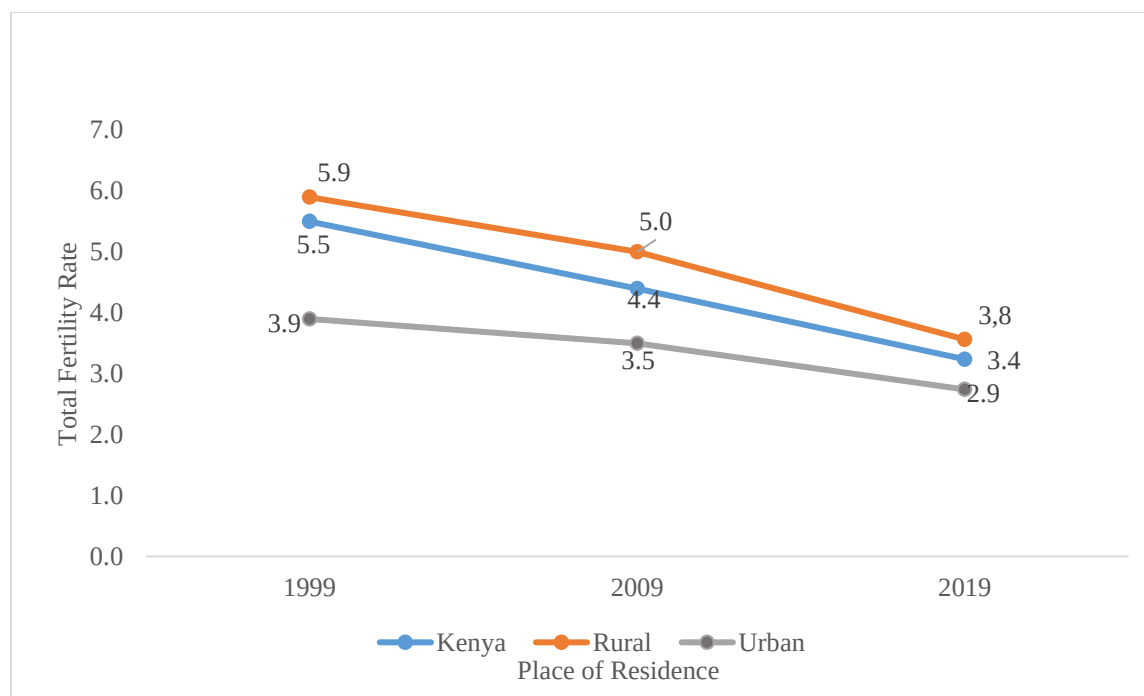


Figure 4.1: Trend in Total Fertility Rate

4.3. Age Specific Fertility Rates, 2019

Table 4.1 presents the Age Specific Fertility Rates by Place of Residence. In 2019 KPHC, the reported ASFRs peaked at 25-29 age group. This is a shift from what was reported in 2009 that peaked at age 20-24, an indication that fertility has been 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 results further show that early childbearing among teenagers age 15-19 is still common in Kenya, at 53 births per 1000 teenagers. Early childbearing is higher in rural, at 58 births per 1000 teenagers than urban areas, at 38 births per 1000 teenagers.

Age specific fertility rates by county and place of residence are presented in Appendix 3. The ASFR in most counties peak at age 25-29. Further, teenage childbearing is still common in all counties in Kenya. Counties with the highest teenage childbearing are; Mandera, Wajir, Marsabit, Turkana, Garissa, Narok, Migori, Tana River, West Pokot and Samburu, with over 70 births per 1000 teenagers. Those with the lowest teenage childbearing (30 births and below per 1000 teenagers) are; Nyeri, Kiambu, Makueni, Nyandarua and Nairobi City.

Table 4. 1: Age Specific Fertility Rates by Place of Residence, 2019

Country/Residence	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

4.4. Total Fertility Rates by County

Table 4.2 presents the distribution of counties by fertility levels. Fertility levels in most counties across the country are less than 4 births per woman, an indication of declining fertility since 2009 Census. Counties with the highest fertility are those in North Eastern and some parts of Northern Kenya (4 above births per woman). The high fertility in these counties could be due to low use of contraceptives. According to the 2014 Kenya Demographic and Health Survey, contraceptive prevalence rate among married women was lowest in Mandera and Wajir (2 percent each), Garissa (6 percent), Turkana (10 percent), and Marsabit (12 percent).

Table 4. 2: Distribution of Counties by level of Total Fertility Rates, 2019

	Level of TFR				
	2.00-2.99	3.00-3.99	4.00-4.99	5.00-5.99	6.00 and above
COUNTY	Nairobi City	Uasin Gishu	Baringo	Tana River	Turkana
	Nyamira	Kericho	Lamu	West Pokot	Wajir
	Machakos	Kisumu	Isiolo		Marsabit
	Kirinyaga	Nandi	Kwale		Mandera
	Kiambu	Kitui	Garissa		
	Makueni	Murang'a	Narok		
	Kisii	Kajiado	Samburu		
	Mombasa	Bomet			
	Nyeri	Nakuru			
	Embu	Taita-Taveta			
	Tharaka-Nithi	Nyandarua			
	Meru	Kakamega			
		Vihiga			
		Busia			
		Siaya			
		Bungoma			
		Homabay			
		Trans Nzoia			
		Elgeyo-Marakwet			
		Kilifi			
		Laikipia			
		Migori			

4.5. Lifetime Fertility

Lifetime fertility refers to the number of children ever born alive during the entire reproductive period of the woman. Lifetime fertility is estimated from data on children ever born alive. Parity distributions of women in different age groups in this context is synonymous with number of children ever born.

Table 4.3 presents the parity distribution of women of reproductive age since 1989. The proportion of teenage girls, age 15-19 with no children increased from 77 percent in 2009 to 90 percent in 2019, an indication that the young females are postponing entry into motherhood. Among women age 45-49, who have completed or nearly completing childbearing, the modal number of children ever born has declined from 8 in 1989 to 3 in 2019. Generally, the data reveals that fertility has been declining across all ages.

Table 4. 3: Trends in Percentage Distribution of Women of Reproductive Age by Parity, 1989 – 2019

Age Group	Average Parity													
	Year	Total	0	1	2	3	4	5	6	7	8	9 10+	NS	
15-19	1989	100	50.0	11.2	3.3	1.0	0.6	0.2	0.0	0.0	0.0	0.0	0.0	33.7
	1999	100	79.6	13.7	5.7	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	-
	2009	100	77.3	10.3	3.2	0.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	8
	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	1989	100	19.7	22.4	20.3	12.6	5.8	3.4	1.2	0.0	0.0	0.0	0.0	14.5
	1999	100	33.2	27.7	20.4	11.3	4.9	1.7	0.5	0.1	0.0	0.0	0.0	-
	2009	100	35.3	25.3	18.8	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	1989	100	6.9	9.8	14.5	18.1	17.4	12.3	7.0	6.8	0.0	0.0	0.0	7.3
	1999	100	14.8	16.3	20.7	18.3	13.8	8.4	4.4	2.0	0.9	0.3	0.2	-
	2009	100	14.0	18.6	22.3	17.5	12.4	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	1989	100	4.1	4.4	6.7	9.6	12.9	15.0	14.7	15.9	11.2	0.0	0.0	5.6
	1999	100	5.7	7.4	13.1	16.0	16.2	14.1	11.2	7.5	4.5	2.3	2.0	-
	2009	100	6.1	9.8	17.5	17.6	15.6	12.0	8.8	5.2	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	1989	100	3.3	3.0	4.3	6.1	8.2	10.4	12.5	13.0	12.1	9.0	13.0	5
	1999	100	4.0	4.1	7.3	10.8	13.3	13.8	13.0	11.2	8.8	5.9	7.6	-
	2009	100	3.6	5.8	12.1	15.4	15.1	13.1	11.5	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	1989	100	3.2	2.7	3.6	4.7	6.0	7.7	9.5	11.0	11.8	9.0	13.0	5
	1999	100	3.7	3.3	5.0	7.1	9.5	11.1	11.9	11.9	11.1	8.9	16.6	-
	2009	100	3.0	4.3	8.8	12.7	14.1	12.9	12.0	10.4	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	1989	100	3.3	2.6	3.3	4.3	5.3	6.9	8.6	10.0	11.3	10.9	28.7	4.9
	1999	100	3.5	2.9	4.1	5.6	7.5	9.2	10.8	11.7	11.7	10.3	22.6	-
	2009	100	2.7	3.6	6.6	10.0	12.9	13.2	13.0	11.7	10.9	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	-

4.6. Trends in Average Parities

The parity of a woman at a given point in time is the number of live births that the woman has had. The average number of children ever born to women in different age groups provides a convenient summary of fertility in a population. The average parities are calculated by dividing the total number of children born to women in an age group by the total number of women in the same age group, with appropriate allowance for women for whom number of children ever born is not stated.

Table 4.4 provides the trends in average parities by age and census years. For all age groups, the average number of children ever born has been declining since 1999. Declining average parities is an indication that fertility has been declining in Kenya.

Table 4.4: Trends in Average Parities by Age, 1969-2019

Age	1969	1979	1989	1999	2009	2019
15-19	0.366	0.321	0.273	0.280	0.210	0.126
20-24	1.939	1.899	1.610	1.350	1.250	0.902
25-29	3.764	3.743	3.357	2.610	2.400	1.955
30-34	5.267	5.523	5.049	4.150	3.630	3.020
35-39	6.186	6.632	6.247	5.390	4.610	3.561
40-44	6.637	7.197	7.093	6.380	5.390	4.228
45-49	6.891	7.353	7.440	6.950	5.970	4.650

Table 4.5 presents the average parities for females age 12-19 by place of residence and county. Childbearing is still prevalent among adolescents in Kenya. Overall, the average number of children per 1,000 teenagers age 12-19 is about 130. Generally, childbearing is high in rural compared with urban areas. The lower childbearing in urban areas could be associated with factors like; increased female education, decreased child mortality, increased urbanization, increased contraceptive use and the rise in age at first marriage. Counties with the highest childbearing (over 200 births per 1,000 women) are Mandera, Samburu, Narok, Migori, West Pokot, Tana River, Wajir and Homabay. Analysis reveals that most of these counties are in the Arid and Semi-Arid (ASAL) areas of the country.

Table 4. 5: Average Parities for Females 12-19 Years by Place of Residence and County, 2019

Place of Residence	Average Parities		
	12 - 14	15 - 19	12 - 19
Kenya	0.004	0.126	0.130
Rural	0.005	0.138	0.143
Urban	0.003	0.093	0.096
County			
Mombasa	0.002	0.095	0.097
Kwale	0.002	0.165	0.167
Kilifi	0.002	0.115	0.117
Tana River	0.004	0.214	0.218
Lamu	0.001	0.132	0.133
Taita-Taveta	0.001	0.105	0.106
Garissa	0.012	0.167	0.179
Wajir	0.014	0.194	0.208
Mandera	0.027	0.332	0.359
Marsabit	0.008	0.188	0.196
Isiolo	0.005	0.182	0.187
Meru	0.003	0.143	0.145
Tharaka-Nithi	0.002	0.080	0.082
Embu	0.001	0.077	0.078
Kitui	0.003	0.090	0.093
Machakos	0.002	0.072	0.073
Makueni	0.001	0.059	0.060
Nyandarua	0.001	0.059	0.060
Nyeri	0.001	0.047	0.048
Kirinyaga	0.001	0.078	0.079
Murang'a	0.001	0.074	0.075
Kiambu	0.001	0.064	0.065
Turkana	0.016	0.182	0.197
West Pokot	0.008	0.212	0.220
Samburu	0.010	0.265	0.275
Trans Nzoia	0.003	0.130	0.133
Uasin Gishu	0.002	0.088	0.089
Elgeyo-Marakwet	0.003	0.108	0.112
Nandi	0.002	0.109	0.111
Baringo	0.009	0.156	0.165
Laikipia	0.002	0.113	0.116
Nakuru	0.002	0.094	0.096
Narok	0.006	0.227	0.233
Kajiado	0.007	0.164	0.171
Kericho	0.003	0.129	0.132
Bomet	0.003	0.136	0.139
Kakamega	0.002	0.101	0.104
Vihiga	0.001	0.075	0.076
Bungoma	0.003	0.127	0.129
Busia	0.002	0.114	0.117
Siaya	0.002	0.125	0.127
Kisumu	0.003	0.126	0.129
Homabay	0.007	0.196	0.203
Migori	0.006	0.224	0.231
Kisii	0.005	0.151	0.156
Nyamira	0.005	0.133	0.137
Nairobi City	0.003	0.082	0.085

4.7. Childlessness

Childlessness refers to infertility in a population of women of reproductive age, as opposed to infecundity, the biological incapability of conceiving. Low fertility and childlessness have been largely interpreted as being driven by the same mechanisms, although they may be qualitatively different phenomena (Brini, 2020). Increasing childlessness is one of the most recent shifts in demographic behavior across countries.

Figure 4.2 presents the proportion of childless women, age 45-49 by place of residence. Nationally, a sizeable proportion of women, about 3.6 percent remain childless by age 45-49, an indication that sterility may be affecting fewer women. The proportion of childlessness is higher in urban, at 5.2 compared to rural areas, at 3.0.



Figure 4.2: Proportion of Childless Women Age 45-49 by Place of Residence, 2019

Table 4.6 shows the proportion of childlessness among women age 45-49 by county. Counties with the highest proportion of childless women age 45-49 are; Garissa with 11.9 percent, Mandera and Mombasa with 7.3 percent each and Wajir with 7.0 percent while those with the lowest proportion are; Narok and Nandi with 1.9 percent each, Nyandarua with 2.0 percent, Laikipia with 2.1 percent, Makueni and Samburu with 2.2 percent each.

Table 4. 6: Proportion of Childlessness Among Women Age 45-49 by County

Kenya	3.6	West Pokot	2.9
Mombasa	7.3	Samburu	2.2
Kwale	4.1	Trans Nzoia	2.4
Kilifi	4.9	Uasin Gishu	2.5
Tana River	4.3	Elgeyo-Marakwet	2.5
Lamu	5.6	Nandi	1.9
Taita-Taveta	4.6	Baringo	3.1
Garissa*	11.9	Laikipia	2.1
Wajir	7.0	Nakuru	2.6
Mandera	7.3	Narok	1.9
Marsabit	3.2	Kajiado	3.5
Isiolo	5.0	Kericho	2.5
Meru	2.7	Bomet	2.3
Tharaka-Nithi	2.8	Kakamega	3.0
Embu	3.1	Vihiga	3.6
Kitui	2.5	Bungoma	2.9
Machakos	3.1	Busia	3.3
Makueni	2.2	Siaya	3.8
Nyandarua	2.0	Kisumu	4.1
Nyeri	3.1	Homabay	4.2
Kirinyaga	3.2	Migori	3.3
Murang'a	3.1	Kisii	2.5
Kiambu	3.7	Nyamira	2.8
Turkana	6.7	Nairobi City	6.5

* High proportion of childlessness in Garissa county is associated with data quality

Chapter 5: Mortality and Health

5.1. Introduction

Mortality is one of the population dynamics, which affect the structure, size and growth of a population. It is based on death statistics. Death is defined as "the permanent disappearance of evidence of life at any time after birth has taken place" (UN,1991). Information on mortality rates contributes to a better understanding of a country's socioeconomic situation and sheds light on the quality of life of population. Preparation, implementation, monitoring and evaluation of population, health, and other socioeconomic programs and policies depend to a large extent on target population identification (NCPD, 2013). This chapter presents the reported deaths and the various mortality indicators.

5.2. Reported Estimates of Mortality

In the 2019 KPHC, direct questions on mortality were obtained from responses to Questions on Section H-11, H-12, H-14 and H-15. The respondents were asked whether any death had occurred in the household in the one-year period before the census date that is between 24/08/2018 and 24/08/2019 including the, name, age and the sex of the dead member.

Recent deaths provide information on age patterns of mortality. Table 5.1 shows the distribution of deaths reported in households by age. A total of 152,051 deaths were reported out of which 2.1 percent were under the age of one year. Majority of the reported deaths were accounted for by the below one year(25 per cent) and 65 years and above (24 per cent).

