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# 2023/24 KENYA HOUSING SURVEY

## Basic Report


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# 2023/24 KENYA HOUSING SURVEY

## Basic Report

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The successful completion of the 2023/24 Kenya Housing Survey was made possible through the concerted efforts and collaboration of various individuals and organizations. I wish to express my deepest gratitude to all those who participated and contributed to the implementation of this important activity.

I would like to thank the Kenya National Bureau of Statistics (KNBS) for spearheading the implementation of this survey. The leadership, technical expertise and dedication was crucial in ensuring the successful execution of the survey. I also extend my appreciation to the State Department for Housing and Urban Development, the State Department for Labour and Skills Development, the Kenya Space Agency, the Directorate of Resource Survey and Remote Sensing and the Central Bank of Kenya for their support and guidance throughout the survey process.

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My sincere appreciation goes to the field personnel who tirelessly collected the data across the country. Their commitment, accuracy in data collection, and perseverance under challenging conditions were essential in ensuring the integrity and reliability of the survey data. I acknowledge the efforts of the data analysts and chapter authors who meticulously processed and analysed the collected data. Their expertise was vital in translating raw data into meaningful insights and comprehensive reports.

I am particularly indebted to the households and all institutions that participated and responded adequately in this survey. The cooperation and willingness to provide information made it possible to collect the data needed to understand housing dynamics and conditions, as well as to assess awareness and perceptions within Kenya's housing sector. I urge great stakeholders to support and cooperate in furnishing the information required in future data collection activities.

Finally, I am grateful to the University of Nairobi – Faculty of the Built Environment and Design for peer reviewing the report and providing valuable feedback that helped refine the final document.

**Macdonald G. Obudho, PhD, EBS, MBS**

**DIRECTOR GENERAL**

**KENYA NATIONAL BUREAU OF STATISTICS**

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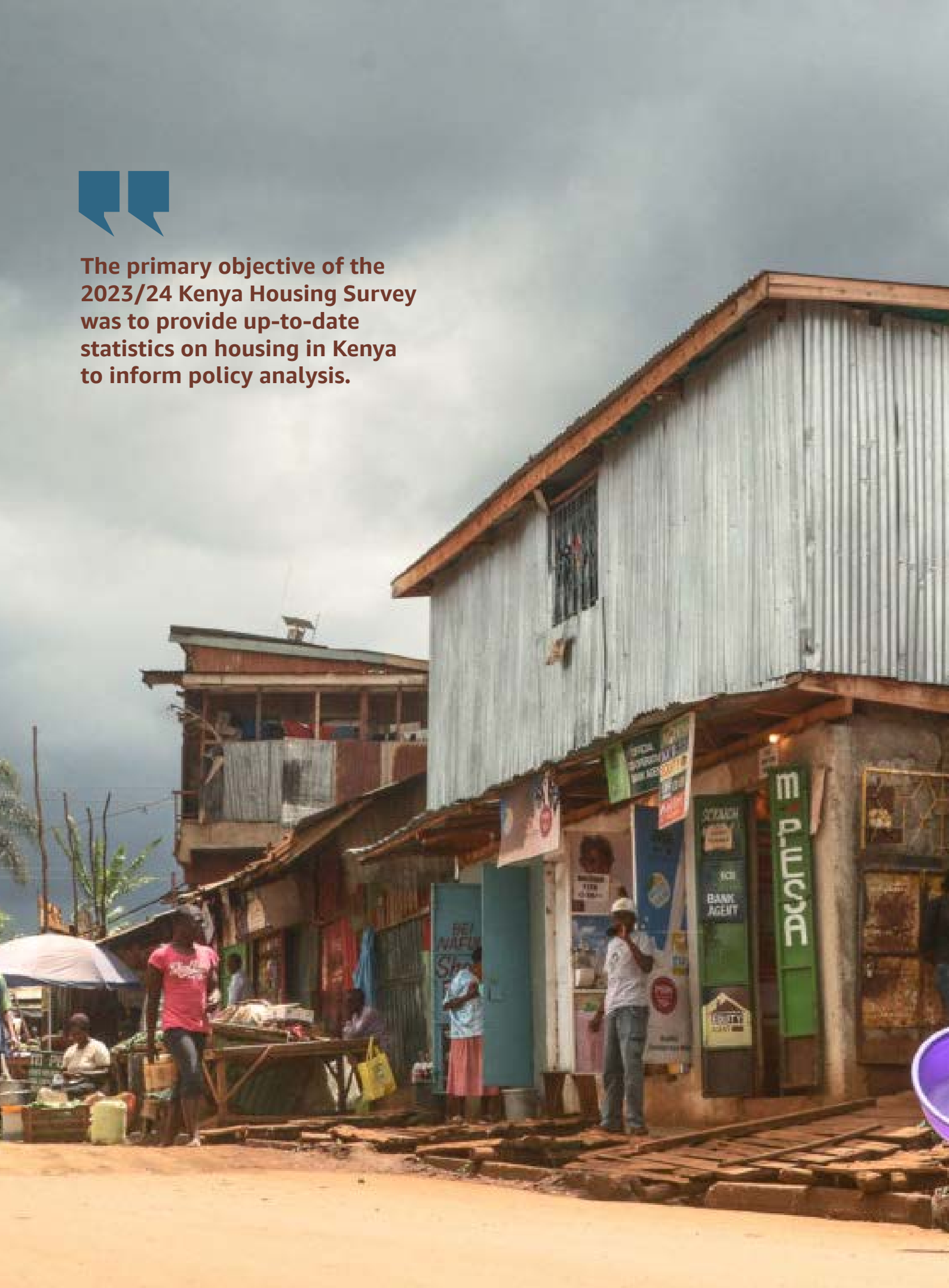


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# List of Acronyms

| | |
|---|---|
| **2019 KPHC** | 2019 Kenya Population and Housing Census |
| **2023/24 KHS** | 2023/2024 Kenya Housing Survey |
| **ABTs** | Alternative Building Technologies |
| **AHP** | Affordable Housing Project |
| **AIDS** | Acquired Immunodeficiency Syndrome |
| **BEPs** | Built Environment Professionals |
| **BETA** | Bottom-Up Economic Transformation Agenda |
| **BORAQS** | Board of Registration of Architects and Quantity Surveyors |
| **CBO** | Community Based Organization |
| **CCTV** | Closed-Circuit Television Camera |
| **CHQI** | Consolidated Housing Quality Index |
| **CLA** | Community Land Act |
| **CPI** | Consumer Price Index |
| **EA** | Enumeration Area |
| **EIA** | Environmental Impact Assessment |
| **ELC** | Environment and Land Court |
| **EMCA** | Environmental Management and Coordination Act |
| **EPSM** | Equal Probability Selection Method |
| **FOSA** | Front Office Service Activity |
| **FSIs** | Financial Soundness Indicators |
| **HIV** | Human Immunodeficiency Virus |
| **ICT** | Information, Communication and Technology |
| **IoT** | Internet of Things |
| **IMF** | International Monetary Fund |
| **ITU** | International Telecommunication Union |
| **KENSUP** | Kenya Slum Upgrading Program |
| **K-HMSF** | Kenya Household Master Sample Frame |
| **KHS** | Kenya Housing Survey |
| **KISIP** | Kenya Informal Settlement Improvement Program |
| **KPHC** | Kenya Population and Housing Census |
| **KPLC** | Kenya Power and Lighting Company |
| **KRA** | Kenya Revenue Authority |
| **KSh** | Kenya Shilling |
| **KURA** | Kenya Urban Roads Authority |

| | |
|---|---|
| **KUSP** | Kenya Urban Support Program |
| **LCA** | Land Control Act |
| **LCB** | Land Control Board |
| **LPG** | Liquefied Petroleum Gas |
| **LRA** | Land Registration Act |
| **MFBs** | Microfinance Banks |
| **MTPs** | Medium Term Plans |
| **NCA** | National Construction Authority |
| **NEMA** | National Environment Management Authority |
| **NHC** | National Housing Corporation |
| **NLC** | National Land Commission |
| **NLP** | National Land Policy |
| **NLUP** | The National Land Use Policy |
| **NPLs** | Non-performing Loans |
| **NPPR** | Number of Persons Per Room |
| **NUDP** | National Urban Development Policy |
| **PLUPA** | Physical and Land Use Planning Act |
| **PPP** | Public Private Partnership |
| **PPS** | Probability Proportional to Size |
| **PSUs** | Primary Sampling Units |
| **PSV** | Public Service Vehicle |
| **PWDs** | Persons Living with Disabilities |
| **SACCO** | Savings and Credit Cooperative Society |
| **SDGs** | Sustainable Development Goals |
| **Sq Meters** | Square Meters |
| **VAT** | Value Added Tax |
| **VIP** | Ventilated Improved Pit Latrine |
| **WHR** | Window for Host Communities and Refugees |
| **WSSPs** | Water and Sewerage Service Providers |

# Executive Summary

The 2023/24 Kenya Housing Survey (2023/24 KHS) provides a comprehensive analysis of housing conditions, affordability and tenure across the country. The survey was conducted by the Kenya National Bureau of Statistics (KNBS) in collaboration with the State Department for Housing and Urban Development, the State Department for Labour and Skills Development, the Kenya Space Agency, the Directorate of Resource Survey and Remote Sensing and the Central Bank of Kenya. The primary objective of the 2023/24 KHS was to provide up-to-date housing statistics to facilitate evidence-based planning and decision making in the housing sector. In addition, the survey addressed housing challenges in line with national development goals and international commitments such as the Sustainable Development Goals (SDGs). Data collection was carried out from 7th March to 10th May 2024 in all the 47 counties and targeted both households and institutions.