Table 5. 1: Percent Distribution of Reported Deaths in Household by Age and Sex

Age	Total	Male	Female
0	24.9	24.0	26.2
1-4	5.8	5.4	6.4
5-9	2.4	2.3	2.6
10-14	2.2	2.3	2.0
15-19	2.5	2.5	2.4
20-24	3.5	3.7	3.2
25-29	4.0	4.1	3.8
30-34	4.9	4.9	4.9
35-39	4.8	5.0	4.6
40-44	4.9	5.2	4.6
45-49	4.2	4.6	3.7
50-54	4.1	4.4	3.8
55-59	3.9	4.1	3.6
60-64	3.9	4.2	3.5
65+	23.8	23.2	24.7
Number of Deaths	152,051	88,809	63,242

5.3. Childhood Mortality

Globally, substantial progress has been made in reducing childhood mortality. According to World Health Organization (WHO), there has been a worldwide decline of under five deaths from 12.6 million in 1990 to 5.5 million in 2020 (WHO, 2020). In Kenya, the level of under-five mortality was recorded as 52 deaths per 1,000 live births with ranges from 28 to 107 deaths per 1,000 live births (KNBS, 2019). This is equivalent to 1 in 19 children dying before reaching age 5.

Table 5.2 shows the age patterns of childhood mortality derived from direct questions on deaths in the last 12 months prior to the census, by sex. Of these deaths, about 81 percent of deaths occur under age 1 showing that most deaths occur before the first birthday.

Table 5. 2: Percent Distribution of Reported Childhood Deaths by Age, Sex and Place of Residence in the Last 12 Months Prior to Census

Age	KENYA			RURAL			URBAN		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
0	81.0	81.6	80.3	79.1	79.7	78.2	84.8	85.2	84.4
1	8.5	8.0	9.1	8.7	8.2	9.3	8.0	7.5	8.6
2	4.9	4.9	4.9	5.6	5.6	5.7	3.4	3.6	3.3
3	3.3	3.3	3.3	3.8	3.8	3.9	2.2	2.2	2.1
4	2.3	2.3	2.4	2.8	2.7	2.9	1.6	1.5	1.6
Number of Deaths(0-4 Years)	46,785	26,122	20,663	30,861	17,309	13,552	15,924	8,813	7,111

Table 5.3 shows the distribution of deaths in the 12 months prior to the census by age and county. Wajir County recorded the highest proportion of infant deaths to total deaths with nearly half (49.3 per cent) of the total deaths. Garissa, Mandera, Tana River and West Pokot followed closely with 46.7, 46.0, 44.6 and 43.7 percent, respectively. Nyeri, Murang'a, Vihiga, Meru and Makueni Counties recorded the least proportions with 10.2, 11.3, 11.4, 12.1 and 13.0 per cent respectively. The same counties recorded similar trend in the proportion of under five deaths to total reported deaths with the highest being Garissa County with 60.5 percent and Nyeri County recording the least with 12.8 per cent. The proportion of infant deaths to under-five deaths ranges from 71.1 percent in Vihiga County to 87.2 percent in Taita-Taveta County.

Table 5. 3: Distribution of deaths in the last 12 months by Age and County, 2019

	Total Number of Deaths	No. of DeathsAge 1-4 Years	No. of Deaths under 1 year	No. of Deaths Under 5 Years	Proportion of Deaths under 1 year to Total Deaths (%)	Proportion of Deaths under 5 year to Total Deaths (%)	Proportion of Deaths under 1 year to Proportion of Deaths under 5 years (%)
KENYA	152,051	8,878	37,908	46,785	24.9	30.8	81.0
RURAL	113,824	6,458	24,402	30,860	21.4	27.1	79.1
URBAN	38,227	2,419	13,506	15,925	35.3	41.7	84.8
Mombasa	3,427	265	1,316	1,581	38.4	46.1	83.2
Kwale	2,711	161	732	893	27.0	32.9	82.0
Kilifi	4,072	215	940	1,155	23.1	28.4	81.4
Tana River	1,006	80	449	529	44.6	52.6	84.9
Lamu	489	27	132	159	27.0	32.5	83.0
Taita-Taveta	1,560	40	272	312	17.4	20.0	87.2
Garissa	3,054	422	1,425	1,847	46.7	60.5	77.2
Wajir	2,522	186	1,243	1,429	49.3	56.7	87.0
Mandera	3,181	337	1,463	1,800	46.0	56.6	81.3
Marsabit	811	53	241	294	29.7	36.3	82.0
Isiolo	627	34	165	199	26.3	31.7	82.9
Meru	4,765	130	576	706	12.1	14.8	81.6
Tharaka-Nithi	1,336	44	178	222	13.3	16.6	80.2
Embu	2,345	87	412	499	17.6	21.3	82.6
Kitui	3,995	139	762	901	19.1	22.6	84.6
Machakos	4,989	151	784	935	15.7	18.7	83.9
Makueni	3,932	100	510	610	13.0	15.5	83.6
Nyandarua	2,446	74	458	532	18.7	21.7	86.1
Nyeri	3,470	91	353	444	10.2	12.8	79.5
Kirinyaga	2,424	82	352	434	14.5	17.9	81.1
Murang'a	4,959	108	558	666	11.3	13.4	83.8
Kiambu	7,349	312	1,897	2,209	25.8	30.1	85.9
Turkana	2,624	267	814	1,081	31.0	41.2	75.3
West Pokot	1,463	140	640	780	43.7	53.3	82.1
Samburu	615	41	197	238	32.0	38.7	82.8
Trans Nzoia	3,042	180	743	923	24.4	30.3	80.5
Uasin Gishu	3,070	132	628	760	20.5	24.8	82.6
Elgeyo-Marakwet	1,217	48	228	276	18.7	22.7	82.6
Nandi	2,716	111	441	552	16.2	20.3	79.9
Baringo	2,031	134	597	731	29.4	36.0	81.7
Laikipia	1,477	63	286	349	19.4	23.6	81.9
Nakuru	6,777	325	1,955	2,280	28.8	33.6	85.7
Narok	1,899	143	651	794	34.3	41.8	82.0
Kajiado	2,090	126	756	882	36.2	42.2	85.7
Kericho	2,387	88	489	577	20.5	24.2	84.7
Bomet	2,249	76	482	558	21.4	24.8	86.4
Kakamega	7,180	469	1,476	1,945	20.6	27.1	75.9
Vihiga	3,598	167	411	578	11.4	16.1	71.1
Bungoma	4,685	378	1,045	1,423	22.3	30.4	73.4
Busia	3,224	293	736	1,029	22.8	31.9	71.5
Siaya	4,888	413	1,088	1,501	22.3	30.7	72.5
Kisumu	4,437	350	1,180	1,530	26.6	34.5	77.1
Homabay	4,258	390	1,322	1,712	31.0	40.2	77.2
Migori	3,799	436	1,288	1,724	33.9	45.4	74.7
Kisii	4,400	198	796	994	18.1	22.6	80.1
Nyamira	2,059	73	305	378	14.8	18.4	80.7
Nairobi City	10,396	699	4,136	4,835	39.8	46.5	85.5

5.3.1. Levels of Childhood Mortality

Table 5.4 shows the childhood mortality by sex at national level. Approximately, 32 out of 1,000 children born die before reaching their first birthday while 52 out of every 1,000 children born don't reach their fifth birthday. Out of every 1,000 children born, 50 female children die before reaching the age of five, while the corresponding number for male children is 54, indicating a slightly higher mortality rate among male children. Estimates from the 2014 KDHS show that 39 out of every 1,000 children born die before reaching their first birthday. This is a bit higher compared to the results in the 2019 census. Most childhood deaths accounting for 61.7 percent occur within the first year of life.

Table 5. 4: Early Childhood Mortality Rates

CHILDHOOD MORTALITY INDICATORS	2014 KDHS	2019 CENSUS
Infant Mortality Rate		
Males		34.5
Females		29.7
Both Sexes	39.0	32.1
Child Mortality Rate		
Males		19.5
Females		20.3
Both Sexes	14.0	19.9
Under 5 Mortality Rate		
Males		54.0
Females		50.0
Both Sexes	52.0	52.0
Ratio of Infant Mortality Rate to Under 5 Mortality Rate(Both Sexes)(%)	75.0	61.7

Table 5.5 shows the indicators of childhood mortality by county.

Table 5. 5: Childhood Mortality Rates

RESIDENCE/ COUNTY	MALE			FEMALE			MALE - FEMALE RATIO			MALE	FEMALE
	q0	q1	q5	q0	q1	q5	q0	q1	q5	1q0 / 5q0	1q0 / 5q0
Kenya	0.0345	0.0193	0.0540	0.0297	0.0202	0.0500	1.1616	0.9554	1.0800	0.3574	0.4040
Rural	0.0379	0.0146	0.0530	0.0335	0.0173	0.0510	1.1313	0.8439	1.0392	0.2755	0.3392
Urban	0.0376	0.0129	0.0510	0.0340	0.0147	0.0490	1.1059	0.8776	1.0408	0.2529	0.3000
Mombasa	0.0363	0.0203	0.0568	0.0247	0.0168	0.0416	1.4696	1.2083	1.3662	0.3573	0.4040
Kwale	0.0422	0.0173	0.0600	0.0291	0.0219	0.0510	1.4502	0.7900	1.1765	0.2883	0.4294
Kilifi	0.0473	0.0192	0.0670	0.0328	0.0253	0.0580	1.4421	0.7589	1.1552	0.2866	0.4362
Tana River	0.0591	0.0243	0.0840	0.0358	0.0274	0.0630	1.6508	0.8869	1.3333	0.2893	0.4349
Lamu	0.0483	0.0269	0.0754	0.0268	0.0182	0.0450	1.8022	1.4780	1.6744	0.3569	0.4043
Taita Taveta	0.0308	0.0172	0.0482	0.0200	0.0100	0.0366	1.5400	1.7200	1.3187	0.3566	0.2734
Garissa	0.0523	0.0211	0.0740	0.0319	0.0233	0.0552	1.6395	0.9056	1.3406	0.2851	0.4221
Wajir	0.0572	0.0233	0.0810	0.0266	0.0194	0.0460	2.1477	1.1985	1.7609	0.2870	0.4217
Mandera	0.0522	0.0212	0.0740	0.0304	0.0227	0.0530	1.7171	0.9339	1.3962	0.2865	0.4283
Marsabit	0.0311	0.0174	0.0486	0.0216	0.0147	0.0364	1.4398	1.1837	1.3371	0.3578	0.4042
Isiolo	0.0410	0.0229	0.0641	0.0292	0.0199	0.0491	1.4041	1.1508	1.3036	0.3575	0.4050
Meru	0.0394	0.0220	0.0616	0.0275	0.0187	0.0462	1.4327	1.1765	1.3317	0.3573	0.4045
Tharaka-Nithi	0.0217	0.0121	0.0339	0.0152	0.0104	0.0257	1.4276	1.1635	1.3226	0.3565	0.4053
Embu	0.0305	0.0170	0.0477	0.0221	0.0150	0.0371	1.3801	1.1333	1.2857	0.3564	0.4043
Kitui	0.0296	0.0165	0.0463	0.0201	0.0137	0.0339	1.4726	1.2044	1.3661	0.3563	0.4042
Machakos	0.0341	0.0146	0.0490	0.0229	0.0161	0.0390	1.4891	0.9068	1.2564	0.2980	0.4128
Makueni	0.0363	0.0153	0.0520	0.0255	0.0185	0.0440	1.4235	0.8270	1.1818	0.2942	0.4205
Nyandarua	0.0363	0.0153	0.0517	0.0239	0.0171	0.0413	1.5188	0.8947	1.2517	0.2960	0.4140
Nyeri	0.0300	0.0117	0.0419	0.0266	0.0143	0.0411	1.1278	0.8182	1.0208	0.2791	0.3482
Kirinyaga	0.0261	0.0146	0.0407	0.0221	0.0151	0.0373	1.1810	0.9669	1.0929	0.3585	0.4052
Murang'a	0.0393	0.0163	0.0560	0.0220	0.0150	0.0370	1.7864	1.0867	1.5111	0.2913	0.4050
Kiambu	0.0218	0.0121	0.0340	0.0169	0.0115	0.0284	1.2899	1.0522	1.2009	0.3554	0.4056
Turkana	0.0447	0.0249	0.0698	0.0349	0.0237	0.0586	1.2808	1.0506	1.1912	0.3567	0.4045
West Pokot	0.0479	0.0195	0.0680	0.0281	0.0210	0.0490	1.7046	0.9286	1.3878	0.2868	0.4286
Samburu	0.0253	0.0141	0.0395	0.0229	0.0156	0.0385	1.1048	0.9038	1.0270	0.3568	0.4054
Trans Nzoia	0.0354	0.0198	0.0553	0.0279	0.0190	0.0469	1.2688	1.0421	1.1799	0.3579	0.4053
Uasin Gishu	0.0291	0.0162	0.0454	0.0203	0.0138	0.0342	1.4335	1.1739	1.3288	0.3567	0.4037
Elgeyo Marakwet	0.0399	0.0166	0.0570	0.0255	0.0185	0.0440	1.5647	0.8973	1.2976	0.2910	0.4209
Nandi	0.0302	0.0169	0.0472	0.0226	0.0154	0.0380	1.3360	1.0969	1.2412	0.3573	0.4043
Baringo	0.0327	0.0182	0.0511	0.0201	0.0136	0.0337	1.6269	1.3382	1.5130	0.3565	0.4030
Laikipia	0.0203	0.0113	0.0317	0.0143	0.0098	0.0241	1.4196	1.1531	1.3131	0.3567	0.4062
Nakuru	0.0369	0.0206	0.0577	0.0286	0.0194	0.0481	1.2902	1.0619	1.2017	0.3567	0.4037
Narok	0.0480	0.0194	0.0680	0.0265	0.0195	0.0460	1.8109	0.9959	1.4807	0.2857	0.4248
Kajiado	0.0355	0.0151	0.0505	0.0234	0.0166	0.0405	1.5171	0.9096	1.2490	0.2988	0.4103
Kericho	0.0378	0.0158	0.0539	0.0244	0.0176	0.0421	1.5492	0.8977	1.2811	0.2931	0.4182
Bomet	0.0429	0.0176	0.0608	0.0234	0.0165	0.0402	1.8333	1.0667	1.5120	0.2895	0.4104
Kakamega	0.0429	0.0239	0.0670	0.0317	0.0216	0.0534	1.3533	1.1065	1.2560	0.3566	0.4047
Vihiga	0.0459	0.0256	0.0716	0.0449	0.0304	0.0752	1.0223	0.8421	0.9531	0.3574	0.4044
Bungoma	0.0350	0.0195	0.0547	0.0260	0.0177	0.0437	1.3462	1.1017	1.2527	0.3564	0.4052
Busia	0.0465	0.0259	0.0727	0.0352	0.0239	0.0591	1.3210	1.0837	1.2290	0.3564	0.4042
Siaya	0.0478	0.0266	0.0746	0.0358	0.0243	0.0602	1.3352	1.0947	1.2399	0.3565	0.4038
Kisumu	0.0439	0.0245	0.0686	0.0343	0.0233	0.0576	1.2799	1.0515	1.1925	0.3569	0.4048
Homa Bay	0.0653	0.0362	0.1014	0.0496	0.0336	0.0830	1.3165	1.0774	1.2210	0.3571	0.4047
Migori	0.0786	0.0433	0.1213	0.0558	0.0377	0.0931	1.4086	1.1485	1.3035	0.3569	0.4050
Kisii	0.0302	0.0168	0.0472	0.0215	0.0147	0.0362	1.4047	1.1429	1.3013	0.3562	0.4056
Nyamira	0.0303	0.0169	0.0474	0.0239	0.0163	0.0402	1.2678	1.0368	1.1810	0.3563	0.4058
Nairobi	0.0405	0.0226	0.0632	0.0310	0.0211	0.0522	1.3065	1.0711	1.2124	0.3574	0.4045

5.4. Adult Mortality

Table 5.6 shows the age specific mortality rates for men and women between ages 15-49 based on using parental survival often referred to as the orphanhood method. The input data required for the orphanhood method include number of respondents with mother/father alive classified by a 5-year age group and by sex, number of respondents who stated that they don't know whether their mother or father was alive by 5-year age group by sex, and total number of respondents classified by 5-year age group by sex. (Detailed explanation on the methodology is in the 2019 KPHC analytical report on Mortality.)