The survey collected data on various aspects of housing, including the stock of dwellings, household spending on housing, land and dwelling ownership, access to utilities, housing affordability, overcrowding, durability of construction materials, and economic and financial statistics related to housing. Additionally, it collected information on the age, size, and characteristics of dwellings. Satellite imagery analysis was also used to assess changes in built-up areas and green spaces in Nairobi City, Mombasa, Kisumu, and Nakuru counties. Different players in the housing sector including tenants and home owners, Housing Financiers, Developers, Water Service Providers, Built Environment Professionals and Housing Regulators (County Government Physical Planning Department, Lands Department and National Environmental Management Authority) were interviewed.

From the survey findings, majority of home owners were in the rural areas at 85.5 per cent, while urban areas home ownership was at 22.8 per cent. Urban areas had higher percentages of households paying rent/leasing at 72.3 per cent, while the proportion of households who paid rent in rural areas was 8.9 per cent. Bungalows were the most owned type of house in both rural and urban set ups at 76.3 per cent and 69.1 per cent, respectively. Nationally, 58.9 per cent of dwelling units were made of durable floor materials, 47.2 per cent had durable wall materials and 93.6 per cent had durable roofing materials.

Regarding access to utilities, the survey revealed that 73.5 per cent of households had access to improved sources of drinking water and 34.4 per cent used clean fuels for cooking. About 71.7 per cent of the households had access to an improved toilet facility.

Based on the survey findings, 53.5 per cent of the population were aware of the Affordable Housing Program. Nationally, 7.7 per cent of respondents reported that they were aware of the stamp duty exemption for first-time home buyers and of those aware, 11.9 per cent had benefited from it.

The survey indicated that 20.5 per cent of the counties reported they had digitized building plans applications while 23.3 per cent of counties had georeferenced land records. Nationally, 78.2 per cent of the Environmental Impact Assessment (EIA) reports on housing projects received by National Environment Management Authority were approved in 2023. The largest proportion of Built Environment Professionals had more than 20 years of experience accounting for 27.0 per cent. Among the financiers, 33.3 per cent had savings products aimed at purchase of land, while 20.7 per cent focused on savings for incremental building.

**88.2%**

From the survey findings, majority of homeowners were in the rural areas at 88.2 per cent, while urban areas home ownership was at 26.0 per cent.

**20.5%**

The survey indicated that 20.5 per cent of the counties reported they had digitized building plans applications while 23.3 per cent of counties had georeferenced land records.

# CHAPTER 01

# 2023/24 KENYA HOUSING SURVEY BASIC REPORT

# Introduction

## 1.1 Background

The growing population in Kenya has led to a significant increase in the demand for housing. The 2019 Kenya Population and Housing Census Analytical Report on Housing and Amenities provided fundamental indicators on housing, including tenure status, dwelling conditions, construction materials, sources of drinking water, energy use and household assets. The 2023/24 KHS gives updated statistics on housing and residential dwellings in Kenya necessary for informing housing sector policies, compilation of national accounts statistics and international comparisons.

The survey adhered to international standards and guidelines for housing statistics in collecting information The data collected was analysed and disaggregated by urban, rural and counties to provide key housing sector statistics and the achievements of selected indicators of Sustainable Development Goals (SDGs) 1, 5, 6, 7, 9, 11, 16 and 17 related to housing. The survey also assessed the awareness and uptake of the incentives of the Affordable Housing Program (AHP). The findings are valuable to policymakers, academia, development partners and other stakeholders in making informed decisions and undertaking in-depth analysis.

## 1.2 Policy, Legal and Institutional Framework

The right to adequate housing is a human right recognized by international, regional, and national laws. This right is derived from 'the right to an adequate standard of living' as defined in Article 25 of The Universal Declaration of Human Rights. In Kenya, the right is reflected in Article 43 (1)(b) of the Constitution, which guarantees every person the right 'to accessible and adequate housing; and to reasonable standards of sanitation'.

The housing sector is governed by various international, regional and national policies as outlined below: -

**1. The Sustainable Development Goals:** Target 11.1 "By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums."

**2. The New Urban Agenda:** Adopted in 2016 at Habitat III, is a concise, action-oriented, forward-looking, and universal framework of actions for housing and sustainable urban development.

**3. Agenda 2063:** The Africa We Want—is a declaration signed by African Union member states in May 2013. It serves as a strategic framework aimed at the socio-economic transformation of the continent. This initiative builds upon and aims to accelerate the implementation of previous and existing continental efforts focused on growth and sustainable development.

**4. The Kenya Vision 2030:** The country's development blueprint vision for housing and urbanization is 'an adequately and decently housed nation in a sustainable environment'. This is to be achieved through various undertakings which include but are not limited to, facilitation of construction of 200,000 housing units annually through various initiatives and development of quality and affordable houses for low income Kenyans.

**5. Sessional Paper No. 3 of 2016 on The National**

**In Kenya, the right is reflected in Article 43 (1)(b) of the Constitution, which guarantees every person the right 'to accessible and adequate housing; and to reasonable standards of sanitation'.**

**Housing Policy:** Provides the guidelines for progressive realization of the right to accessible and adequate housing and reasonable standards of sanitation for every person as per Article 43 of the Constitution. It also intends to prevent the deteriorating housing conditions countrywide and bridge the shortfall in housing stock arising from demand that far surpasses supply particularly for low-income housing in urban areas.

**6. Sessional Paper No. 2 of 2016 on the National Slum Upgrading and Prevention Policy:** Its purpose is to integrate the existing slums into the formal system, enabling them to enjoy reasonable basic amenities. It will also prevent formation of new slums by adhering to urban planning, provision of infrastructure, and low-cost housing.

**7. Sessional paper No. 2 of 2015 on National Building Maintenance Policy:** Aims to create awareness and build capacity of all Kenyan citizens on the importance of proper maintenance of buildings and related infrastructures and guides on the establishment of efficient, effective and economic use of scarce maintenance resources with a view of maintaining the existing housing stock to prolong and realize a longer economic value.

**8. Sessional paper No. 1 of 2017 on National Land Use Policy (NLUP):** The overall objective is to "provide legal, administrative, institutional and technological framework for optimal utilization and productivity of land and land related resources in a sustainable and desirable manner at National, County, Sub-County and other local levels".

**9. Sessional paper No. 3 of 2009 on National Land Policy (NLP):** The overall objective of the National Land Policy is to provide a mechanism through which land is held, used and managed in an equitable, efficient, productive and sustainable manner.

**10. Sessional paper No. 1 of 2023 on National Urban Development Policy (NUDP):** Aims to strengthen urban governance and management, development planning, urban investment, and the delivery of social and physical infrastructure throughout the country.

The following legislations govern the sector: -

**The Constitution of Kenya, 2010:** Provides for the right to accessible and adequate housing under Article 43(1) (b), which is fundamental to enable individuals live in dignity. The Constitution envisages every person having a right to accessible and adequate housing as well as reasonable standards of sanitation. Article 21(2) dictates that the State shall take legislative, policy and other measures, including the setting of standards, to achieve the progressive realization of the rights guaranteed under Article 43.

**Affordable Housing Act, 2024:** Gives effect to Article 43(1)(b) of the Constitution and provides a framework for development and access to affordable housing and institutional housing. It also establishes the affordable housing fund.

**Sectional Properties Act, No. 21 of 2020:** Provides a legal framework for the subdivision of land and buildings into individual units or sections, each with separate ownership rights.

**The County Government Act, 2012:** Dictates that development control in a city or municipality should be within the national housing and building code framework. The Act further gives the counties powers to perform the functions spelt out under the fourth schedule of the constitution such as development planning.

**The Physical and Land Use Planning Act (Act No. 13 of 2019) (PLUPA):** Is the principal Act for land use planning in Kenya. It makes provision for the planning, use, regulation and development of land and establishes offices and institutions for the purposes of planning in the country.

**Housing Act, 1953 (Amended 2019):** Established the National Housing Corporation which provides loans and grants for the construction of dwellings and facilitates access to innovative housing solutions.

**Environmental Management and Coordination Act, 1999 (EMCA)(Amended 2015):** Provides for the establishment of an appropriate legal and institutional framework for the management of the environment.

**Stamp Duty Act, 2012:** Makes provision for the levying and management of stamp duties. Exemption from payment of stamp duty for first-time home buyers under

the Affordable Housing Scheme is anchored on this Act.

Key institutions in the housing sector include the Ministry of Lands, Public Works, Housing and Urban Development, County Governments, the National Environment Management Authority (NEMA), the National Construction Authority (NCA), Kenya Mortgage Refinancing Company (KMRC), National Housing Corporation (NHC) and the Kenya Revenue Authority (KRA).

## Interventions and programs

The following are the interventions and programs being undertaken:

### 1. The Affordable Housing Program

The Fourth Medium Term Plan (MTP IV) 2023-2027 implements the Bottom-Up Economic Transformation Agenda (BETA), which is geared towards economic turnaround and inclusive growth through a value chain approach. The State Department for Housing and Urban Development is implementing the Affordable Housing Program (AHP) which aims to construct 200,000 housing units annually to bridge the housing deficit in the country. The AHP also has the potential to spur economic growth through manufacturing of construction materials, revamping and formalizing the Jua Kali sector and creation of jobs. The program further aims to grow the number of mortgages to 1,000,000 by facilitating low-cost mortgages.

### 2. The Kenya Urban Support Program (KUSP)

The Government of Kenya through the State Department for Housing and Urban Development is implementing the second phase of the Kenya Urban Support Program (KUSP II) as a follow-up to the first phase of the Kenya Urban Support Program. The KUSP was mooted to address the urbanization challenges in Kenya with urban areas experiencing massive challenges of haphazard developments leading to informality, unemployment, inadequate infrastructure and services, poor waste collection among others. The first phase of KUSP was implemented from 2018 to 2023 in 45 counties and benefitted 59 municipalities. KUSP II is being implemented across 79 Municipalities and will incorporate 2 special municipalities of Dadaab and Kakuma -Window for Host and Refugee (WHR municipalities).

> **Increased urbanization coupled with low affordability for housing is significantly contributing to a growing annual housing deficit.**

**3. The Kenya Informal Settlement Improvement Project (KISIP)**

The Kenya Informal Settlement Improvement Project (KISIP) was initiated by the Government of Kenya, with support from Development Partners, in 2011 to complement the national Kenya Slum Upgrading Program. It also supports the State Department of Lands' efforts to introduce urban planning and strengthen security of tenure in unplanned and impoverished urban neighborhoods, in line with the National Land Policy.

The project's development objective is to improve living conditions and enhance security of tenure in informal settlements in selected towns across Kenya. This is achieved through securing land tenure and investing in infrastructure, with plans developed in consultation with the community. Additionally, KISIP supports improvements in existing informal settlements.

**4. Kenya Slum Upgrading Program (KENSUP)**

The Government of Kenya, in collaboration with UN-HABITAT and other stakeholders, initiated the Kenya Slum Upgrading Program (KENSUP) in 2004 to improve lives and livelihoods of people working and living in slums. The program involves construction of low-cost houses, installation of social and physical infrastructure, introducing income generation activities, facilitating security of tenure, environment and solid waste management, community and resource mobilization, capacity building among the communities and addressing cross-cutting issues including HIV and AIDS, alcohol, drug and substance abuse and insecurity among others. The program has since transitioned to a fully fledged department under the State Department for Housing and Urban Development.

**200,000**

The Affordable Housing Program also aims to construct 200,000 housing units annually and its implementation requires updated statistics to track the achievement of the goals.

## 1.3 Justification for the Survey

The right to housing is embedded in the Constitution of Kenya, which provides that every person has the right to accessible and adequate housing. Kenya Vision 2030 aims to address the country's housing needs by targeting to construct 200,000 housing units annually through various strategies. The Sessional Paper No. 3 on the National Housing Policy (2016) recognizes lack of comprehensive data and regular market analysis on housing supply and demand at both the National and County levels as one of the key policy issues affecting the sector. To address this, the policy mandates the National and County governments to establish databases on real estate activities and conduct periodic market analysis every five years in collaboration with accredited research institutions.

The Affordable Housing Program also aims to construct 200,000 housing units annually and its implementation requires updated statistics to track the achievement of the goals. The 2019 Kenya Population and Housing Census revealed a deficit of 14.7 million habitable rooms and developed a consolidated housing quality index based on the materials used for construction. This housing survey provides updated indicators to complement existing data. With the Affordable Housing Program, the target is to deliver decent and affordable housing to low and middle-income households which is fundamental in creating a stable and healthy environment that supports academic success and economic opportunities, contributing to the overall well-being and prosperity of communities. Investing in affordable housing is not just a matter of providing shelter; it is a critical component of fostering equitable and sustainable development. Assessing awareness and uptake of the various incentives under the AHP will inform better policy decisions based on the survey findings.

Monitoring ownership of land/house and housing expenditure is essential for informing changes in welfare implications for different population segments. Increased urbanization coupled with low affordability for housing is significantly contributing to a growing annual housing deficit. Therefore, there was a critical need to monitor housing stocks to address this issue effectively.

Regulators of housing development play an important role by ensuring housing projects comply with national and local regulations, safety standards, building codes and environmental requirements. To enhance the quality of life for all residents, there is need to provide safe, durable and sustainable living environments through housing developments that adhere to set rules and regulations.

For social inclusion and living standards to be maintained, access to affordable housing finance

is essential. Information on housing finance and development from the demand side must be gathered to identify gaps and challenges in improving housing quality and lowering unfavorable living conditions.

Housing developers play a crucial role in shaping communities by building various types of housing. In a nutshell, developers must balance financial objectives with regulatory requirements and community needs to successfully complete projects. Their work significantly impacts the availability and quality of housing in any given area. Understanding the perspectives and practices of housing developers is essential for assessing their influence on community development and housing markets. This survey was vital for gaining insights into how they navigate possible challenges in housing and contribute to shaping the built environment in Kenya.

Access to infrastructure and services is critical for enhancing the quality of life, supporting economic development and achieving sustainable housing solutions. The objective is to evaluate and enhance access to essential infrastructure and services in both urban and rural areas of Kenya, ensuring equitable distribution and addressing deficiencies in water supply, electricity, sanitation, and waste management. By identifying areas with inadequate services, targeted interventions can be employed to improve living conditions and support overall community well-being.

Land consumption rates and green spaces are crucial components of urban planning and development, especially in fast-growing cities across the world. Integrating built-up area and green spaces data with housing surveys provides a powerful tool for urban analysis. Examining these relationships allows urban planners and policymakers to make data-driven decisions to promote sustainable, equitable, and resilient urban environments, ensuring that urban growth aligns with residents' needs and well-being. Geospatial tools were used to track changes in built-up area and green spaces.

The statistics generated from this survey will establish an updated housing database, building on the 2012/13 National Housing Survey, to evaluate the impact of future housing policies. Given that the last housing survey was conducted in the 2012/13 financial year, it was imperative to undertake a new survey to update the structure of the construction and housing sector and fill data gaps for periodic sector monitoring.

## 1.4 Survey Objectives

The primary objective of the 2023/24 Kenya Housing Survey was to provide up-to-date statistics on housing in Kenya to inform policy analysis. The specific objectives of the survey were to:

1. Assess the quality and condition of housing units.
2. Evaluate the level of access to infrastructure and services
3. Evaluate housing affordability by providing insights into housing costs and rent.
4. Assess the level of awareness and perceptions regarding the Affordable Housing Program, housing regulations, and comfort in dwellings.
5. Track progress towards national housing goals (Vision 2030 and Sustainable Development Goals (SDG) 1, 5, 6, 7, 9, 11, 16 and 17 indicators related to housing).
6. Assess the change in land consumption using geospatial tools from 2016 to 2023.