The age patterns for both male and female are similar throughout the age groups showing that male have a higher mortality. The ASMR increase with the age groups for both sexes in 2019. However, across the other years, the ASMR for female 45 – 49 is lower than the preceding age group (40 – 44).

Table 5.6: Trends in Age Specific Mortality Rates for Women and Men Age 15 - 49

Age Group	2009 Census		2008/9 KDHS		2014 KDHS		2019 Census	
	Male	Female	Male	Female	Male	Female	Male	Female
15-19	2.92	1.85	2.5	1.7	2.05	1.67	2.5	1.6
20-24	2.48	3.02	3.1	3.3	2.36	2.10	3.5	2.2
25-29	3.46	5.58	4.1	5.9	3.62	2.66	4	2.7
30-34	4.78	10.66	7.2	7	5.23	4.73	4.8	3.2
35-39	7.67	13.82	8.4	9	7.11	6.78	6.2	3.9
40-44	12.24	10.97	12.3	11	9.71	6.83	8.4	4.9
45-49	13.17	10.09	14.9	10.3	10.39	5.00	11.9	6.4

Figure 5.1 shows the probabilities of dying between ages 5 and 89 by sex. The male mortality rates are higher than the females across all the age groups. The gap widens more between ages 40 and 75.

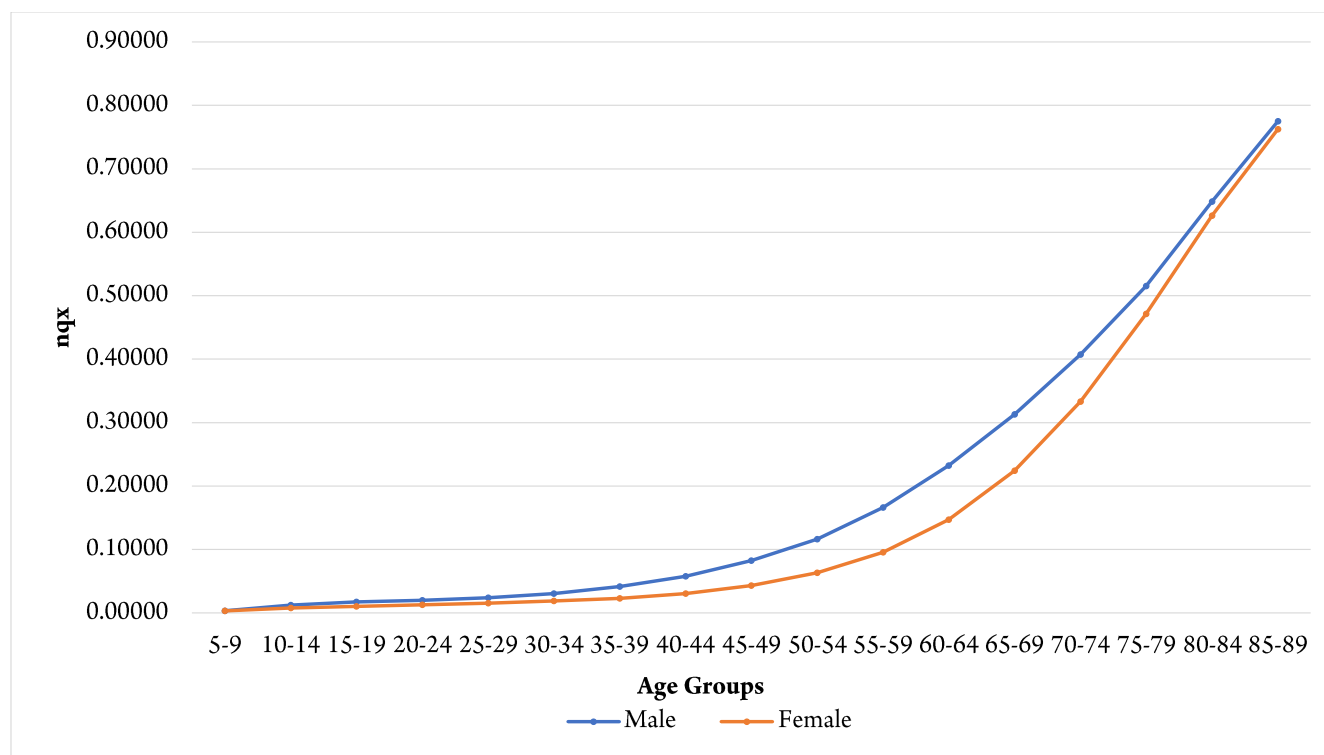


Figure 5. 1: Probability of Dying by Age and Sex

5.5. Overall Mortality

The overall mortality patterns can be summarized using the life expectancies by age. The life expectancy at birth for males and females are 60.6 years and 66.5 years, respectively. This is a notable improvement from the life expectancies recorded in 2009 KPHC. The life expectancy for a male who had reached age 20, 60 and 80 is about 44.9, 14.2 and 5.7 years respectively. Similarly, a female age 20 expects to live for an average of 50.8 years while elderly women age of 60 and 80 are expected to live on average 17.2 and 6.2 years. Evidently, women are expected to live longer than men in Kenya.

Table 5.7 shows the life expectancy at age 0, age 20, age 60 and age 80 by sex and counties.

Table 5. 7: Life Expectancy at Age 0, Age 20, Age 60 and Age 80 (in Years)

COUNTY/ RESIDENCE	MALE				FEMALE			
	e0	e20	e60	e80	e0	e20	e60	e80
Kenya	60.6	44.9	14.2	5.7	66.5	50.8	17.2	6.2
Rural	60.3	44.6	14.5	5.4	66.2	50.9	17.7	6.3
Urban	63.0	47.2	15.3	5.6	68.6	52.9	18.4	6.4
Mombasa	65.7	51.0	17.7	5.9	71.1	55.3	20.0	6.5
Kwale	58.2	42.9	14.0	5.3	60.7	45.5	16.2	6.1
Kilifi	57.8	43.0	14.1	5.3	59.2	44.6	15.9	6.0
Tana River	56.2	42.5	14.0	5.2	58.6	44.4	15.9	6.0
Lamu	64.1	50.9	17.7	5.9	68.9	53.3	18.9	6.3
Taita Taveta	61.2	45.9	15.7	5.6	69.2	52.9	18.7	6.2
Garissa	57.4	43.1	14.1	5.2	60.5	45.6	16.2	6.1
Wajir	56.7	42.8	14.1	5.2	62.0	46.4	16.4	6.2
Mandera	57.3	43.0	14.1	5.2	60.5	45.5	16.2	6.1
Marsabit	57.9	42.6	14.7	5.5	62.6	46.4	16.0	5.7
Isiolo	60.1	45.9	15.7	5.6	59.6	44.4	15.4	5.7
Meru	62.2	47.8	16.4	5.7	68.2	52.8	18.7	6.2
Tharaka-Nithi	63.8	47.3	16.2	5.7	70.3	53.1	18.8	6.3
Embu	58.7	43.3	14.9	5.5	70.1	53.9	19.2	6.4
Kitui	55.7	40.3	14.0	5.4	68.8	52.3	18.4	6.2
Machakos	57.9	41.9	13.7	5.3	63.9	47.7	16.8	6.3
Makueni	58.1	42.2	13.8	5.3	62.4	46.6	16.5	6.2
Nyandarua	58.0	42.2	13.8	5.3	63.2	47.2	16.7	6.2
Nyeri	66.4	49.9	16.3	6.0	75.8	59.6	22.2	7.4
Kirinyaga	59.9	44.0	15.1	5.5	71.1	54.8	19.7	6.5
Murang'a	58.1	42.6	13.9	5.3	64.7	48.3	17.0	6.3
Kiambu	60.8	44.4	15.2	5.5	72.8	55.8	20.2	6.6
Turkana	55.9	42.1	14.5	5.4	60.0	45.6	15.7	5.7
West Pokot	57.6	42.9	14.1	5.2	61.1	45.8	16.3	6.1
Samburu	58.5	42.6	14.6	5.5	67.4	51.3	18.0	6.1
Trans Nzoia	64.4	49.6	17.1	5.8	67.9	52.5	18.5	6.2
Uasin Gishu	63.6	48.0	16.5	5.7	71.7	55.2	19.9	6.5
Elgeyo Marakwet	57.9	42.4	13.9	5.3	62.5	46.7	16.5	6.2
Nandi	60.0	44.6	15.3	5.5	70.4	54.3	19.4	6.4
Baringo	65.4	50.3	17.4	5.9	68.9	52.4	18.5	6.2
Laikipia	59.2	42.6	14.7	5.5	71.9	54.5	19.5	6.4
Nakuru	58.3	43.6	15.0	5.5	69.1	53.8	19.2	6.3
Narok	57.8	43.0	14.1	5.3	61.9	46.3	16.4	6.2
Kajiado	57.8	41.9	13.7	5.3	63.5	47.4	16.7	6.3
Kericho	58.1	42.4	13.9	5.3	62.9	47.0	16.6	6.2
Bomet	58.1	42.9	14.0	5.3	63.6	47.5	16.8	6.3
Kakamega	63.4	49.5	17.1	5.8	66.1	51.3	18.0	6.1
Vihiga	59.8	46.2	15.8	5.6	62.1	49.0	17.0	5.9
Bungoma	65.5	50.6	17.6	5.9	68.2	52.6	18.6	6.2
Busia	62.3	48.8	16.8	5.7	66.2	51.8	18.2	6.1
Siaya	53.4	39.9	13.9	5.4	61.6	47.2	16.3	5.8
Kisumu	54.0	40.1	14.0	5.4	63.1	48.6	16.8	5.9
Homa Bay	50.5	38.7	13.7	5.3	60.2	47.6	16.5	5.8
Migori	50.5	40.1	14.0	5.4	60.6	48.9	17.0	5.9
Kisii	56.1	40.7	14.2	5.4	66.9	50.6	17.7	6.0
Nyamira	55.3	40.0	14.0	5.4	66.2	50.2	17.5	6.0
Nairobi	62.6	48.4	16.6	5.7	65.2	50.2	17.5	6.0

5.6. Maternal Mortality

Maternal mortality refers to deaths due to complications from pregnancy or childbirth. Table 5.8 presents the reported and adjusted maternal mortality indicators at national level. The adjusted maternal related deaths were 4, 680 about giving and maternal mortality ratio of 355 per 100,000 live births at national level. This is within the range estimated by WHO of 342 deaths per 100,000.

Table 5. 8: Distribution of the Reported Number of Women and Women Dead due to Pregnancy Related Causes in the 1 Year Preceding the Census, 2019

Age group	Number of women	Number of female deaths	Adjusted number of female	Reported number of pregnancy	Adjusted number of maternal	Births in the last 12 months	Maternal mortality Ratio
15-19	2,585,125	1,537	4,418	220	632	136,200	464
20-24	2,316,271	2,049	5,061	436	1,079	391,662	275
25-29	1,999,654	2,412	5,095	468	1,005	350,144	287
30-34	1,859,889	3,088	5,593	489	902	261,744	345
35-39	1,293,038	2,912	4,867	321	553	126,849	436
40-44	1,095,662	2,883	5,249	187	356	45,315	786
45-49	865,089	2,335	5,515	65	154	6,940	2,219
Total	12,014,728	17,216	35,799	2,186	4,680	1,318,855	355

Figure 5.2 shows the maternal mortality ratio by county and residence. Garissa reported the highest MMR of 641 maternal deaths per 100,000 live births while Nyeri recorded the least number of maternal deaths of 67. There was a slight variation of maternal deaths by area of residence. In rural Kenya, there were 374 maternal deaths per 100,000 live births while in urban Kenya there was 317 maternal deaths per 100,000 live births.

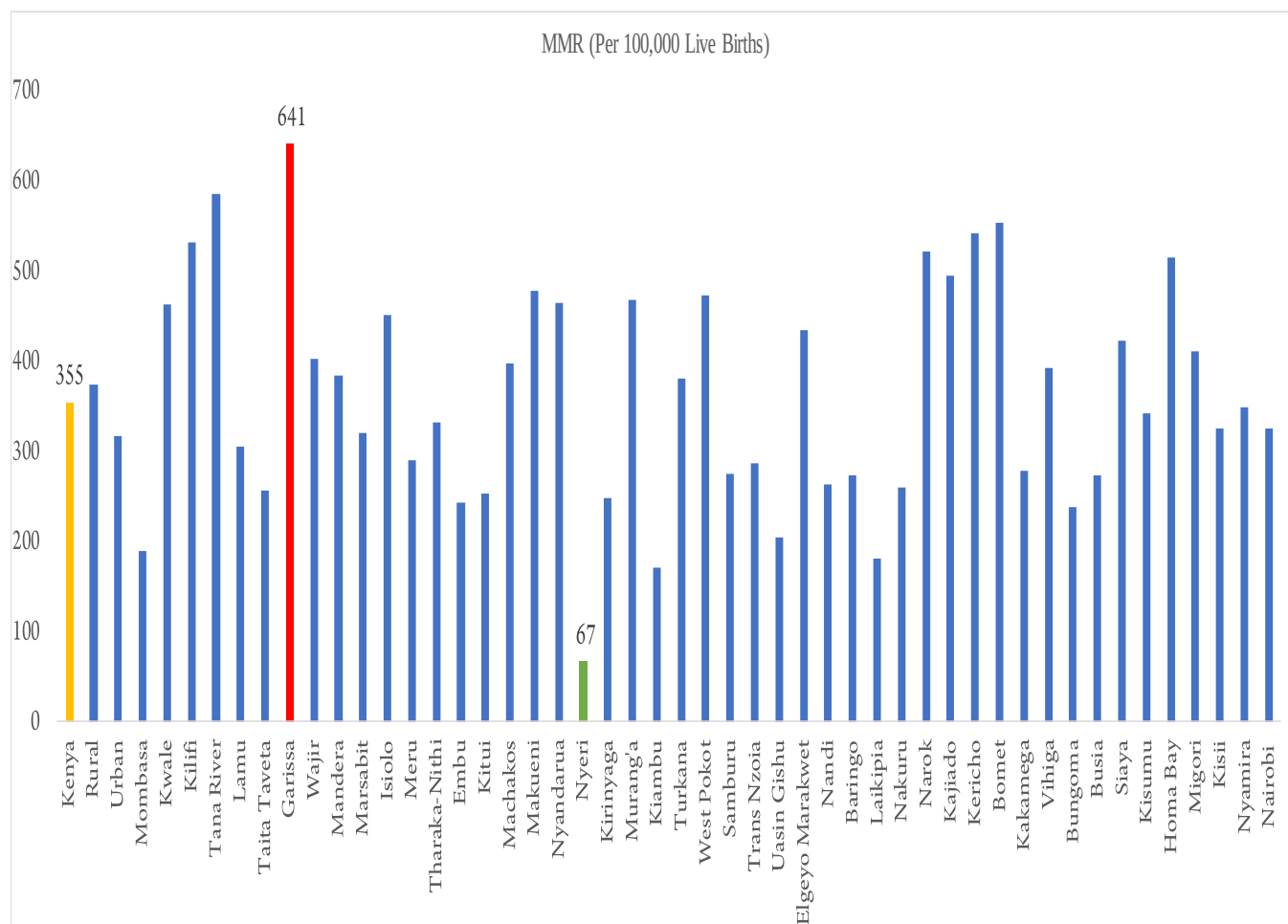


Figure 5. 2: Maternal Mortality by County, 2019

Chapter 6: Migration

6.1. Introduction

Migration is one of the major demographic factors that brings change in the population size, structure, and distribution. A migrant is defined as a person who has changed his/her place of usual residence, or persons who live outside the country of which they are a citizen or national (UN Statistics Division, 2016).

Measurement for migration for 2019 Kenya Population and Housing Census was based on information captured using the household questionnaire and the emigrant short questionnaire. The key migration variables were place of birth (P19), previous residence in 2018 (P20), duration of residence (P21/P22), place of enumeration (the county of enumeration imputed from the household questionnaire identification panel), and emigrants (H-40). Members of households were asked to provide information on emigrants in the last fifteen years (H 40). The short questionnaire was used to capture information on educational attainment, professional training, country of destination and residence, year of departure, reason for emigration and remittances, among other variables.