## 1.5 The Key Players in Housing

The key players in the housing sector are persons and institutions who hold a pivotal role in the investment and development of housing in Kenya. They include:

- Home owners and tenants
- Real Estate
- Financial Institutions
- National and County Governments
- Government Ministries, Departments and Agencies
- Housing Enablers- Roads Authorities, Kenya Power and Lighting Company, Water and Sewerage Providers, Internet Providers
- Developers and Investors
- Builders and Contractors
- UN Bodies, Non Profit and Advocacy groups
- Built Environment Professional Bodies

**Housing developers play a crucial role in shaping communities by building various types of housing. In a nutshell, developers must balance financial objectives with regulatory requirements and community needs to successfully complete projects.**


# CHAPTER 02

# Methodology

## 2.1 Survey Design

The survey employed a cross-sectional study design to collect data for estimating housing indicators at national, rural, urban and county levels. To achieve this, a hybrid data collection system was incorporated, targeting both households and institutions. The household component of the survey was designed independently from that of the institutions. A sample survey was conducted for the households, while a census was carried out for all identified institutions key in the housing sector.

## 2.2 Scope and Target Population

The survey covered all 47 counties to ensure that the coverage was comprehensive and representative of the entire country. The household component targeted residential housing units in both urban and rural areas while the institutional component targeted housing developers, real estate firms, Water Service Providers, County Governments-Physical Planning Departments, NEMA and Land Administration Department. The professional component targeted members from Engineers Board of Kenya (EBK), Kenya Institute of Planners (KIPs) and Board of Registration of Architects and Quantity Surveyors (BORAQS).

## 2.3 Sample size determination

The sample size for the household component of the survey was computed independently for each county using the following formula.

$$n = Deft^2 \times \frac{(1/P - 1)}{\alpha^2}$$

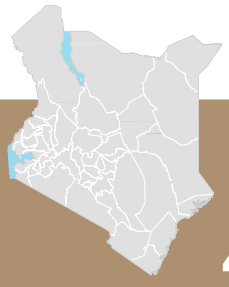
Where;

$Deft^2$ is the square of the design effect (1.5^2 = 2.25)

P is the estimated proportion of tenants /owner occupiers (varies for each county).

$\alpha^2$ is the square of the relative standard error (Measure of precision - varies for each county).

By incorporating the county-specific response rates obtained from previous surveys that used the same household sampling frame, the application of the formula resulted in a sample size of 25,900 households and 1,295 clusters which were randomly selected for the survey. The distribution of the household sample by county is presented in Table 2.1, while Figure 2.1 shows that counties in central and western Kenya seem clustered with many clusters due to their small spatial size as compared to those in the northeastern and eastern regions.



**47**

The survey covered all 47 counties to ensure that the coverage was comprehensive and representative of the entire country.

**25,900**

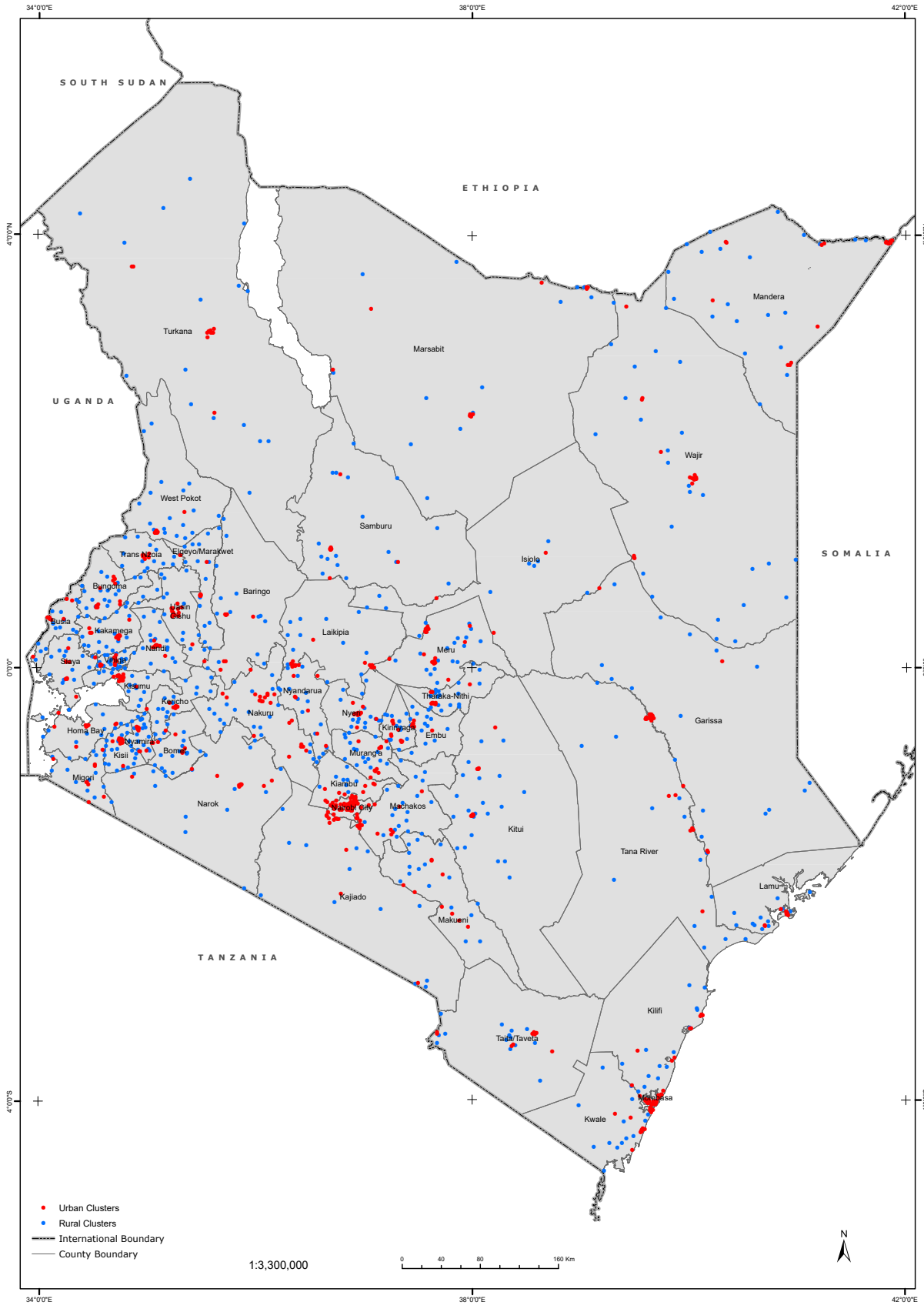
By incorporating the county-specific response rates obtained from previous surveys that used the same household sampling frame, the application of the formula resulted in a sample size of 25,900 households and 1,295 clusters which were randomly selected for the survey.

## Table 2.1: Distribution of Clusters and Households by County

*Number*

| County | Clusters | | | Households | | |
|---|---|---|---|---|---|---|
| | Rural | Urban | Total | Rural | Urban | Total |
| Mombasa | 0 | 28 | 28 | 0 | 560 | 560 |
| Kwale | 14 | 11 | 25 | 280 | 220 | 500 |
| Kilifi | 14 | 12 | 26 | 280 | 240 | 520 |
| Tana River | 13 | 11 | 24 | 260 | 220 | 480 |
| Lamu | 12 | 10 | 22 | 240 | 200 | 440 |
| Taita-Taveta | 14 | 11 | 25 | 280 | 220 | 500 |
| Garissa | 17 | 13 | 30 | 340 | 260 | 600 |
| Wajir | 25 | 18 | 43 | 500 | 360 | 860 |
| Mandera | 21 | 17 | 38 | 420 | 340 | 760 |
| Marsabit | 15 | 12 | 27 | 300 | 240 | 540 |
| Isiolo | 11 | 11 | 22 | 220 | 220 | 440 |
| Meru | 18 | 11 | 29 | 360 | 220 | 580 |
| Tharaka-Nithi | 15 | 9 | 24 | 300 | 180 | 480 |
| Embu | 14 | 9 | 23 | 280 | 180 | 460 |
| Kitui | 22 | 12 | 34 | 440 | 240 | 680 |
| Machakos | 19 | 16 | 35 | 380 | 320 | 700 |
| Makueni | 15 | 9 | 24 | 300 | 180 | 480 |
| Nyandarua | 15 | 9 | 24 | 300 | 180 | 480 |
| Nyeri | 15 | 11 | 26 | 300 | 220 | 520 |
| Kirinyaga | 14 | 10 | 24 | 280 | 200 | 480 |
| Murang'a | 15 | 9 | 24 | 300 | 180 | 480 |
| Kiambu | 10 | 12 | 22 | 200 | 240 | 440 |
| Turkana | 16 | 11 | 27 | 320 | 220 | 540 |
| West Pokot | 18 | 10 | 28 | 360 | 200 | 560 |
| Samburu | 16 | 12 | 28 | 320 | 240 | 560 |
| Trans Nzoia | 13 | 9 | 22 | 260 | 180 | 440 |
| Uasin Gishu | 13 | 14 | 27 | 260 | 280 | 540 |
| Elgeyo-Marakwet | 15 | 8 | 23 | 300 | 160 | 460 |
| Nandi | 15 | 9 | 24 | 300 | 180 | 480 |
| Baringo | 14 | 9 | 23 | 280 | 180 | 460 |
| Laikipia | 13 | 11 | 24 | 260 | 220 | 480 |
| Nakuru | 20 | 21 | 41 | 400 | 420 | 820 |
| Narok | 15 | 10 | 25 | 300 | 200 | 500 |
| Kajiado | 13 | 15 | 28 | 260 | 300 | 560 |
| Kericho | 15 | 10 | 25 | 300 | 200 | 500 |
| Bomet | 16 | 8 | 24 | 320 | 160 | 480 |
| Kakamega | 18 | 11 | 29 | 360 | 220 | 580 |
| Vihiga | 16 | 10 | 26 | 320 | 200 | 520 |
| Bungoma | 18 | 11 | 29 | 360 | 220 | 580 |
| Busia | 15 | 10 | 25 | 300 | 200 | 500 |
| Siaya | 15 | 9 | 24 | 300 | 180 | 480 |
| Kisumu | 15 | 14 | 29 | 300 | 280 | 580 |
| Homabay | 15 | 9 | 24 | 300 | 180 | 480 |
| Migori | 13 | 9 | 22 | 260 | 180 | 440 |
| Kisii | 19 | 12 | 31 | 380 | 240 | 620 |
| Nyamira | 16 | 9 | 25 | 320 | 180 | 500 |
| Nairobi City | 0 | 63 | 63 | 0 | 1,260 | 1,260 |
| **Total** | **700** | **595** | **1,295** | **14,000** | **11,900** | **25,900** |

*Figure 2.1: The Distribution of KHS Clusters by County and Residence*



## 2.4 Sampling frame

The sample for the household component of the survey was drawn from the Kenya Household Master Sample Frame (K-HMSF), which was developed based on the 2019 Kenya Population and Housing Census. The clusters in K-HMSF were selected using Probability Proportional to Size (PPS) systematic sampling method from approximately 128,000 Enumeration Areas (EAs).

The 47 counties were stratified into 92 sampling strata, comprising urban and rural strata in 45 counties, and purely urban strata for Nairobi City and Mombasa counties. Additionally, the K-HMSF is divided into four components, denoted as C1, C2, C3, and C4. Each component consists of 2,500 clusters, which can serve as independent sampling frames. Depending on the required sample size, any two or more components can be combined to provide a sufficiently large sampling frame.

The institutional component of the survey was conducted using multiple lists obtained from various sources, including the State Department for Housing and Urban Development and Water Service Regulatory Board. The Built Environment Professionals (BEPs) list was sourced from Engineers Board of Kenya (EBK), Kenya Institute of Planners (KIPs) and Board of Registration of Architects and Quantity Surveyors (BORAQS).

## 2.5 Sample Selection

A two-stage cluster sampling methodology was adopted for the household component of the survey. In the first stage, clusters were randomly selected from the sampling frame. In the second stage, households within these clusters were selected for interviews. For the institutional component of the survey, a census was undertaken for all Developers, Water Service Providers, Real Estate firms and Built Environment Professionals.

## 2.6 Sampling of Clusters

The clusters in the K-HMSF served as the Primary Sampling Units (PSUs) for the survey, and were independently selected from each of the 92 sampling strata in the frame. The clusters were selected using Equal Probability Selection Method (EPSM) given that enumeration areas that formed the clusters had been selected with Probability Proportional to Size (PPS) and standardization of the clusters undertaken through segmentation of clusters that exceeded the measure of size.

## 2.7 Sampling of Households

A fixed number of 20 households were systematically sampled with a random start from the list of households enumerated in each of the selected clusters. Sampling of the households was done centrally at the head office, and interviews were conducted exclusively in the pre-selected households. There was no replacement of clusters or households during the fieldwork.

## 2.8 Computation of Survey Weights

Given that the household sample was disproportionately allocated to the various sampling strata, the data was not self-weighting, which necessitated the application of survey weights to ensure representativeness of the target population. The survey weights also ensured the data conformed to known population distributions and adjusted for non-response of some of the sampled households effectively minimizing survey non-response bias.

The survey weights (W) were computed by taking the inverse of the product of the selection probabilities at each stage of sampling. The probability (P) of selecting a household for the survey is the product of four selection probabilities, $P_i$:

$$P = \prod_{i=1}^{4} P_i$$

Where;

$P_1$ = the probability of selecting the EA into K-HMSF among all the EAs used during the 2019 Kenya Population and Housing Census;

$P_2$ = the probability of selecting the cluster from the K-HMSF;

$P_3$ = the probability of selecting a segment of the cluster among all segments created during segmentation of clusters that exceed the measure of size;

$P_4$ = the probability of selecting the household among all the households in the cluster.

## 2.9 Data Quality

The quality of data for the Housing Survey was ensured through a multi-step approach. This began with defining the survey's content and scope, designing survey instruments, conducting a pre-test and pilot survey, training survey personnel, and incorporating technology for data collection and transmission. Additionally, data validation, analysis, creation of final report tables, and stakeholder engagement were all integral parts of the process. A thorough process was undertaken to review and refine the survey instruments aimed at eliminating redundancies and ensuring the questions were accurate and relevant to the current housing development programs and addressed user needs. The data collection tools were integrated into CAPI with in-built checks and controls to ensure consistency and flag out any outliers in the data.

A multilevel supervision of the data collection exercise also ensured that the probability of any errors going unnoticed was minimized significantly. To further support the data quality assurance, a dashboard based at the headquarters was also used to monitor the data as fieldwork continued. Upon completion of the data collection, edit specifications were developed by subject matter specialists to provide a basis for cleaning and editing of the data. The specifications were subsequently coded into programs using statistical applications and subjected on the raw data to derive a cleaned dataset that developed the tables in the report.

## 2.10 Key Concepts and Definitions

The following terms and concepts were used during the survey.

**Affordable Housing Relief:** Effected to reduce the amount of tax payable by each employee, calculated as 15 per cent of the employee's contribution with a maximum limit of Sh108,000 per year.

**Alternative Building Technology:** Encompass a variety of construction methods and materials that are designed to be more sustainable, cost-effective and efficient compared to traditional building techniques. These technologies aim to reduce environmental impact, improve energy efficiency and often utilize locally available resources.

**Biogas Energy System:** This uses animal waste to generate gas used for domestic purposes.

**Building Insurance:** Insurance taken by the owner of the property to insure the property against risks such as fire, landslide etc.

**Built Environment Professional:** An expert involved in the planning, design, construction, and management of the physical environment in which people live and work. This broad field encompasses various roles, each contributing to the development and maintenance of infrastructure, buildings and public spaces. They include engineers, architects, quantity surveyors, and planners among others.

**Bungalow**: A detached stand-alone house, typically designed to be occupied by one family.

**Cluster:** The smallest geographical statistical unit, which is either an Enumeration Area (EA) or part of an EA with details about households and structures.

**Commercial Bank:** A financial institution licensed by the Central Bank of Kenya to take deposits and give loans for a diverse range of products.

**Dam:** A reservoir formed by building a barrier across a river to hold back water and control its flow.

**Deposits:** Customer savings held by the financial institution. These are liabilities to the institution.

**Dwelling unit:** A place of abode or residence occupied by one or more and with a private entrance. There can be more than one dwelling unit within a structure.

**Employee (working for someone else for pay in cash or in-kind):** Comprises persons who during the last week preceding the survey worked for wages, salaries, commissions, tips, contracts and paid in kind (especially in the rural areas where people who have rendered services may be paid using food or clothing).

**Employer (employing one or more employees):** Comprise persons who during the last week preceding the survey worked in their own business which also employs other persons. The person must have also been spending much of his/her time at the place. The people employed can either be paid in cash or in kind.

**Employment to population ratio:** This is the proportion of a country's working-age population (15 to 64 years) that is employed.

**Enumeration Area (EA):** The smallest geographical unit created during cartographic mapping which precedes a Population and Housing Census.

**Exemption on stamp duty for first-time home buyers:** Stamp duty is charged on the market value of the property at the rate of four per cent in towns and two per cent in rural areas. Currently, the exemption from stamp duty applies to first-time homebuyers of approved affordable housing units. This strategy is aimed at reducing the cost of home ownership.