6.2. Internal Migration

This section presents information on recent and lifetime internal migration between counties. Analysis of recent migration highlights the most recent patterns of human mobility in each time interval. The 2019 Census questionnaire asked respondents for their place of residence in August 2018 and targeted population age 1 and above. The population whose county of residence in August 2018 was different from county of enumeration in August 2019 constituted recent migrants. Recent migrants are part of lifetime migrants as they present the most recent movements of the population. Current migration data are generally analyzed in terms of in-migration rate, out-migration rate, and net migration rate.

Table 6.1 and Figure 6.1 present details about the top 13 net recent in-migration counties. Analysis of data per 1000 population shows that Kajiado (90.1), Kiambu (72.0), Mombasa (60.9), Nairobi City (52.3) and Lamu (49.2) counties had the highest propensity for in-migration, followed by Uasin Gishu (47.6), Nakuru (38.0), and Laikipia (20.1). The counties received the largest number of migrants per 1000 population than other counties in the country.

Table 6. 1: Top 13 Net Recent In-migration Counties

County	Both sexes	Males	Females
Kajiado	90.1	85.9	94.3
Kiambu	72.0	65.9	77.9
Mombasa	60.9	55.3	66.7
Nairobi City	52.3	44.8	59.8
Lamu	49.2	73.8	21.6
Uasin Gishu	47.6	46.1	49.0
Nakuru	38.0	37.5	38.4
Laikipia	20.1	22.8	17.5
Narok	16.6	14.9	18.3
Kirinyaga	11.8	13.1	10.4
Nyandarua	9.4	12.5	6.3
Machakos	8.7	12.1	5.4
Trans Nzoia	5.5	5.3	5.6

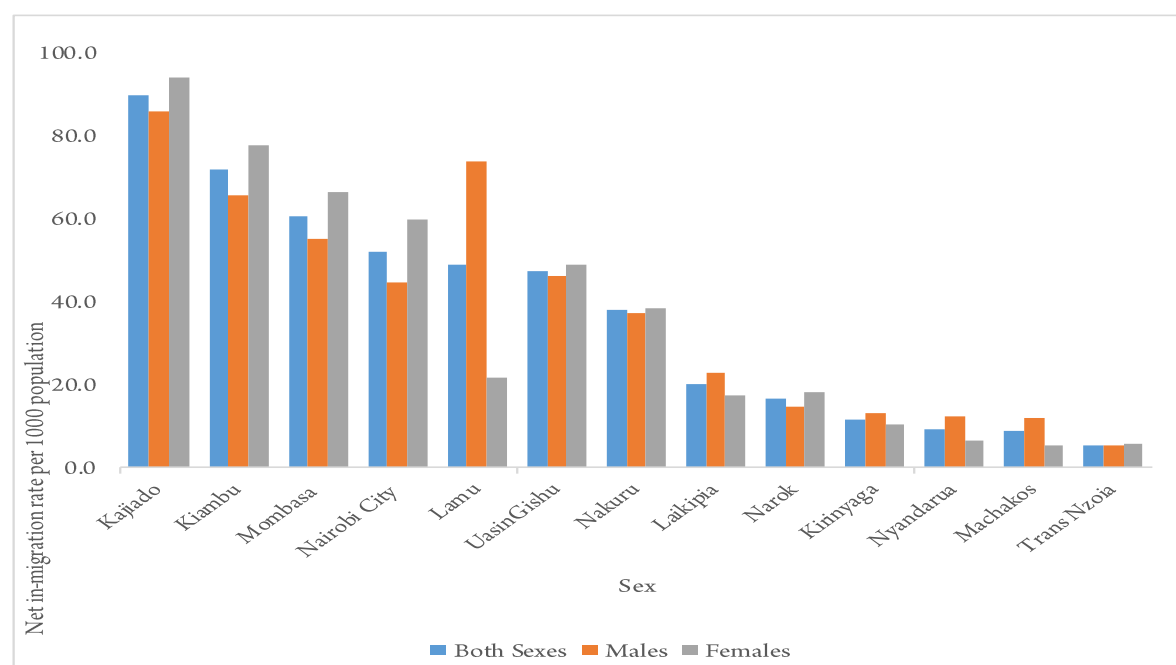
**Figure 6. 1: Counties with top Net In-migration rates**

Table 6.2 and Figure 6.2 present details about the top 13 net recent out-migration county rates. Counties with the highest net outmigration were Vihiga (-97.0), Kisii (-75.9), Kitui (-63.4), Kakamega (-51.0), Busia (-46.8) and Baringo (-46.0). Recent migrants by County of residence 1 year ago and current residence and trends of recent in-migration, out-migration and Net migration by Sex, County and Region are found in Appendix 4 and Appendix 5, respectively.

Table 6. 2: Top 13 Net Recent Out-migration Counties

County	Both Sexes	Males	Females
Vihiga	-97.0	-91.2	-102.4
Kisii	-75.9	-76.1	-75.7
Kitui	-63.4	-62.6	-64.2
Kakamega	-51.0	-52.3	-49.8
Busia	-46.8	-45.9	-47.5
Baringo	-46.0	-42.2	-49.9
Makueni	-44.0	-38.6	-49.4
Bungoma	-43.2	-44.4	-42.1
Elkeyo/Marakwet	-34.6	-29.9	-39.3
Bomet	-34.1	-35.5	-32.7
Siaya	-27.0	-21.9	-31.7
Murang'a	-24.7	-17.8	-31.4
Nyamira	-21.8	-29.5	-14.7

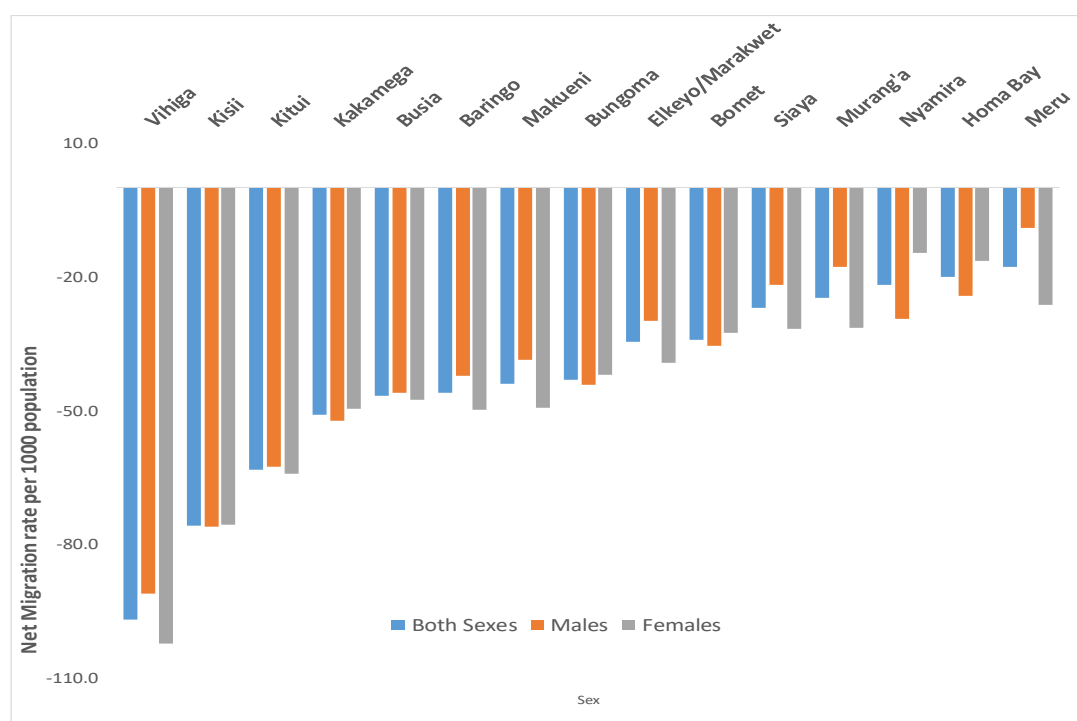


Figure 6. 2: Counties with top Net Recent Out-migration rates

6.3. Recent Migrants by Age and Sex

Table 6.3 presents the reasons for migration nationally for recent migrants by sex and age. Majority (42.5%) of the recent migrants cited economic reasons as the main reason for migrating. This was followed by marriage and family related issues, settlement and education at 24.2 percent, 13.4 percent and 9.7 percent, respectively.

Men mainly migrated for economic reasons at 56.9 percent, followed by settlement, education, and marriage and family related issues at 13.2 percent, 10.6 percent, and 10.1 percent, respectively. Females mainly migrated for the reason of marriage and family related issues at 36.6 percent, followed by economic reasons (29.9%), Settlement (13.6%) and education (8.9%).

The results also show that women are almost 4 times (36.6%) more likely to migrate for marriage and family related issues compared to men (10.1%). Men are two times (56.9%) more likely to migrate for economic reasons compared to women (29.9%). Almost the same proportion (13.2% and 13.6%) of both sexes gave settlement as the reason for migration.

Nearly the same percentage of migrants of both sexes migrated in age groups 25-34 years and 35-59 years at 34.0 percent and 34.8 percent, respectively. The majority in these age groups migrated mainly for economic reasons at 51.0 percent and 47.5 percent, respectively. Migrants in age group 15-24 migrated mainly for marriage and family related issues (30.8%), followed by economic reasons (23.1%), education (19.3%) and settlement (11.0%).

Migrants age 60+ mainly migrated for settlement (33.0%) followed by marriage and family related issues (28.4 percent) and economic reasons (25.9%). The peak age groups of migration for men is 35-59 years (37.4%) followed by 25-34 and 15-24 years at 32.6 percent and 23.5 percent, respectively. Men in these groups mainly migrated for economic reasons. Men aged 60+ migrated mainly for economic reasons (41.7%) and settlement (36.8%) while women in this age groups migrate mainly for family related issues (44.3%) followed by settlement at 30.0 percent. The same number of women aged 15-24 (35.8%) and 25-34 (35.2%) years migrate for the reason of marriage. Marriage and family issues was the main reason cited for migration by women in all age groups except age 15-24 years which reported economic reasons as the main reason for migration.

Table 6. 3: Proportion of recent migrants' reasons for migration by sex and age, Kenya 2019

(Both sexes)	Marriage Economic and Family Forced Don't							
	Total	Reasons	Related	Education	Settlement	Displacement	Other	Know
Total	100.0	42.5	24.2	9.7	13.4	2.3	5.2	2.7
15-24	25.4	23.1	30.8	19.3	11.0	2.7	10.1	2.9
25-34	34.0	51.0	22.1	9.1	9.0	1.7	4.1	2.9
35-59	34.8	47.5	22.5	4.4	17.5	2.6	3.2	2.4
60+	6.8	25.9	28.4	2.4	33.0	4.0	4.7	1.6
Males	100.0	56.9	10.1	10.6	13.2	2.4	4.0	2.8
15-24	23.5	28.2	24.0	21.8	11.3	3.3	8.6	2.8
25-34	32.6	67.3	6.7	10.2	8.0	1.8	3.0	2.9
35-59	37.4	64.3	6.5	4.7	17.0	2.4	2.4	2.7
60+	6.4	41.7	8.8	3.3	36.8	4.1	3.4	2.0
Females	100.0	29.9	36.6	8.9	13.6	2.2	6.2	2.6
15-24	27.0	19.3	35.8	17.5	10.8	2.2	11.3	3.1
25-34	33.4	37.2	35.2	8.2	9.8	1.7	5.0	2.9
35-59	32.5	30.6	38.6	4.0	18.0	2.7	4.0	2.0
60+	7.1	12.9	44.3	1.7	30.0	3.9	5.7	1.3

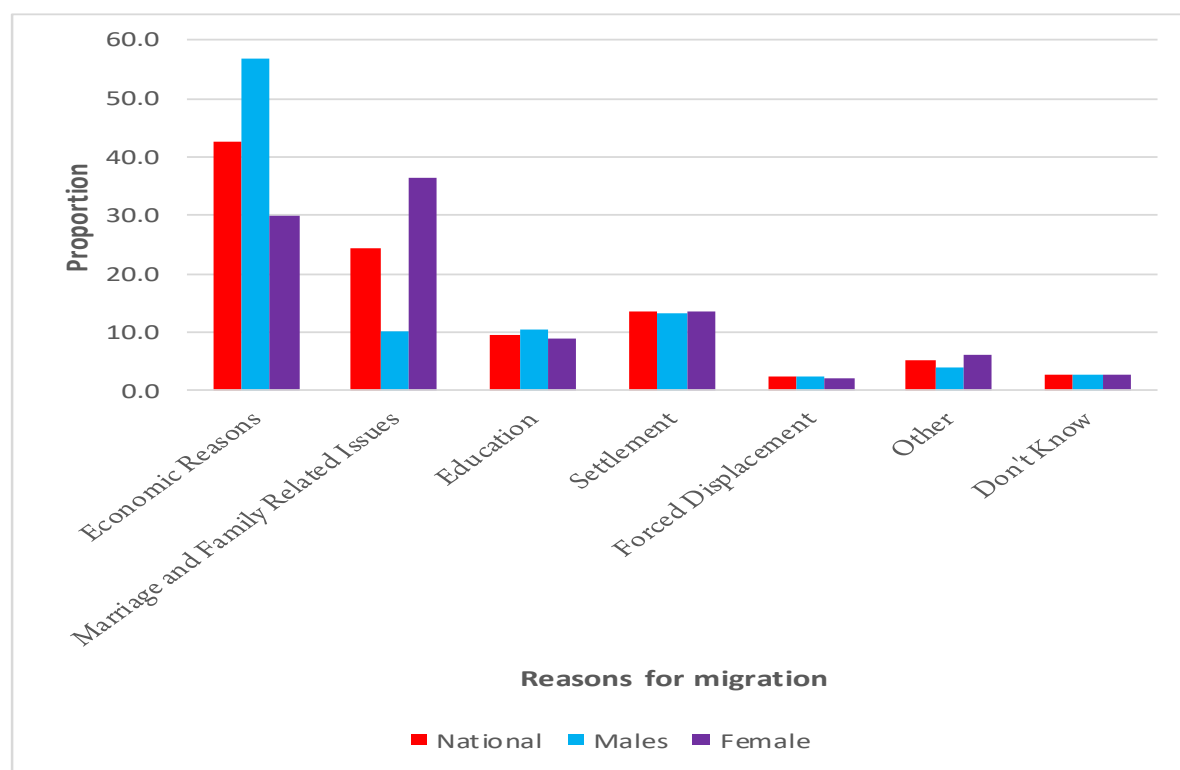


Figure 6. 1: Reasons of Migration Nationally and by Sex

6.4. Distribution of Current Internal Migrant Population by Place of Residence, Reason for Migration and Age.

Table 6.4 shows current internal migrant population by place of residence, age and sex. Male migrants in both rural and urban areas cited economic reasons as the main reason for migrating.

In rural areas, the peak age of migration for males was 35-59 years, followed by age group (15-24), (25-34) and 60+. Males mainly moved for economic reasons followed by settlement in the age categories of (35-59) and (25-34) while men in age category (15-24) mainly moved for both economic and family related issues. Men aged 60+ migrated for the reason of settlement (55.4%) and economic reasons (22.4%).

Women in rural areas moved mainly for the reason of marriage while in urban areas the main reason was economic. The peak age of migration for women was 35-59 years in these areas followed by age (25-34), (15-24) and 60+. Generally, females mainly moved for marriage and settlement.

In urban areas, men in all age categories mainly migrated for economic reasons with age category (35-59) recording a peak of 73.7 percent, followed by age category (25-34) years with 70.2 percent. For age category (15-24), economic reasons (29.3%), education (25.8%) and family related issues (22.9%) were the major reasons for movement.