**Flat:** A housing type contained in a vertical development containing several similar housing units. It shares a common access through common stairways etc.

**Georeferencing:** It refers to the process of assigning real-world geographic coordinates (such as latitude and longitude) to a digital image, map, or dataset so that it can be accurately placed and analyzed in relation to physical locations on the Earth's surface.

**Habitable Room:** This is a room in the dwelling unit that is used mainly for living and excludes stores, granaries, offices, toilets, garages, bathrooms etc.

**Home Acquisition:** It involves several key steps and considerations, including the desired method of acquiring the home and the financial preparation, which encompasses the mode and source of financing.

**Household head:** The most responsible member of the household who makes key decisions affecting the household on a day-to-day basis. It could be the father, the mother or a child, or any other responsible member of the household depending on the status of the household.

**Household:** Is a person or group of persons who live in the same compound, under one or several roofs, answerable to the same household head and share common cooking arrangements.

**Housing developer:** A person or company involved in the process of planning, financing, constructing and selling residential properties. Housing developers play a crucial role in creating new housing units, whether they are single-family homes, townhouses, condominiums, or apartment complexes.

**Housing:** The processes and outcomes of the production (construction) and consumption (use) of residential (living) shelters. It includes the physical product, the process that yields the product, and the socio-cultural and environmental circumstances in which the product is developed, delivered and used. It also involves the process of analysing.

**Labour Force Participation Rate (LFPR):** The LFPR is a measure of the proportion of a country's working-age population usually 15-64 years who are in the labour force. It indicates the level of labour market activity and is calculated as a ratio of the labour force to the working-age population.

**Lake:** A naturally occurring large area of water surrounded by land, whose water collects through rain, rivers etc. It is different from a dam in that it is not man-made.

**Land consumption rate (LCR):** Refers to the rate of change in the land area taken up by urban land uses such as residential, commercial and industrial areas during a specified period as a percentage of the land area at the beginning of that period, usually a year. It measures the extent of land used for urban development and infrastructure relative to the total initial urban area.

**Loan:** Constitute debt taken by an institution or individual, where one party is the borrower and the other the lender. Interest is typically expected to be paid monthly, though different loan interest repayments can be negotiated between the lender and the borrower. For this survey, 'Short term loans 'are loans which are less than 2 years, and 'Long term loans' are loans which are more than 2 years.

**Maisonette:** A maisonnette is a residential property typically consisting of two or more floors and featuring a private entrance, often directly from the outside. Maisonettes can be terraced, semi-detached, or detached.

**Manyatta/Traditional house:** Are houses which are constructed in traditional designs and using traditionally locally available materials by particular ethnic groups.

**Mortgage financing:** Is financing for homebuyers who are buying units which are already constructed. It is generally provided for a longer duration and is for a set repayment rate every month for the duration of the loan.

**Mortgage insurance:** An insurance policy which compensates lenders or investors for losses due to the default of a mortgage loan.

**Own-account worker (not employing any employee):** This category comprises self-employed persons who worked on own business or worked on own/ family business for family gain. It includes artisans, mechanics, traders in farm produce and family workers offering services in own or family business.

**Piped water:** Means water drawn through pipes installed in a dwelling unit and originating in a central (public) source.

**Plan approval**: The act of giving a go-ahead for a project to be implemented as designed.

**Pond:** A small area of still water. Usually, this water collects after rain or through an underground drainage.

**Population outside the Labour Force:** The population not in the labour force, previously referred to as inactive population, covers those members of the population who were not available for work. This category includes full-time students, infirm/incapacitated, retired or those who did not need work due to unspecified reasons.

**Prefabricated panel:** Is a section of a house that is factory designed and made ready for assembly on site.

**Rainwater harvesting:** Is harnessing and storage of rainwater for domestic and non-domestic purposes.

**Real Estate Firm:** An entity or business that engages in real estate activities with own or leased property such as buying and selling of residential and non-residential buildings; renting and operating of self-owned or leased real estate; operating of furnished/serviced apartments (owned or leased), activities of real estate developers of own property for leasing or sale (construction work done by a separate entity at a fee) and real estate activities on a fee or contract basis such as activities of real estate agents and brokers; intermediation in buying, selling and renting of real estate on a fee or contract basis as well as management of real estate on a fee or contract basis.

**Rural:** Is a large and isolated part of an open or agricultural country, including trading, market and service centres with relatively low population concentrations of less than 2,000 people.

**Savings and Credit Cooperative Society (SACCO):** Is a regulated group saving and lending institution. It comprises an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled association. It may include a deposit-taking Front Office Service Activity (FOSA) or non-deposit taking.

**Seeking work**: A person who in the week preceding the survey was actively looking for work belongs to this category. This category did not include the under-employed (i.e. those who had paid work but wished to leave for better opportunities). Persons who had no work at all and were looking for work were categorized under this category. If a person was working on the family holding but was seeking work, he/she was considered as "contributing family worker" and not as "seeking work". This category included only persons who were available full time for work and hence were actively looking for it.

**Sewer:** Means the sewage liquid waste from the structure is drained by pipes into a main trunk sewer line. This type of sewage disposal is common in main urban centres like Nairobi, Mombasa, etc.

**Shanty:** This typically denotes an informal house. The location of the house (in an urban, rural or peri-urban area, or in a high income or middle income or low-income area) is not important. What is important is whether the structure itself appears to be of a temporary nature and if the building materials appear to be temporary building materials.

**Smart technology:** Refers to devices, systems, or technologies that use advanced sensors, data processing, machine learning, artificial intelligence (AI), and internet connectivity to gather and analyze information, make decisions, and adapt to user preferences or environmental conditions.

**Solar Energy System:** Solar heated water, solar heated power.

**Spring**: Is a place where water wells up from earth or underground.

**Stamp Duty:** Is a tax that is levied on documents such as land transactions. In Kenya, this is tax paid to Kenya Revenue Authority for any property transfer and currently stands at 4% in urban areas and 2% in rural areas of the value of the property.

**Stream/river:** Is a naturally flowing source of water.

**Structure:** A building used for the purposes of residential, business or any other activity.

**Student:** Is a person who spent most of his/her time in a regular educational institution (primary, secondary, college, university etc.) and hence not available for work. If, for instance, a student was on holiday during the past week preceding the survey and may have been engaged in gainful employment, he/she was coded as employed.

**Swahili house:** This connotes communal living in a formal structure. The structure usually comprises separate rooms and open or closed common areas, and a separate area for toilet(s), shower(s) and kitchen(s) which are shared. The traditional Swahili house was built in a rectangular shape, with rooms in along 3 walls, and the shared areas along one wall. There would be closed and open common spaces inside the structure. However, long vertical rooms with shared toilet, shower and kitchen facilities at one end are also included in this definition.

**Tax deductibility of interest paid on Housing Loans:** Effective 1 January 2017, interest payments on loans borrowed for improvement or construction of residential premises are deductible, subject to a limit of KES 300,000 per annum (or KES 25,000 per month).

**Town houses:** Detached houses of a similar style built in one compound, often found in urban high-end neighborhoods. It can be single-storey, double-storey or even triple-storey.

**Urban:** Is a built-up and compact human settlement with a population of at least 2,000 people defined without regard to the local authority boundaries. It is normally a trading, market and service centre that provides goods and services to both the residents and surrounding population and therefore sometimes referred to as an urban centre.

**Valuation fee:** Fee paid for the valuation of the property. The valuation is usually done by a valuer appointed by the institution.

**Response Rates**: Out of the 25,900 households sampled for the survey, 23,166 were found to be eligible. A household is considered to be eligible if it meets one of the following criteria: it is identified and successfully interviewed; it is identified but refuses to respond; it is identified but no competent respondent is available at home during visits; or it is identified, the interview is started, and then postponed.

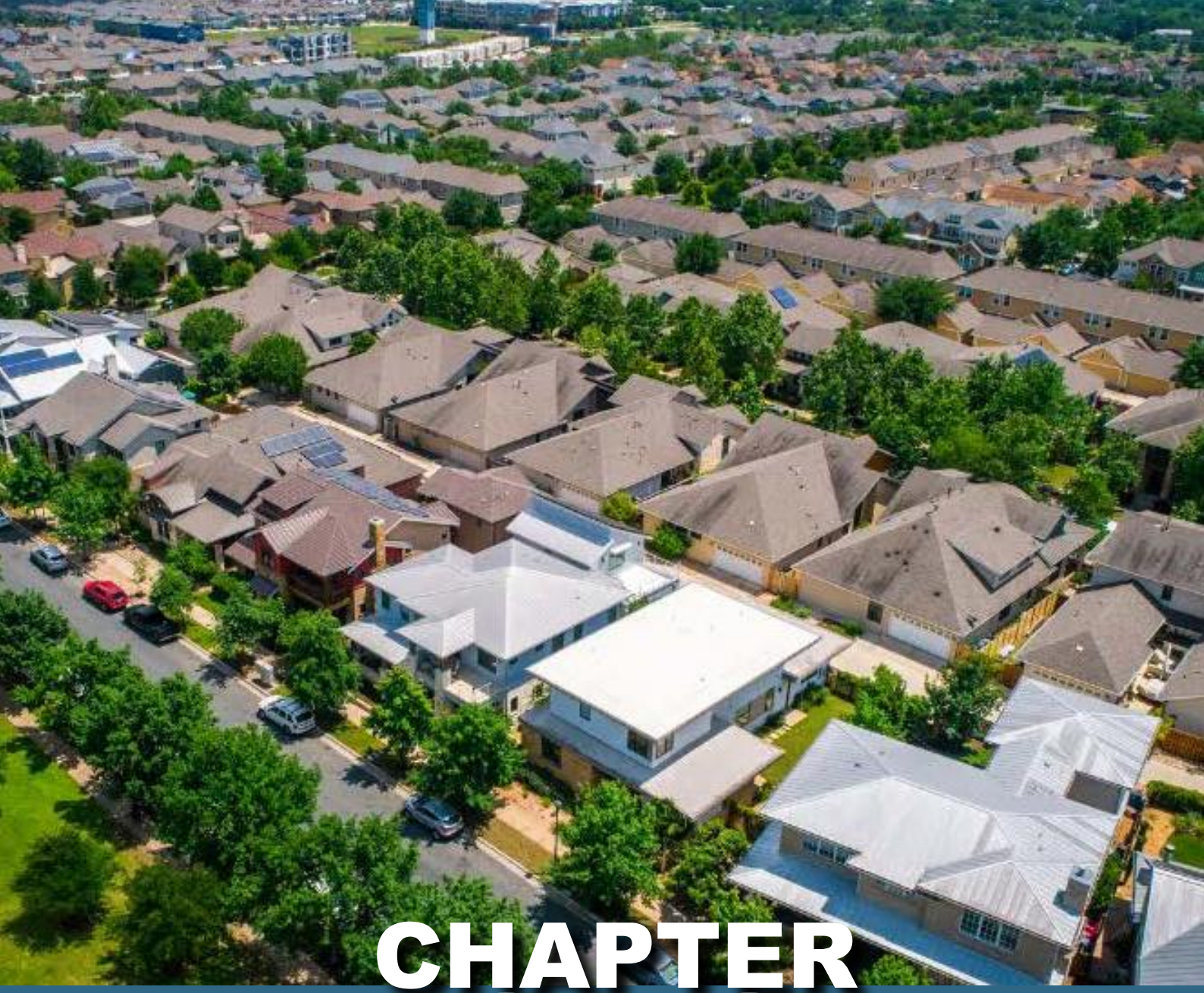
Among the eligible households, 21,347 completed the questionnaire, resulting in a national household response rate of 92.1 per cent. The response rate was higher in rural areas at 94.0 per cent compared to 89.9 per cent in urban areas. Table 2.2 and table 2.3 shows the household response rates by residence and county respectively.

**Table 2.2: Household Response Rate by Residence**

| Residence | Households Sampled | Eligible Households | Households that Responded | Response Rate |
|---|---|---|---|---|
| Kenya | 25,900 | 23,166 | 21,347 | 92.1 |
| Rural | 14,000 | 12,660 | 11,900 | 94.0 |
| Urban | 11,900 | 10,506 | 9,447 | 89.9 |

Table 2.3: Household Response Rate by County

| County | Households Sampled | Eligible Households | Households that Responded | Response Rate |
|---|---|---|---|---|
| **Kenya** | **25,900** | **23,166** | **21,347** | **92.1** |
| Mombasa | 560 | 491 | 425 | 86.6 |
| Kwale | 500 | 440 | 410 | 93.2 |
| Kilifi | 520 | 474 | 434 | 91.6 |
| Tana River | 480 | 459 | 450 | 98.0 |
| Lamu | 440 | 381 | 361 | 94.8 |
| Taita-Taveta | 500 | 439 | 405 | 92.3 |
| Garissa | 600 | 471 | 468 | 99.4 |
| Wajir | 860 | 721 | 637 | 88.3 |
| Mandera | 760 | 539 | 503 | 93.3 |
| Marsabit | 540 | 488 | 462 | 94.7 |
| Isiolo | 440 | 365 | 335 | 91.8 |
| Meru | 580 | 516 | 412 | 79.8 |
| Tharaka-Nithi | 480 | 465 | 455 | 97.8 |
| Embu | 460 | 424 | 406 | 95.8 |
| Kitui | 680 | 628 | 573 | 91.2 |
| Machakos | 700 | 646 | 618 | 95.7 |
| Makueni | 480 | 448 | 409 | 91.3 |
| Nyandarua | 480 | 423 | 382 | 90.3 |
| Nyeri | 520 | 483 | 434 | 89.9 |
| Kirinyaga | 480 | 464 | 450 | 97.0 |
| Murang'a | 480 | 429 | 355 | 82.8 |
| Kiambu | 440 | 383 | 319 | 83.3 |
| Turkana | 540 | 422 | 368 | 87.2 |
| West Pokot | 560 | 521 | 517 | 99.2 |
| Samburu | 560 | 511 | 478 | 93.5 |
| Trans Nzoia | 440 | 395 | 373 | 94.4 |
| Uasin Gishu | 540 | 484 | 435 | 89.9 |
| Elgeyo-Marakwet | 460 | 438 | 391 | 89.3 |
| Nandi | 480 | 458 | 420 | 91.7 |
| Baringo | 460 | 414 | 382 | 92.3 |
| Laikipia | 480 | 465 | 445 | 95.7 |
| Nakuru | 820 | 738 | 686 | 93.0 |
| Narok | 500 | 484 | 479 | 99.0 |
| Kajiado | 560 | 471 | 411 | 87.3 |
| Kericho | 500 | 442 | 410 | 92.8 |
| Bomet | 480 | 452 | 422 | 93.4 |
| Kakamega | 580 | 515 | 480 | 93.2 |
| Vihiga | 520 | 467 | 400 | 85.7 |
| Bungoma | 580 | 525 | 462 | 88.0 |
| Busia | 500 | 457 | 412 | 90.2 |
| Siaya | 480 | 424 | 394 | 92.9 |
| Kisumu | 580 | 483 | 446 | 92.3 |
| Homa Bay | 480 | 443 | 422 | 95.3 |
| Migori | 440 | 410 | 403 | 98.3 |
| Kisii | 620 | 570 | 510 | 89.5 |
| Nyamira | 500 | 448 | 439 | 98.0 |
| Nairobi City | 1,260 | 1,152 | 1,059 | 91.9 |



# CHAPTER 03

# Household Demographic and Economic Characteristics

## Key Findings

- Total dependency ratio was 65.5 per cent with a child dependency ratio of 59.0 per cent and an old age dependency ratio of 6.5 per cent.
- Kiambu, Kajiado, and Nakuru had higher proportions of households in urban areas at 73.8, 66.0, and 54.9 per cent, respectively, relative to the rural areas, besides Nairobi and Mombasa, which are entirely urban.
- The most common household size membership had 1-2 persons (34.1%) and 3-4 persons (33.5%). The household size of 1-2 persons was prominent in urban areas (43.7%) compared to rural areas (28.0%).
- Four out of every ten home owners (41.9%) had primary level education while 20.5 per cent had no education. More households were home owners (61.3%) than those that paid rent/ leased (34.4%).
- Nationally, the employment-to-population ratio was 61.6 per cent, with men more likely to be employed at 68.1 per cent compared to women at 55.1 per cent.
- Three out of every ten (33.1%) households with individuals who have mobility challenges indicated that their housing units were safe. However, very few housing units with persons with disability had the special aids like grab bars (2.8%) and visual or audio smoke alarms (0.0%) which are key to those with mobility and visual challenges.
- Low income was given as the main reason for inadequacy of housing by a majority of households (77.9%).
- Nationally, 53.7 per cent of the population owned a mobile phone while 64.9 per cent used a mobile phone regardless of the ownership status.
- Three in every eight of households (36.3%) had an internet connection (either mobile or fixed), and 8.8 per cent had computers.