Table 6.4: Proportion of Recent Migrants' Reasons for Migration by Place of Residence, Sex and Age

Sex/Age	Rural									Urban								
	Marriage & Economic			Settlem			Forced			Economic			Family Related			Settleme		
	Total	Reasons	Family related	Education	ent	Displace	Other	Don't Know		Total	Reasons	Marriage	Issues	Education	nt	ement	Other	Know
Male																		
Total	40.6	39.5	14.5	4.4	26.2	4.9	4.4	6.1	49.2	63.7	0.3	8.0	13.0	8.3	1.5	3.8	1.5	
15-24	26.1	25.3	14.5	13.2	15.1	6.1	8.5	5.1	11.3	29.3	0.1	22.9	25.8	9.4	1.8	8.9	1.9	
25-34	24.1	55.9	26.8	2.6	14.8	4.0	3.7	8.3	18.0	70.2	0.3	5.3	12.2	6.3	1.2	2.9	1.5	
35-59	37.3	42.9	10.7	0.8	32.7	4.5	2.6	6.3	7.5	73.7	0.4	4.6	6.3	10.0	1.5	2.2	1.2	
60+	12.5	22.4	10.2	0.7	55.4	5.4	2.5	3.1	2.1	62.5	0.5	6.5	6.2	16.1	2.6	4.6	1.0	
Female																		
Total	59.4	11.4	54.5	2.8	18.5	3.5	4.6	4.7	50.8	40.0	14.3	12.5	12.2	10.9	1.5	7.0	1.5	
15 - 24	22.8	8.6	48.8	9.7	13.0	3.9	10.0	6.0	14.6	23.8	9.0	21.5	20.9	9.7	1.4	12.0	1.9	
25-34	27.2	15.6	58.2	1.6	11.1	2.8	4.2	6.6	18.4	46.0	15.9	10.0	10.8	9.3	1.2	5.3	1.4	
35-59	36.6	11.4	56.2	0.7	22.2	3.6	2.6	3.3	6.0	44.8	15.6	10.1	6.4	14.5	2.1	5.3	1.2	
60+	13.4	4.8	51.8	0.3	35.2	4.1	2.5	1.4	1.9	27.3	17.9	13.5	4.2	20.3	3.7	11.9	1.2	

6.5. Distribution of recent migrants by main urban centres

Table 6.5 presents the distribution of recent migrants by main urban centres and sex. The results show that Nairobi City (48.4%) and Mombasa (12.5%) were the most popular urban centres of destination for recent migrants, followed by Ruiru (6.0%), Nakuru and Eldoret at 5.3 percent each. The remaining urban centres accounted for less than 5.0 percent of the migrants. There were more female recent migrants compared to their male counterparts with females accounting for more than 50 percent in all the main urban centres.

Table 6. 5: Distribution of Recent Migrants by Sex and Main Urban Centres, 2019

	Numbers			Percentage		
	Total	Male	Female	Total	Male	Female
Kenya	1,648,090	774,400	873,589	100.0	47.0	53.0
Nairobi City	797,357	373,560	423,747	48.4	46.8	53.1
Mombasa	205,644	98,942	106,696	12.5	48.1	51.9
Nakuru	88,058	41,738	46,316	5.3	47.4	52.6
Ruiru	99,330	45,999	53,318	6.0	46.3	53.7
Eldoret	87,572	41,610	45,959	5.3	47.5	52.5
Kisumu	61,164	28,600	32,562	3.7	46.8	53.2
Kikuyu	57,294	25,855	31,435	3.5	45.1	54.9
Thika	45,471	21,027	24,440	2.8	46.2	53.7
Naivasha	36,805	17,615	19,185	2.2	47.9	52.1
Karuri	35,685	16,029	19,655	2.2	44.9	55.1
Ongata Rongai	38,910	18,338	20,571	2.4	47.1	52.9
Kitale	23,004	11,207	11,795	1.4	48.7	51.3
Juja	31,242	14,865	16,374	1.9	47.6	52.4
Kitengela	40,554	19,015	21,536	2.5	46.9	53.1

6.6. International Migration

6.6.1. Introduction

International migration is the temporal or permanent movement of people from the country of usual residence to another. There are two categories of international migration, namely, emigration and immigration. Emigration is when a person leaves his or her country of origin to reside in another country. On the other hand, immigration is a movement of people into destination country of which they are not citizens in order to reside there. This section provides information about international migration based on 2019 census data.

International migrant population considered are foreign born population, “recent” immigrants, emigrants, and refugees/asylum seekers. In this section, a recent immigrant is one who was living in a different country in August 2018 and was enumerated in Kenya. Whereas a foreign-born person is one who was enumerated in Kenya but was born in another country.

6.6.2. Foreign Born Population

Table 6.6 shows that Uganda, Somalia, Tanzania, South Sudan and India were the top 5 countries of origin of the foreign-born migrants. Congo DRC, Ethiopia, Burundi, Congo Republic and USA were the other major sources. Uganda contributed the majority of the migrants at 22.1 percent; followed by Somalia (15.1%), Tanzania (12.3 %), and South Sudan (12.2 %). Congo DRC, Ethiopia, Burundi

and Congo Republic and USA accounted for 4.8, 3.1, 2.9 and 2.6, percent, respectively. Of persons who lived outside Africa, 8.2 per cent were from India and 2.2 were from the United States of America (USA).

Table 6. 6: Top ten countries of origin of Foreign-Born migrants

Country/Sex	Number									
	Uganda	Somalia	Tanzania	South Sudan	India	Congo DRC	Ethiopia	Burundi	Congo Rep.	USA
Both Sexes	92,636	63,492	51,603	51,041	34,362	20,268	13,068	12,125	11,023	9,065
Male	38,823	27,453	25,430	25,552	18,276	10,922	6,646	7,980	5,976	4,568
Female	53,813	36,039	26,173	25,489	16,086	9,346	6,422	4,145	5,047	4,497
Country/Sex	Proportion									
	Uganda	Somalia	Tanzania	South Sudan	India	Congo DRC	Ethiopia	Burundi	Congo Rep.	USA
Both Sexes	22.1	15.1	12.3	12.2	8.2	4.8	3.1	2.9	2.6	2.2
Male	9.3	6.5	6.1	6.1	4.4	2.6	1.6	1.9	1.4	2.2
Female	12.8	8.6	6.2	6.1	3.8	2.2	1.5	1.0	1.2	2.1

6.6.3. Recent International Migration

In the 2019 census, data was collected on the place of residence one year preceding the census (August 2018). The information provided data on recent migration, for persons who were in a different country in 2018, recent immigrants in this case.

Figure 6.4 shows the top ten countries in which persons reported to have been living in August 2018. The results show that EAC (Uganda, Tanzania, South Sudan, Burundi and Rwanda) countries accounted for half (51.8 percent) of the top ten sending countries. Immigrants from Uganda accounted for the largest share of 30 percent. Of persons who lived outside Africa, 5.8 per cent were from the United States of America (USA), 3.5 percent from the United Kingdom (UK) and 3.4 per cent from India.

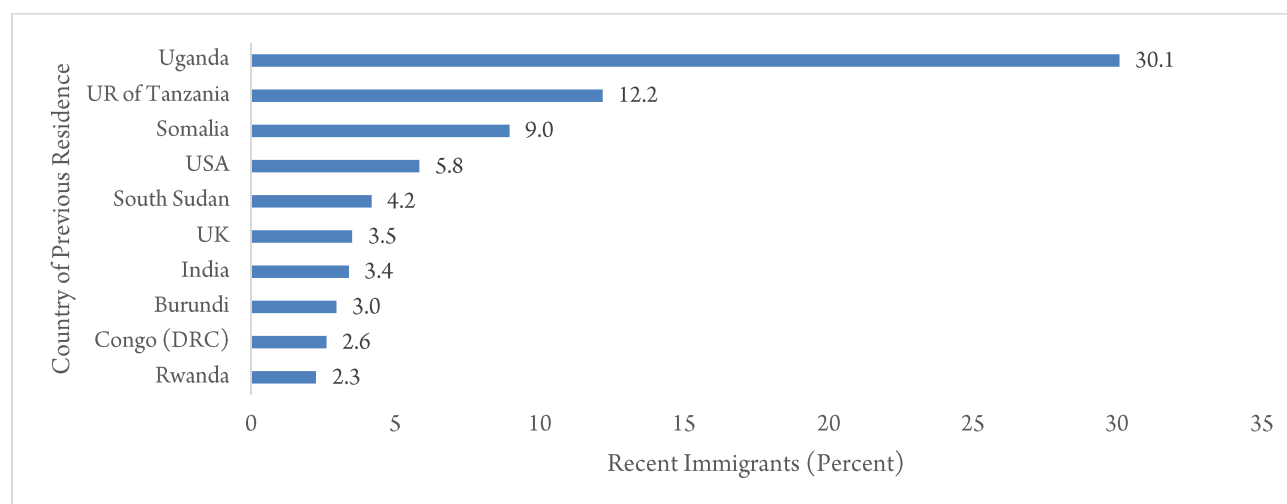


Figure 6. 2: Top Ten Countries of Previous Residence in August 2018

6.6.4. Emigration

In the 2019 KPHC, emigrants in households were identified and estimated by asking if member(s) of all enumerated households had ever migrated to a different country in the past fifteen years.

Figure 6.5 shows persons who have ever emigrated by the top ten regions of current residence. Arab Gulf countries (Qatar, United Arab Emirates, Saudi Arabia, Bahrain, Kuwait, and Oman) in Asia were popular amongst all persons who have ever emigrated, hosting the bulk of the emigrants from Kenya followed by the Americas. EAC and Europe accounted 15 percent and 14 percent, respectively.

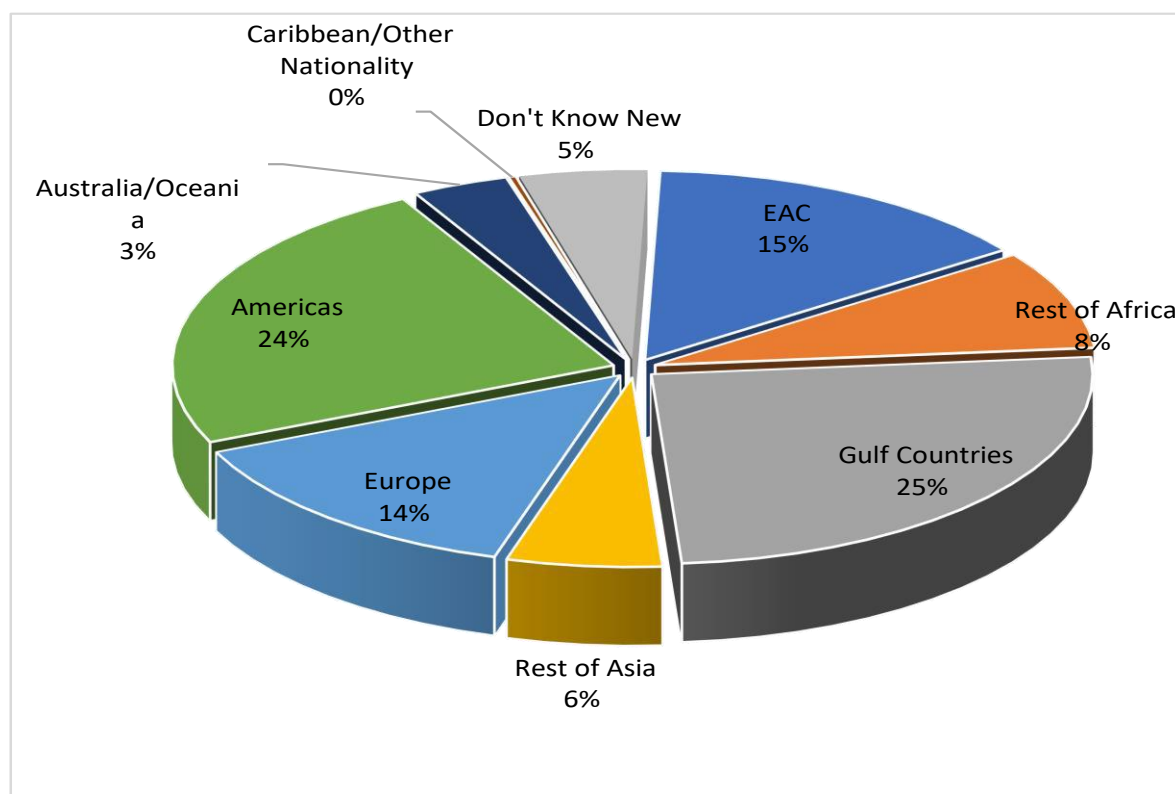


Figure 6. 3: Persons Ever Emigrated by Top Ten Countries/Regions of Current Residence

Chapter 7: Conclusions and Recommendations

7.1. Introduction

This chapter summarizes components of population change in Kenya derived from the 2019 KPHC. The term population dynamics is the mechanisms by which population changes over time. Such change is the result of natural increase (the balance of births and deaths) and migration (the balance of persons moving in and out of the country or area concerned). The rate of change in birth and death rates is also dependent on the population structure.

7.2. Conclusions

Coverage

Generally, there was improved age reporting in 2019 KPHC compared to the previous census. However, the quality of data varied by place of residence and county. Age reporting was better in rural areas compared to urban areas according to the UN accuracy index. Some ASAL counties 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 be smoothened to correct the data errors especially due to digit preference and age misreporting.

Nuptiality

The marital characteristics presented in this chapter reveal the universality of marriage in Kenya. The proportion of population married by sex and age shows that women tend to marry earlier than men. Further, the data indicates that in the older ages, a higher proportion of women than men are widowed. Overall, the proportion of married women (51.1%) is higher compared with that of men (48.4%). Generally, the proportion of population divorced or separated remain low for both sexes. Cases of separation are higher compared with divorce, with more separations experienced at ages 35 – 49.

The percentages of the never married men and women are highest in the age-group 15-19 at 96 percent and 89 percent, respectively. In addition, the SMAM for men is 27 years, while for women is 23 years. This shows that on average, men remained single 4 more years than women before getting into marriage.

Fertility

From 1999 to 2019, the Total Fertility Rate has consistently declined from high to low fertility levels. The TFR has declined by about one birth from 4.8 births per woman in 2009 to 3.4 births per woman in 2019. Over the period, fertility has declined faster in rural than in urban areas. Regarding Age

Specific Fertility Rates (ASFRs), there has been a shift in reported ASFRs within the last 10 years. In 2019 KPHC, the reported ASFRs peaked at 25-29 age group, which is a shift from what was reported in 2009 that peaked at age 20-24, an indication that fertility has been 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 results further show that the proportion of teenage girls, age 15-19 with no children has been increasing since 1989, an indication that the young females are postponing entry into motherhood. Among women in the age group 45-49, the modal number of children ever born has declined from 8 in 1989 to 3 in 2019. Further, a sizeable proportion of Kenyan women, about 3.6 percent remain childless by age 45-49, an indication that sterility may be affecting fewer women.

Mortality

Despite interventions in the health sector targeting mothers, children and infants, mortality indicators are still relatively high compared to the set SDG targets of 25 deaths per 1,000 live births. However, the rates are declining across all the mortality indicators and counties. Differentials in the childhood mortality rates by sex across the counties still exists with males dying more compared to the females. The improvement in the life expectancies for sexes shows a higher chance of survival from birth and in old ages.

Migration

Counties of Kajiado (90.1), Kiambu (72.0), Mombasa (60.9), Nairobi city (52.3) and Lamu (49.2) have the highest predisposition for in-migration. In contrast, Vihiga (-97.0), Kisii (-75.9), Kitui (-63.4), Kakamega (-51.0), and Busia have the highest propensity for out-migration. Nairobi (48.4 percent) and Mombasa (12.5 percent) were the most popular urban centres of destination for lifetime and recent migrants, followed by Nakuru (6.0 percent) and Ruiru at 5.3 percent.

Uganda, Somalia, Tanzania, South Sudan and India were the top 5 countries of origin of foreign-born migrants with majority enumerated in the major urban centers in country. Nairobi hosted two in five of the foreign-born persons.

Arabian Gulf countries are hosting the bulk of the emigrants from Kenya followed by the Americas. Refugees from Somalia, South Sudan and Congo DRC accounted for about three in five of the all the persons who reported to have come into the country as refugees. Recent migration and lifetime were mainly experienced in the major urban counties (Nairobi, Mombasa, and Nakuru) and rural counties (Kiambu, Uasin Gishu, Trans Nzoia, Kajiado, and Narok). Counties that experienced net loss of recent migrants were Siaya, Kakamega, Bungoma, Kisii, Homa Bay, Kitui, Makueni, Turkana, Garissa, Wajir, Mandera, Kilifi and Kwale, among others.

The majority of immigrants were from African countries including Uganda, Tanzania, Ethiopia, Rwanda, Burundi, South Sudan and Somalia. Migration to Africa and the Middle East countries are becoming more popular than the traditional countries and regions in Europe and America in the country.

7.3. Recommendations

Based on the findings of this report, the following are recommended for future intervention.

- 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.
- Programmes should be developed targeted to address child marriages and early childbearing with the aim of reducing the burden to zero.
- Programmes targeting ASAL counties should be developed with a view to accelerating fertility decline in those counties.
- There is need to focus interventions to reduce the high childhood and maternal mortality rates.
- Strengthen competencies in analysis of mortality data and formulation of health programs and policies.
- There is need to establish policies and practical mechanisms to repatriate, resettle and/or evacuate refugees. Finding long lasting solutions to causes and triggers of refugees in the region is also significant.
- Programs promoting equitable development between rural and urban areas have a great potential of reducing both population pressure on urban areas and rural urban migration.
- There is need to undertake a detailed study on migration in Kenya to better understand causes, drivers, and consequences of migration as several observations cannot be explained because of limitations of census data on migration. The study should provide adequate gender perspectives in migration patterns.

- Continue strengthening family planning programs by providing universal access to quality, accessible, affordable, and comprehensive sexual and reproductive information, and contraceptives. This will help in preventing unplanned pregnancies, which in turn improves the lives of the family unit members since they are able to optimize their resources.
- Strengthen provision of social protection systems to cushion the vulnerable population in the society, as a measure on poverty alleviation, for example, increasing the coverage for the elderly cash transfer system to include universal pension coverage and health care to cater for the ageing population.
- To achieve sustainable cities and minimize the environmental impact, there is need to strengthen urban planning to regulate proper use of space focusing on physical form, economic functions, and social impacts of the urban development. This is critical in management of social amenities and utilities, such as waste management, access to safe water, urban safety, and roads to eliminate the informal/slum settlements and management of high population density.

References

- Allendorf K., Thornton A., Mitchell C., Young-DeMarco L., and Dirga J. (2017): Early Women, Late Men: Timing Attitudes and Gender Differences in Marriage: *Journal of Marriage and Family* 79: 1478–1496 DOI:10.1111/jomf.12426
- Amadeo, K. (2020). What is the Dependency Ratio? <https://www.thebalance.com/dependency-ratio-definition-solvency-4172447>. Retrieved, 20th October 2021.
- Barbara S., Susheela, John B., 2005 No. 202: Trends in the Timing of First Marriage Among Men and Women in the Developing World. www.popcouncil.org/publications/wp/prd/rdwplist.html
- Blacker John 2002. Kenya's fertility Transition: how far will it go? Paper presented at Expert Group meeting on Completing the Fertility Transition in United Nations 419-427.
- Boucher, L. (2016). What are the Different Types of population Pyramids? <https://populationeducation.org/what-are-different-types-population-pyramids/>. Retrieved, 9th November 2021.
- Brass W and C L Jolly (eds) 1993 *Population Dynamics of Kenya*. National Academic Press, Washington DC.
- Brini, E., 2020: Childlessness and low fertility in context: evidence from a multilevel analysis on 20 European countries. *Genus* 76, 6).
- Bryant, R. C., Faruquee, H., Velculescu, D., & Arbatli, E. (2004). Fertility declines and youth dependency: Implications for the global economy. International Forum of the Collaboration Projects, Economic and Social Research Institute, The Brookings Institution, Washington.
- World Health Organization, 2020. Childhood Mortality Fact Sheet.
- Gorman, L (2011). Implications of Population Aging for Economic Growth <https://www.nber.org/digest/jul11/implications-population-aging-economic-growth>. Retrieved, 8 November 2021
- John, W. (2001). *Population An introduction to concepts and issues*. Wadsworth.
- Keeley, M. (1979). An Analysis of the Age Pattern of First Marriage. *International Economic Review*, 20(2), 527-544. doi:10.2307/2526498.
- Kenya National Bureau of Statistics and ICF International. 2015. 2014 Kenya Demographic and Health Survey

- Kenya National Bureau of Statistics (KNBS), 2012. 2009 Kenya Population and Housing Census. *Analytical Report on Population Dynamics: Vol. III: Government Printer, Nairobi, Kenya.*
- National Council for Population and Development (NCPD). "Kenya Population Situation Analysis; Page 17 – 19". Government of Kenya 2013.
- Lebreton, J-D. et al. (1992). Modeling survival and testing biological hypotheses using marked animals: A unified approach with case studies. *Ecological Monographs* 62, 67-118.
- Luoma, K. (2016). What is the Demographic Dividend? <https://populationeducation.org/what-demographic-dividend/>. Retrieved, 11th November 2021.
- Maina, L.(2017). How Kenya can ensure adequate health care for its older people: <https://theconversation.com/how-kenya-can-ensure-adequate-health-care-for-its-older-people-70163>. Retrieved, 10th November 2021.
- Nancy M. Birdsall & Charles C. Griffin (1988) *Fertility and Poverty in Developing Countries*. Copyright © 1988 Published by Elsevier Inc.
- Nascimento, B. S. (2019). *Age Differences in Marriage Partners* University of Bath, Bath, UK
- Samuel, P. H., Patrick, H. and Michehgjhl, G. (2001). *Demography: measuring and modeling population processes*. Malden, MA: Blackwell Publishers. ISBN 978-1557862143.
- Trends in the Timing of First Marriage among Men and Women in the Developing World--Barbara S. Mensch, Susheela Singh, and John B. Casterline." National Research Council. 2005. *The Changing Transitions to Adulthood in Developing Countries: Selected Studies*. Washington, DC: The National Academies Press. doi: 10.17226/11524.
- Tarsi, K. & Tuff, T. (2012) Introduction to Population Demographics. *Nature Education Knowledge* 3(11):3. Kika Tarsi (Department of Ecology and Evolutionary Biology, University of Colorado at Boulder, Boulder) & Ty Tuff (Department of Ecology and Evolutionary Biology, University of Colorado at Boulder, Boulder) © 2012 Nature Education.
- United Nations. Economic Commission for Africa (1989-03). *Economic Report on Africa 1989*. Addis Ababa :. © UN. ECA,. <https://hdl.handle.net/10855/15495>

United Nations Population Division (2019). World Population Prospects.
<https://population.un.org/wpp/GlossaryOfDemographicTerms/>. Retrieved, 2nd
November, 2021

United Nations Statistics Division, 2016: Sustainable Development Goals Report, 2016.

United Nations. Handbook of Vital Statistics Systems and Methods, Volume 1: Legal, Organisational
and Technical Aspects, Glossary, Series F, No. 35. New York 1991.

United Nations Secretariat 2001/03. Department of Economic and Social affairs.
<https://unstats.un.org/unsd/demog/docs/symposium>

World Bank. 2010. Cities and Climate Change: An Urgent Agenda. Urban development series;
knowledge papers no. 10. Washington, DC. © World Bank.
<https://openknowledge.worldbank.org/handle/10986/17381> License: CC BY 3.0 IGO.

Appendices

Appendix 1: 2019 KPHC Questionnaires

5/21/2019

(STRICTLY CONFIDENTIAL)



Republic of Kenya

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

The Republic of Kenya

[illegible]



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:											

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													



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

CONFIDENTIAL

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: Proportion of Married Persons, Age 15-19 and Singulate Mean Age at Marriage by Sex, Place of Residence and County, 2019

Residence/ County	Percent ever married (age 15-19)		SMAM (Years)		Male-Female Difference in SMAM
	Male	Female	Male	Female	
Kenya	4.3	11.2	27.3	23.1	4.2
Rural	4.8	12.0	27.3	22.4	4.9
Urban	2.6	8.9	27.3	23.6	3.7
Mombasa	2.4	10.3	27.4	23.5	3.9
Kwale	3.4	15.9	26.9	22.2	4.7
Kilifi	3.0	11.3	26.9	23.0	3.9
Tana River	5.4	25.6	25.3	20.4	4.9
Taita-Taveta	2.6	9.9	28.5	23.0	5.5
Garissa	8.7	17.6	26.8	22.6	4.2
Wajir	8.8	19.6	25.6	21.9	3.7
Mandera	9.6	23.9	25.0	21.4	3.6
Marsabit	6.6	18.5	28.0	22.3	5.7
Isiolo	5.7	18.3	27.0	22.1	4.9
Meru	6.1	15.1	27.5	22.8	4.7
Tharaka-Nithi	4.2	9.1	27.9	23.5	4.4
Embu	3.9	9.6	28.7	23.4	5.3
Kitui	3.9	7.8	28.4	23.1	5.3
Machakos	3.6	7.6	28.6	24.0	4.7
Makueni	3.1	5.8	29.4	23.7	5.7
Nyandarua	2.7	6.7	28.6	22.8	5.8
Nyeri	2.7	5.7	29.4	23.6	5.8
Kirinyaga	4.2	9.5	28.2	22.9	5.3
Murang'a	3.1	8.1	29.0	23.3	5.7
Kiambu	2.4	6.8	27.8	23.7	4.1
Turkana	5.8	14.3	27.5	22.9	4.7
West Pokot	7.8	19.1	25.4	21.5	3.9
Samburu	5.1	24.8	27.6	21.2	6.4
Trans Nzoia	3.4	9.7	27.0	23.1	3.9
Uasin Gishu	3.2	6.7	28.0	24.0	4.0
Elgeyo-Marakwet	5.9	9.6	26.8	23.5	3.3
Nandi	3.9	7.6	28.1	23.7	4.4
Baringo	5.7	12.2	27.1	23.1	4.0
Laikipia	3.2	11.3	27.8	22.4	5.5
Nakuru	2.8	8.8	27.3	22.9	4.4
Narok	5.5	19.9	25.7	21.1	4.5
Kajiado	4.1	13.3	27.1	23.1	4.0
Kericho	4.7	11.2	27.8	22.9	4.9
Bomet	5.5	12.8	27.5	22.8	4.7
Kakamega	4.0	9.5	26.7	23.2	3.5
Vihiga	3.3	7.3	28.0	24.2	3.7
Bungoma	5.5	11.6	26.3	22.8	3.5
Busia	3.8	9.8	26.3	23.2	3.1
Siaya	2.8	8.4	27.0	23.2	3.8
Kisumu	2.9	8.6	27.2	23.7	3.6
Homabay	4.3	12.1	26.2	22.2	4.0
Migori	4.8	16.1	25.5	21.6	3.9
Kisii	5.3	12.0	26.2	22.8	3.4
Nyamira	5.0	10.7	26.8	22.8	4.0
Nairobi City	1.8	7.8	27.5	23.7	3.8

Appendix 3: 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
Mandera	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
Nandi	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

Appendix 4: Recent migrants by County of residence 1 year ago and current residence

County of residence at time of census	Usual residence 1 year ago											
	Total	Mombasa	Kwale	Kilifi	Tana River	Lamu	Taita-Taveta	Garissa	Wajir	Mandera	Marsabit	Isiolo
Total/County	45,999,761	1,081,811	842,393	1,409,700	305,490	131,106	327,938	830,598	769,019	856,304	443,171	260,528
Mombasa	1,155,431	985,122	25,273	32,548	2,103	3,042	10,095	1,582	830	620	303	357
Kwale	833,315	5,600	802,724	6,830	366	248	1,995	205	106	142	57	46
Kilifi	1,401,932	10,917	6,171	1,350,247	2,841	1,813	2,835	640	252	140	78	96
Tana River	304,945	702	140	2,034	293,451	500	176	817	164	186	48	61
Lamu	138,189	1,294	341	3,956	3,215	122,154	156	527	47	43	24	142
Taita-Taveta	327,197	6,428	1,802	1,945	346	94	300,630	152	75	112	59	73
Garissa	819,601	192	38	152	181	49	38	809,793	569	399	55	311
Wajir	764,103	91	67	41	16	7	14	951	759,104	213	54	157
Mandera	843,556	55	12	51	13	45	13	125	253	840,119	109	77
Marsabit	436,256	67	4	8	18	7	15	62	253	321	431,429	369
Isiolo	261,330	242	30	58	34	53	20	2,121	379	471	1,016	247,250
Meru	1,503,750	1,292	90	279	50	54	149	162	165	266	625	3,854
Tharaka-Nithi	383,364	425	42	87	16	13	64	32	21	15	59	141
Embu	592,771	1,101	111	230	43	46	153	137	39	41	134	158
Kitui	1,106,795	2,986	260	384	310	45	309	532	107	221	75	67
Machakos	1,383,394	3,825	431	685	110	129	834	182	122	277	263	176
Makueni	958,867	2,965	512	483	52	61	1,167	70	61	211	39	53
Nyandarua	621,641	647	36	79	14	64	87	60	15	16	95	94
Nyeri	737,339	1,574	100	207	60	95	232	103	63	90	214	328
Kirinyaga	593,364	1,314	63	180	48	158	132	54	16	32	112	104
Murang'a	1,030,532	1,482	111	189	59	142	203	175	23	33	114	96
Kiambu	2,332,796	5,974	402	1,455	275	504	1,065	629	241	321	652	528
Turkana	897,698	104	16	19	12	11	31	255	40	146	32	65
West Pokot	598,643	53	3	27	6	3	11	34	20	46	19	3
Samburu	298,997	86	18	16	3	8	17	31	16	25	542	338
Trans Nzoia	960,446	902	46	156	23	25	121	68	25	85	41	45
Uasin Gishu	1,123,415	1,599	147	380	68	78	213	252	264	313	213	170
Elgeyo-Marakwet	441,235	35	12	17	5	1	14	24	5	19	18	8
Nandi	863,604	330	24	57	12	23	50	16	17	47	43	15
Baringo	646,381	141	23	30	19	30	28	29	18	67	33	33
Laikipia	500,363	616	73	130	52	95	110	83	87	138	359	794
Nakuru	2,085,652	3,690	417	743	153	225	643	289	237	574	472	459
Narok	1,116,177	270	38	65	68	58	84	108	100	217	85	88
Kajiado	1,074,808	2,853	333	692	141	158	1,261	354	184	617	471	696
Kericho	876,576	345	19	57	17	21	67	16	16	104	39	25
Bomet	853,125	150	25	14	-	5	23	21	30	62	22	8
Kakamega	1,817,729	2,347	140	272	35	53	222	66	38	103	60	59
Vihiga	574,677	991	46	96	23	13	91	24	21	88	23	14
Bungoma	1,622,125	1,192	104	166	53	35	154	51	25	85	23	39
Busia	861,142	1,569	58	99	22	26	93	61	101	108	39	52
Siaya	963,820	3,137	84	230	25	16	167	64	17	161	39	47
Kisumu	1,115,376	3,011	170	282	58	34	241	142	61	133	50	51
Homabay	1,096,436	1,698	80	153	18	23	127	224	40	184	60	145
Migori	1,076,770	1,041	52	102	16	35	92	132	71	234	53	50
Kisii	1,232,653	1,147	163	187	19	27	109	79	25	55	39	51
Nyamira	591,229	549	40	92	23	12	54	16	10	21	7	12
Nairobi City	4,180,216	19,660	1,502	3,490	998	768	3,533	9,048	4,646	8,383	4,775	2,723

Appendix 5: Recent migrants by County of residence 1 year ago and current residence, cont'd

County of residence at time of census	Usual residence 1 year ago											
	Meru	Tharaka-Nithi	Embu	Kitui	Machakos	Makueni	Nyandarua	Nyeri	Kirinyaga	Murang'a	Kiambu	Turkana
Total/County	1,531,232	388,912	592,586	1,178,846	1,370,959	1,002,331	615,650	746,245	586,189	1,056,603	2,158,620	899,626
Mombasa	3,206	558	1,006	11,892	3,627	6,384	503	1,280	952	1,603	2,278	170
Kwale	521	263	194	1,221	1,838	1,481	88	248	184	282	443	28
Kilifi	1,308	325	589	2,449	1,359	1,605	198	530	341	534	1,172	66
Tana River	494	39	79	2,995	201	89	50	109	124	187	207	15
Lamu	415	41	116	271	179	139	221	185	392	409	501	31
Taita-Taveta	434	79	131	1,043	1,047	2,965	102	248	146	287	463	50
Garissa	395	26	415	2,455	252	104	71	79	39	170	224	21
Wajir	436	43	65	877	90	37	18	40	18	25	74	16
Mandera	187	26	71	324	60	59	20	53	25	61	107	29
Marsabit	787	54	73	121	61	49	36	128	39	76	88	162
Isiolo	3,729	170	130	228	134	72	86	243	64	79	202	100
Meru	1,454,866	8,215	1,962	1,935	989	615	659	2,626	1,087	1,576	2,082	173
Tharaka-Nithi	5,456	365,653	2,146	709	332	208	130	548	733	512	1,013	40
Embu	4,105	2,881	550,686	3,407	3,166	611	489	2,053	4,585	2,450	2,886	36
Kitui	826	466	875	1,076,175	5,531	3,553	139	301	308	491	1,086	41
Machakos	2,216	492	2,098	11,811	1,254,627	21,100	926	1,675	1,006	3,512	6,324	104
Makueni	584	126	421	5,777	16,045	910,664	116	294	200	481	1,079	28
Nyandarua	848	120	515	220	540	193	549,849	7,582	785	5,306	11,091	113
Nyeri	4,800	676	2,394	668	1,134	518	4,537	654,387	4,767	7,572	7,322	154
Kirinyaga	2,624	965	6,429	918	1,098	371	1,035	5,466	547,913	4,762	4,151	41
Murang'a	2,405	547	2,295	1,218	3,781	797	2,807	6,420	3,224	939,870	18,703	69
Kiambu	9,425	2,153	6,481	8,210	12,124	4,410	12,988	14,620	6,550	33,934	2,013,643	616
Turkana	292	66	95	101	70	45	69	112	44	67	205	885,788
West Pokot	39	4	12	44	53	36	70	52	20	46	77	423
Samburu	694	70	49	50	34	55	412	265	64	89	170	127
Trans Nzoia	232	68	116	135	368	151	513	552	121	539	1,422	2,534
Uasin Gishu	558	123	282	429	691	436	1,114	903	289	722	1,862	1,789
Elgeyo-Marakwet	42	8	83	36	80	33	29	50	8	42	79	272
Nandi	139	25	52	74	162	104	131	115	40	100	246	250
Baringo	98	20	39	52	126	57	185	132	41	97	243	451
Laikipia	4,249	310	543	303	430	208	4,890	11,727	949	1,852	3,026	505
Nakuru	2,602	465	1,276	1,569	2,746	1,601	17,473	7,954	1,681	7,492	19,788	1,526
Narok	665	111	129	273	463	443	1,539	673	193	623	1,912	157
Kajiado	3,376	595	1,522	4,077	9,105	11,660	2,481	3,067	1,180	4,153	9,951	374
Kericho	171	28	48	93	206	93	321	199	74	245	421	54
Bomet	87	14	32	80	106	53	47	67	26	84	185	27
Kakamega	373	60	170	367	636	330	244	319	163	340	1,255	280
Vihiga	144	25	51	109	232	120	90	129	57	143	603	44
Bungoma	269	47	118	232	471	222	226	276	112	267	791	305
Busia	147	17	68	163	230	128	130	134	65	142	458	78
Siaya	171	31	88	167	331	130	55	104	56	106	625	127
Kisumu	279	58	130	369	551	357	106	223	106	204	768	183
Homabay	114	17	68	142	237	90	28	70	45	72	323	55
Migori	195	26	59	150	202	150	60	121	58	144	311	29
Kisii	354	61	146	367	586	277	225	265	131	369	819	61
Nyamira	156	36	49	119	264	118	119	87	62	111	323	18
Nairobi City	15,719	2,709	8,190	34,421	44,364	29,410	10,025	19,534	7,122	34,375	37,618	2,066

Appendix 6: Recent migrants by County of residence 1 year ago and current residence, cont'd

County of residence at time of census	Usual residence 1 year ago											
	West Pokot	Samburu	Trans Nzoia	Uasin Gishu	Elgeyo-Marakwet	Nandi	Baringo	Laikipia	Nakuru	Narok	Kajiado	Kericho
Total/County	600,427	302,260	955,034	1,068,076	456,953	873,878	677,049	489,923	2,003,598	1,096,939	974,074	888,374
Mombasa	100	439	1,379	1,576	249	685	646	418	3,245	379	908	676
Kwale	25	68	258	202	49	107	109	112	476	49	309	90
Kilifi	39	84	410	469	80	215	207	166	1,083	126	532	175
Tana River	12	14	59	41	20	21	61	40	357	21	32	20
Lamu	17	13	57	120	21	34	93	110	1,165	49	124	50
Taita-Taveta	16	105	205	169	36	78	88	107	943	83	745	80
Garissa	20	11	59	96	32	23	443	32	399	39	69	41
Wajir	23	9	37	28	16	15	276	115	43	19	32	23
Mandera	31	7	37	77	29	28	142	52	153	39	21	30
Marsabit	3	309	28	39	14	16	60	143	133	17	37	14
Isiolo	23	1,058	55	176	26	40	77	517	427	55	73	28
Meru	49	459	422	479	112	199	268	2,792	1,833	285	561	255
Tharaka-Nithi	12	59	89	109	35	40	55	231	380	72	186	56
Embu	35	95	224	250	71	108	105	443	1,087	129	464	96
Kitui	27	40	93	158	42	72	213	101	412	103	417	69
Machakos	101	189	1,353	1,223	243	505	518	608	4,394	519	4,073	652
Makueni	30	42	210	223	45	86	165	125	718	182	1,747	107
Nyandarua	84	321	871	1,909	91	309	496	5,850	16,160	1,078	1,031	827
Nyeri	94	318	665	997	138	301	304	8,484	5,756	514	1,172	416
Kirinyaga	19	80	274	295	34	118	110	1,047	1,711	183	624	138
Murang'a	60	133	740	689	74	295	219	1,248	4,538	472	1,585	336
Kiambu	262	612	5,395	5,151	555	1,840	1,397	5,134	24,493	2,675	7,659	2,253
Turkana	147	36	2,606	664	154	208	1,853	80	430	58	63	94
West Pokot	590,674	14	2,231	482	590	182	467	26	178	44	22	82
Samburu	82	291,113	63	142	21	28	1,929	681	661	63	65	57
Trans Nzoia	4,000	45	883,623	5,614	3,335	2,403	1,168	289	2,525	362	292	797
Uasin Gishu	1,096	167	10,972	993,136	16,372	20,244	5,977	1,009	5,984	1,268	515	3,039
Elgeyo-Marakwet	404	9	1,943	3,943	425,440	957	3,102	68	495	105	53	249
Nandi	174	32	2,116	8,521	1,035	820,365	860	230	1,353	480	121	4,373
Baringo	105	59	755	1,592	1,390	681	630,277	321	3,146	257	87	945
Laikipia	73	2,637	517	1,344	209	417	2,356	444,278	5,484	569	503	488
Nakuru	431	1,110	5,335	8,255	1,382	3,304	12,212	6,255	1,844,302	9,845	2,432	15,584
Narok	81	297	791	1,183	271	812	955	630	7,069	1,058,655	1,024	2,136
Kajiado	220	414	2,758	2,068	551	1,175	1,197	1,268	5,640	1,842	934,811	1,104
Kericho	77	46	584	1,640	387	2,628	899	212	6,780	2,387	123	831,472
Bomet	25	12	220	588	171	672	436	88	4,491	5,672	58	9,434
Kakamega	246	64	4,220	4,722	426	2,073	456	179	3,227	334	697	731
Vihiga	50	16	940	1,145	104	2,289	142	77	1,272	147	216	350
Bungoma	337	37	7,686	2,473	288	713	455	124	1,786	211	249	413
Busia	68	30	1,087	937	160	273	221	87	1,219	191	166	274
Siaya	68	52	809	1,226	103	322	219	82	2,362	220	338	557
Kisumu	103	63	1,084	1,713	217	1,381	393	173	2,803	493	301	1,631
Homabay	42	28	437	571	58	296	229	83	1,091	279	187	705
Migori	28	24	268	368	64	230	237	60	862	498	142	385
Kisii	49	29	724	780	110	429	220	155	2,555	1,388	401	1,219
Nyamira	22	20	347	356	47	236	157	66	1,277	411	168	853
Nairobi City	743	1,441	9,998	10,137	2,056	6,425	4,580	5,527	26,700	4,072	8,639	4,970

Appendix 7: Recent migrants by County of residence 1 year ago and current residence, cont'd

County of residence at time of census	Usual residence 1 year ago											
	Bomet	Kakamega	Vihiga	Bungoma	Busia	Siaya	Kisumu	Homabay	Migori	Kisii	Nyamira	Nairobi City
Total/County	882,976	1,912,965	631,923	1,694,297	902,951	990,643	1,126,449	1,119,208	1,082,451	1,328,827	604,440	3,950,189
Mombasa	392	6,111	1,795	3,369	3,892	4,166	4,662	3,227	2,618	3,896	1,218	14,051
Kwale	48	928	313	519	372	362	523	371	297	597	179	1,842
Kilifi	117	1,605	476	822	659	684	981	658	481	1,272	323	3,762
Tana River	14	118	44	157	67	62	77	87	40	136	46	531
Lamu	24	130	47	97	104	62	123	77	66	143	30	634
Taita-Taveta	65	555	186	342	209	227	368	268	151	380	104	2,976
Garissa	145	205	35	335	151	68	184	236	115	220	50	565
Wajir	85	100	50	88	58	51	103	54	23	79	30	292
Mandera	33	109	18	220	65	44	55	42	31	79	19	301
Marsabit	19	78	30	60	39	86	96	89	81	49	17	572
Isiolo	44	112	37	59	67	71	96	107	65	104	29	1,073
Meru	201	715	187	721	259	326	463	321	232	755	257	7,828
Tharaka-Nithi	56	179	51	121	106	77	102	65	43	116	45	2,684
Embu	98	516	117	447	210	160	223	134	76	340	73	7,722
Kitui	87	356	111	258	190	169	237	119	115	336	84	7,898
Machakos	426	4,206	1,320	3,074	1,811	1,508	1,904	1,207	871	3,637	1,124	35,003
Makueni	80	667	177	451	230	199	246	185	123	310	117	10,913
Nyandarua	154	968	245	969	302	76	247	85	108	774	260	10,057
Nyeri	242	1,124	282	1,083	471	229	412	185	184	860	279	20,834
Kirinyaga	66	649	149	567	225	105	219	83	74	267	107	8,234
Murang'a	171	1,419	432	1,578	430	208	292	162	164	2,136	1,136	27,252
Kiambu	1,328	13,144	5,351	10,425	5,692	2,873	3,841	2,231	2,372	10,032	2,616	78,265
Turkana	124	525	137	910	297	178	311	154	54	193	60	677
West Pokot	71	415	95	994	137	103	150	59	29	211	55	231
Samburu	34	84	17	50	45	36	74	38	25	76	24	410
Trans Nzoia	380	7,638	2,839	23,032	1,830	800	1,092	393	243	3,242	1,328	4,888
Uasin Gishu	1,860	13,079	4,091	8,111	3,525	2,209	2,839	1,282	823	2,930	1,249	8,743
Elgeyo-Marakwet	211	675	168	1,238	219	105	122	74	50	132	45	508
Nandi	1,010	4,047	7,732	1,683	436	444	1,233	391	278	1,240	489	2,889
Baringo	473	664	264	891	287	210	279	130	108	303	99	1,066
Laikipia	262	723	208	630	269	182	277	146	188	738	253	6,083
Nakuru	16,502	10,145	4,060	7,755	4,390	4,334	4,772	2,692	2,185	14,187	4,998	25,110
Narok	12,467	975	416	751	487	430	798	941	2,182	10,382	1,830	2,252
Kajiado	1,055	6,641	2,638	5,367	2,867	2,334	2,723	2,052	1,578	6,748	2,231	26,225
Kericho	12,709	1,131	707	546	387	636	2,440	1,304	499	2,452	1,722	2,129
Bomet	824,111	339	189	264	159	203	470	459	310	1,409	982	1,195
Kakamega	324	1,727,079	15,652	14,940	7,018	4,875	4,156	1,198	900	1,744	487	14,049
Vihiga	126	8,417	538,784	1,674	1,139	1,519	2,798	453	533	633	143	8,533
Bungoma	378	17,617	3,671	1,563,324	6,423	1,129	1,654	469	388	1,127	278	5,632
Busia	137	9,002	1,842	6,586	819,406	5,865	2,171	649	376	587	148	5,672
Siaya	197	6,962	2,558	1,924	7,032	890,959	18,305	5,547	2,485	853	137	14,525
Kisumu	481	7,336	4,927	2,618	3,688	23,554	1,011,602	19,637	5,760	3,216	950	13,685
Homabay	234	2,112	850	1,003	1,076	7,014	19,416	1,027,169	18,720	3,166	849	6,808
Migori	195	1,862	1,823	702	605	3,254	6,568	22,745	1,021,106	5,872	966	4,523
Kisii	560	1,381	588	868	537	682	1,907	2,594	2,663	1,188,393	9,772	9,087
Nyamira	487	583	247	399	189	210	746	841	537	19,662	557,489	3,581
Nairobi City	4,693	49,539	25,967	22,275	24,894	27,565	24,092	17,798	12,101	32,813	9,713	3,538,399

Appendix 8: Trends of Recent in Migration, Outmigration and Net migration by Sex, County and Region

	Total						Male						Female					
	In		Out		Net		In		Out		Net		In		Out		Net	
	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019
	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019
KENYA	1,270,890	3,397,649	1,270,890	3,397,649	-	-	621,638	1,545,662	621,638	1,545,662	-	-	649,252	1,851,821	649,252	1,851,821	-	-
Mombasa	71,036	170,309	39,678	96,689	31,358	73,620	33,674	81,193	20,085	47,451	13,589	33,742	37,362	89,110	19,593	49,235	17,769	39,875
Kwale	9,216	30,591	14,664	39,669	-5,448	-9,078	4,822	14,168	7,182	18,918	-2,360	-4,750	4,394	16,422	7,482	20,750	-3,088	-4,328
Kilifi	17,792	51,685	20,489	59,453	-2,697	-7,768	8,618	24,302	9,929	28,687	-1,311	-4,385	9,174	27,383	10,560	30,760	-1,386	-3,377
Tana River	4,911	11,494	4,519	12,039	392	-545	2,898	6,362	2,595	6,353	303	9	2,013	5,131	1,924	5,685	89	-554
Lamu	5,373	16,035	3,231	8,952	2,142	7,083	3,364	9,926	1,723	4,306	1,641	5,620	2,009	6,108	1,508	4,644	501	1,464
TaitaTaveta	9,238	26,567	9,144	27,308	94	-741	4,867	13,321	4,229	11,926	638	1,395	4,371	13,246	4,915	15,382	-544	-2,136
Garissa	5,688	9,808	7,811	20,804	-2,123	-10,996	3,418	5,797	4,604	10,775	-1,186	-4,978	2,270	4,010	3,207	10,026	-937	-6,016
Wajir	2,142	4,999	4,092	9,915	-1,950	-4,916	1,472	3,183	2,387	5,244	-915	-2,061	670	1,814	1,705	4,670	-1,035	-2,856
Mandera	1,020	3,437	3,660	16,185	-2,640	-12,748	720	2,518	2,107	8,767	-1,387	-6,249	300	919	1,553	7,418	-1,253	-6,499
Marsabit	3,181	4,827	6,695	11,742	-3,514	-6,915	2,120	2,982	4,172	6,338	-2,052	-3,356	1,061	1,844	2,523	5,404	-1,462	-3,560
Isiolo	4,734	14,080	5,803	13,278	-1,069	802	2,937	7,580	3,555	7,145	-618	435	1,797	6,499	2,248	6,132	-451	367
Meru	14,117	48,884	13,044	76,366	1,073	-27,482	7,926	25,496	6,291	32,461	1,635	-6,965	6,191	23,387	6,753	43,902	-562	-20,515
Tharaka/Ni	4,633	17,711	14,552	23,259	-9,919	-5,548	2,417	7,608	6,721	11,235	-4,304	-3,627	2,216	10,103	7,831	12,024	-5,615	-1,921
Embu	8,526	42,085	14,688	41,900	-6,162	185	4,485	19,862	6,844	17,773	-2,359	2,089	4,041	22,218	7,844	24,126	-3,803	-1,908
Kitui	5,218	30,620	46,002	102,671	-40,784	-72,051	2,754	14,665	22,253	49,042	-19,499	-34,377	2,464	15,954	23,749	53,624	-21,285	-37,670
Machakos	31,321	128,767	41,485	116,332	-10,164	12,435	16,582	60,909	19,135	52,288	-2,553	8,621	14,739	67,855	22,350	64,039	-7,611	3,816
Makueni	7,930	48,203	31,985	91,667	-24,055	-43,464	4,159	22,603	15,231	41,484	-11,072	-18,881	3,771	25,599	16,754	50,182	-12,983	-24,583
Nyandarua	26,357	71,792	23,057	65,801	3,300	5,991	12,892	32,962	10,918	29,019	1,974	3,943	13,465	38,828	12,139	36,778	1,326	2,050
Nyeri	24,838	82,952	33,451	91,858	-8,613	-8,906	13,268	38,693	15,970	41,057	-2,702	-2,364	11,570	44,254	17,481	50,799	-5,911	-6,545
Kirinyaga	9,979	45,451	11,595	38,276	-1,616	7,175	4,904	20,192	5,592	16,221	-688	3,971	5,075	25,258	6,003	22,055	-928	3,203
Murang'a	65,971	90,662	32,095	116,733	33,876	-26,071	32,820	40,810	14,410	50,152	18,410	-9,342	33,151	49,846	17,685	66,575	15,466	-16,729
Kiambu	95,710	319,153	97,541	144,977	-1,831	174,176	45,934	143,279	47,593	65,037	-1,659	78,242	49,776	175,840	49,948	79,932	-172	95,908
Turkana	4,070	11,910	4,694	13,838	-624	-1,928	2,311	6,709	2,906	7,617	-595	-908	1,759	5,201	1,788	6,221	-29	-1,020
West Pokot	2,193	7,969	3,487	9,753	-1,294	-1,784	1,284	3,854	1,955	4,737	-671	-883	909	4,115	1,532	5,016	-623	-901
Samburu	3,722	7,884	4,365	11,147	-643	-3,263	2,507	4,513	2,791	6,144	-284	-1,631	1,215	3,371	1,574	5,001	-359	-1,630
Trans Nzoia	22,624	76,823	21,361	71,411	1,263	5,412	11,018	34,736	10,518	32,151	500	2,585	11,606	42,084	10,843	39,256	763	2,828
UasinGishu	47,733	130,279	27,440	74,940	20,293	55,339	24,387	61,349	13,742	34,572	10,645	26,777	23,346	68,925	13,698	40,365	9,648	28,560
Elkeyo/Mar	4,715	15,795	9,476	31,513	-4,761	-15,718	2,607	7,457	4,529	14,249	-1,922	-6,792	2,108	8,338	4,947	17,263	-2,839	-8,925
Nandi	13,881	43,239	15,958	53,513	-2,077	-10,274	7,143	19,015	7,722	23,312	-579	-4,297	6,738	24,222	8,236	30,197	-1,498	-5,975
Baringo	5,763	16,104	10,951	46,772	-5,188	-30,668	3,121	7,912	5,598	22,091	-2,477	-14,179	2,642	8,191	5,353	24,678	-2,711	-16,487
Laikipia	20,053	56,085	18,195	45,645	1,858	10,440	10,160	27,532	9,901	21,620	259	5,912	9,893	28,552	8,294	24,024	1,599	4,528
Nakuru	78,356	241,350	67,245	159,296	11,111	82,054	40,704	116,410	34,497	76,011	6,207	40,399	37,652	124,929	32,748	83,280	4,904	41,649
Narok	19,685	57,522	11,618	38,284	8,067	19,238	10,793	28,154	6,280	19,537	4,513	8,617	8,892	29,366	5,338	18,747	3,554	10,619
Kajiado	47,136	139,996	13,483	39,263	33,653	100,733	23,178	67,791	7,697	19,919	15,481	47,872	23,958	72,199	5,786	19,342	18,172	52,857
Kericho	14,974	45,104	13,640	56,902	1,334	-11,798	7,625	20,011	6,678	25,595	947	-5,584	7,349	25,089	6,962	31,306	387	-6,217
Bomet	9,685	29,014	14,514	58,865	-4,829	-29,851	4,847	12,184	7,457	27,611	-2,610	-15,427	4,838	16,830	7,057	31,250	-2,219	-14,420
Kakamega	28,253	90,650	49,134	185,886	-20,881	-95,236	12,932	34,487	22,633	81,427	-9,701	-46,940	15,321	56,160	26,501	104,444	-11,180	-48,284
Vihiga	8,684	35,893	26,958	93,139	-18,274	-57,246	3,917	13,803	12,450	39,683	-8,533	-25,880	4,767	22,089	14,508	53,451	-9,741	-31,362
Bungoma	17,750	58,801	30,192	130,973	-12,442	-72,172	8,439	22,945	14,568	58,983	-6,129	-36,038	9,311	35,855	15,624	71,973	-6,313	-36,118
Busia	13,271	41,736	21,877	83,545	-8,606	-41,809	6,040	16,218	10,120	35,803	-4,080	-19,585	7,231	25,518	11,757	47,738	-4,526	-22,220
Siaya	24,622	72,861	31,922	99,684	-7,300	-26,823	11,430	30,107	14,103	40,415	-2,673	-10,308	13,192	42,752	17,819	59,266	-4,627	-16,514
Kisumu	40,683	103,774	35,299	114,847	5,384	-11,073	18,718	42,440	16,624	46,765	2,094	-4,325	21,965	61,330	18,675	68,079	3,290	-6,749
Homa Bay	21,333	69,267	26,075	92,039	-4,742	-22,772	9,579	22,848	11,787	35,949	-2,208	-13,101	11,754	46,416	14,288	56,083	-2,534	-9,667
Migori	15,232	55,664	18,655	61,345	-3,423	-5,681	6,683	18,751	8,576	25,191	-1,893	-6,440	8,549	36,911	10,079	36,153	-1,530	758
Kisii	13,407	44,260	14,685	140,434	-133,478	-96,174	6,747	18,864	70,742	64,994	-63,995	-46,130	6,660	25,393	76,143	75,434	-69,483	-50,041
Nyamira	116,446	33,740	14,530	46,951	101,916	-13,211	55,093	12,961	7,396	21,545	47,697	-8,584	61,353	20,779	7,134	25,403	54,219	-4,624
Nairobi	247,688	641,817	153,655	411,790	94,033	230,027	113,324	296,200	76,842	198,062	36,482	98,138	134,364	345,578	76,813	213,709	57,551	131,869

Appendix 9: Contributors to the 2019 Kenya Population and Housing Census Monographs

Name and Institution	Role
Mr. Macdonald Obudho, MBS Director General, Kenya National Bureau of Statistics	National Census Coordinator
Mr. Abdulkadir Amin Awes, Kenya National Bureau of Statistics	Deputy National Census Coordinator
Mr. Collins Omondi, OGW Kenya National Bureau of Statistics	Technical Coordinator
Mr. Benjamin Avusevwa Kenya National Bureau of Statistics	Technical Coordinator
Mr. Robert Nderitu, OGW Kenya National Bureau of Statistics	Technical Coordinator
Ms. Anne M. Mburu, HSC Kenya National Bureau of Statistics	Technical Coordinator
Mr. Samuel Ogola Kenya National Bureau of Statistics	Technical Coordinator
Prof. Alfred Agwanda, MBS University of Nairobi	Lead Author - all Monographs
Mr. Ben O. Jarabi University of Nairobi	Lead Author - all Monographs
Mr. James Ng'ang'a, HSC Kenya National Bureau of Statistics	Census Project Manager/ Author, Urbanization
Ms. Vivianne Nyarunda, HSC Kenya National Bureau of Statistics	Author, Labour /Gender Dimensions
Mr. Elias Nyaga Kenya National Bureau of Statistics	Author, Older & Vulnerable Populations/Population Projections
Mr. Michael Musyoka, HSC Kenya National Bureau of Statistics	Author, Fertility/ Gender Dimensions/ Population Dynamics/Population Projections
Mr. John Makau Kenya National Bureau of Statistics	Author, Migration/Population Dynamics/Population Projections
Mr. Paul Waweru, HSC Kenya National Bureau of Statistics	Author, Fertility/ Population Projections/ Data Processing/ Formatting
Ms. Priscilla Ndayara Kenya National Bureau of Statistics	Author, Migration

Mr. Andrew A. Imbwaga, HSC Kenya National Bureau of Statistics	Author, Mortality and Health /Population Dynamics/ Gender Dimensions/ Population Projections
Ms. Schola Kingi Kenya National Bureau of Statistics	Author, Mortality and Health/ Gender Dimensions/ Population Dynamics/ Population Projections
Ms. Leah Wambugu Kenya National Bureau of Statistics	Author, Mortality and Health
Mr. James Munguti Kenya National Bureau of Statistics	Author, Household and Family Dynamics
Ms. Rosemary Kong'ani Kenya National Bureau of Statistics	Author, Older and Vulnerable Population
Ms. Caroline Gatwiri Kenya National Bureau of Statistics	Author, Gender Dimensions/Household and Family Dynamics/ Population Dynamics/ Population Projections
Mr. Francis Kundu National Council for Population and Development	Author, Older and Vulnerable Population
Mrs. Judy Kilobi Otieno Civil Registration Services	Author, Youth and Adolescents
Dr. Andrew Mutuku University of Nairobi	Author, Youth and Adolescents / Reviewer; Population Dynamics, Households & Family Dynamics
Mr. Lewis Ngari Kenya National Bureau of Statistics	Author, Youth and Adolescents / Gender Dimensions
Mr. Godfrey Otieno Kenya National Bureau of Statistics	Author, Education and Training/ Gender Dimensions/ Population Dynamics/ Population Projections/ Disability
Mr. Peter Wanjohi Kenya National Bureau of Statistics	Author, Education and Training/ Labour Dynamics
Mr. Robert Buluma Kenya National Bureau of Statistics	Author, Disability/ Gender Dimensions
Mr. Stanley Wambua Kenya National Bureau of Statistics	Author, Disability/ Gender Dimensions
Ms. Renice Bunde Kenya National Bureau of Statistics	Author, Disability/ Gender Dimensions/ Population Dynamics/ Population Projections
Ms. Winnie Kemunto Kenya National Bureau of Statistics	Author, Disability
Mr. John Mburu Kenya National Bureau of Statistics	Author, Agriculture

Mr. Joseph Kibor State Department for Livestock Development	Author, Agriculture
Mr. Rogers Mumo Kenya National Bureau of Statistics	Author, Agriculture/ Formatting
Mr. Alphonse Orang'o Kenya National Bureau of Statistics	Author, Agriculture
Mr. Jim Kirimi Kenya National Bureau of Statistics	Author, Housing Conditions, Amenities and Household Assets/ Population Projections
Ms. Tabitha Wambui Kenya National Bureau of Statistics	Author, Housing Conditions, Amenities and Household Assets
Mr. Paul K. Samoei Kenya National Bureau of Statistics	Author, Housing Conditions, Amenities and Household Assets
Ms. Linah Ngumba Kenya National Bureau of Statistics	Author, ICT/ Gender Dimensions
Mrs. Rosemary Bowen Kenya National Bureau of Statistics	Author, ICT
Mr. Kenneth Malakwen Communications Authority of Kenya	Author, ICT
Dr. George Odipo University of Nairobi	Author, Migration
Dr. Samuel Wakibi University of Nairobi	Author, Older and Vulnerable Population
Prof. Sam Owuor University of Nairobi	Author, Urbanization
Dr. Isaiah Bwila, OGW Ministry of Interior & Coordination of National Government	Author, Older and Vulnerable Population
Prof. George Orwa Bomet University College	Author, Education and Training
Dr. Caroline Odhiambo	Author, Education and Training
Dr. Francis Kiarie JKUAT University	Author, Education and Training
Prof. Owiti Kakumu University of Nairobi	Author, Housing Conditions, Amenities and Household Assets

Prof. Antony Waititu JKUAT University	Author, Disability
Ms. Verity Mganga State Department for Gender	Author, Gender Dimensions
Mr. Caneble Oganga UN Women/KNBS	Author, Gender Dimensions/ Data Processing
Ms. Maureen Gitonga UN Women	Author, Gender Dimensions
Ms. Dinah Mutinda UNFPA	Author, Gender Dimensions
Ms Tabitha Weru Kenya National Bureau of Statistics	Author, Agriculture
Ms Monicah Karanja Kenya National Bureau of Statistics	Author, Agriculture
Mr. Tom Dienya State Departments for Agriculture	Author, Agriculture
Ms. Jane Kioko State Departments for Agriculture	Author, Agriculture
Ms Jane Njeru State Departments for Agriculture	Author, Agriculture
Mr. Stephen Ndegwa Fisheries Authority and the Blue Economy	Author, Agriculture
Mr Alex Lukwenda State Departments for Fisheries	Author, Agriculture
Dr. Anne Khasakhala University of Nairobi	Peer Reviewer, Adolescents & Youth/ Gender Dimensions
Prof. Kimani Murungaru University of Nairobi	Peer Reviewer/ Fertility & Nuptiality
Prof. Lawrence Ikamari University of Nairobi	Peer Reviewer/ Mortality & Health
Dr. Daniel Mutegi State Department for Housing and Urban Development	Peer Reviewer/ Urbanization
Mr. Sebastian Owanga University of Nairobi	Peer Reviewer/ Education

Dr. Edwin Oyaro Ondieki University of Nairobi	Peer Reviewer/ Housing Conditions, Amenities and Household Assets
Mr. Peter Musakhi Ministry of Devolution and ASAL	Peer Reviewer/ Disability
Dr. Wanjiru Gichuhi University of Nairobi	Peer Reviewer/ Older & Vulnerable Population
Dr. Owen Nyang'oro University of Nairobi	Peer Reviewer/ ICT
Ms. Mary Muyonga University of Nairobi	Peer Reviewer/ Migration
Mr. Peter Nyakwara National Council for Population and Development	Peer Reviewer/ Migration
Dr. Owuor Olunga University of Nairobi	Peer Reviewer, Gender Dimensions
Dr. Jacob Omolo Kenyatta University	Peer Reviewer, Labour Dynamics
Dr. Jonathan Nzuma University of Nairobi	Peer Reviewer, Agriculture
Ms. Katunge Kiilu Kenya National Bureau of Statistics	Overall Editor
Dr. Dennis Shilabukha University of Nairobi	Editor, Gender Dimensions
Mr. Paul Kuria National Gender and Equality Commission	Editor, Gender Dimensions
Mr. Mutua Kakinyi Kenya National Bureau of Statistics	Data Processing
Mr. Job Mose Kenya National Bureau of Statistics	Data Processing/ Author, Education and Training/Population Projections/ Population Dynamics/ Gender Dimensions
Mr. Benson Karugu Kenya National Bureau of Statistics	Data Processing
Mr. Maurice Kamau Kenya National Bureau of Statistics	Information and Communication Technology
Mr. Silas Mulwa Kenya National Bureau of Statistics	Formatting

Mr. Anthony Makau Kenya National Bureau of Statistics	Formatting
Ms. Yvonne Chebet Kenya National Bureau of Statistics	Formatting
Mr. Silvester Mwendwa Kenya National Bureau of Statistics	Formatting
Mrs. Hellen Wanyoike Kenya National Bureau of Statistics	Cartography and GIS/ Author, Urbanization
Mr. Peter Muthama Kenya National Bureau of Statistics	Cartography and GIS
Mr. David Alunga Kenya National Bureau of Statistics	Cartography and GIS
Mr. Godfrey Ndeng'e UNICEF	Technical Support
Mr. Jacob Ochieng UNICEF	Technical Support
Mr. Ezekiel Ngure UNFPA	Technical Support
Mr. Peter Nyongesa, OGW Monitoring and Evaluation Department	Data Processing
Mr. Omondi Omenya, OGW The National Treasury	Data Processing



Kenya National Bureau of Statistics

Real Towers, Hospital Road

P.O Box 30266-00100

Nairobi, Kenya



Tel: (+254) 3317583/6



Fax: (+254) 20 3315977



Email: directorgeneral@knbs.or.ke



Website: www.knbs.or.ke



Kenya National Bureau of Statistics (Kenya Stats)



@KNBStats