## 3.1 Introduction

Demographic characteristics of a household provide a background for determining the socio-economic status of household members and provides the information necessary for development planning, and resource allocation. Understanding demographic shifts is also crucial for anticipating future housing market trends. This chapter presents details of various demographic and economic characteristics of the population and households with focus on the population size, age, sex, distribution, disability status, and access to ICT equipment. Additionally, it covers the economic activity status, and education levels of household members. These characteristics are then linked to the tenure status of the households.

Home owners in this context are defined as those households that reside in homes they own, regardless of how the property was acquired. Tenants are those who pay rent, either directly or indirectly, to their landlords.

## 3.2 Household Demographics

The 2023/24 KHS survey results indicate a population level of 51.5 million nationally. Figure 3.1 presents a population pyramid showing the age and sex structure of the population. The pyramid shows that the Kenyan population is predominantly youthful.

Table 3.1 shows a nearly balanced distribution by sex across all the ages. The population is heavily skewed towards the younger age groups, with the highest proportions observed in the 0-4 and 5-9 age brackets. This suggests a relatively high birth rate and a young population overall, which is typical for developing countries. As age increases, there is a notable decline in population numbers. There is a higher number of females than males in the older age groups reflecting a common trend seen globally where female life expectancy tends to be higher than male life expectancy.

*Figure 3.1: Kenya Population Pyramid, 2024*

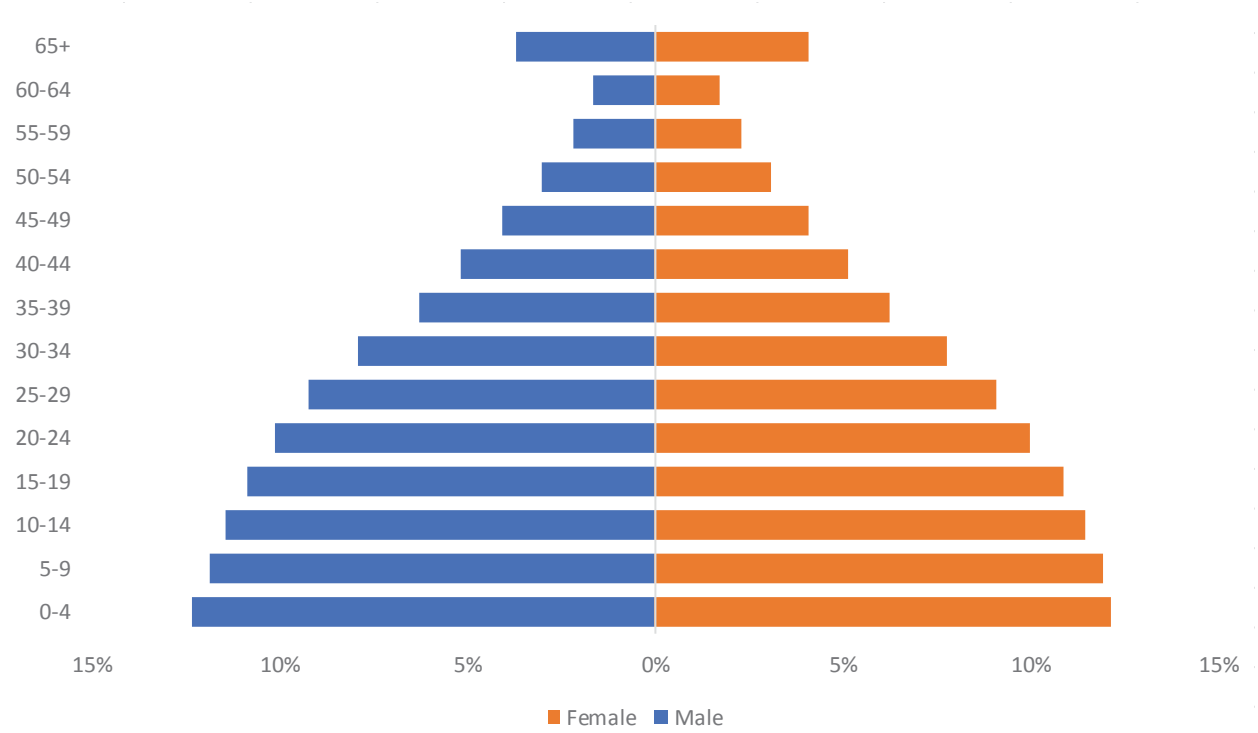



**Table 3.1: Population Distribution by Age Group and Sex**

| Age Group | Male | Female | Total |
|---|---|---|---|
| | Percentage | Percentage | |
| **0-4** | 49.9 | 50.1 | 6,311,965 |
| **5-9** | 49.4 | 50.6 | 6,146,835 |
| **10-14** | 49.5 | 50.5 | 5,915,717 |
| **15-19** | 49.6 | 50.4 | 5,604,147 |
| **20-24** | 49.9 | 50.1 | 5,177,420 |
| **25-29** | 50.0 | 50.0 | 4,714,586 |
| **30-34** | 50.0 | 50.0 | 4,047,955 |
| **35-39** | 49.8 | 50.2 | 3,228,026 |
| **40-44** | 49.6 | 50.4 | 2,660,101 |
| **45-49** | 49.5 | 50.5 | 2,115,586 |
| **50-54** | 49.1 | 50.9 | 1,567,750 |
| **55-59** | 48.6 | 51.4 | 1,155,716 |
| **60-64** | 48.3 | 51.7 | 869,026 |
| **65+** | 46.8 | 53.2 | 2,010,755 |
| **Total** | **49.5** | **50.5** | **51,525,585** |

## 3.3. Population Distribution by Residence and Sex

The survey results indicate a nearly even distribution of the population by sex and residency as indicated in Table 3.2. The proportion of females is slightly higher than that of males nationally and in rural areas (50.5% vs 49.5%) as well as in urban areas (50.4% vs 49.6%).

### Table 3.2: Population Distribution by Residence, County and Sex, 2024

| | Male | Female | Total |
|---|---|---|---|
| | % | % | No. |
| **Kenya** | **49.5** | **50.5** | **51,525,585** |
| Rural | 49.5 | 50.5 | 35,150,632 |
| Urban | 49.6 | 50.4 | 16,374,954 |
| **County** | | | |
| Mombasa | 49.8 | 50.2 | 1,311,860 |
| Kwale | 49.6 | 50.4 | 944,464 |
| Kilifi | 49.7 | 50.3 | 1,577,335 |
| Tana River | 49.4 | 50.6 | 352,549 |
| Lamu | 49.9 | 50.1 | 167,332 |
| Taita-Taveta | 49.3 | 50.7 | 363,990 |
| Garissa | 49.5 | 50.5 | 927,031 |
| Wajir | 49.6 | 50.4 | 870,636 |
| Mandera | 49.0 | 51.0 | 959,236 |
| Marsabit | 49.7 | 50.3 | 515,292 |
| Isiolo | 48.9 | 51.1 | 315,937 |
| Meru | 49.7 | 50.3 | 1,625,982 |
| Tharaka-Nithi | 49.1 | 50.9 | 416,383 |
| Embu | 49.4 | 50.6 | 648,425 |
| Kitui | 49.0 | 51.0 | 1,229,790 |
| Machakos | 49.5 | 50.5 | 1,487,758 |
| Makueni | 49.2 | 50.8 | 1,042,300 |
| Nyandarua | 49.2 | 50.8 | 695,531 |
| Nyeri | 49.0 | 51.0 | 835,408 |
| Kirinyaga | 48.8 | 51.2 | 653,112 |
| Murang'a | 49.1 | 50.9 | 1,112,288 |
| Kiambu | 49.6 | 50.4 | 2,652,880 |
| Turkana | 49.4 | 50.6 | 1,022,773 |
| West Pokot | 49.3 | 50.7 | 676,326 |
| Samburu | 49.5 | 50.5 | 348,298 |
| Trans Nzoia | 49.8 | 50.2 | 1,069,039 |
| Uasin Gishu | 49.6 | 50.4 | 1,257,330 |
| Elgeyo-Marakwet | 49.6 | 50.4 | 495,239 |
| Nandi | 49.0 | 51.0 | 951,460 |
| Baringo | 49.3 | 50.7 | 733,333 |
| Laikipia | 48.3 | 51.7 | 561,223 |
| Nakuru | 49.6 | 50.4 | 2,347,849 |
| Narok | 49.4 | 50.6 | 1,284,204 |
| Kajiado | 49.7 | 50.3 | 1,268,261 |
| Kericho | 49.3 | 50.7 | 954,896 |
| Bomet | 49.1 | 50.9 | 939,761 |
| Kakamega | 50.1 | 49.9 | 2,002,435 |
| Vihiga | 48.6 | 51.4 | 625,765 |
| Bungoma | 50.4 | 49.6 | 1,786,973 |
| Busia | 49.4 | 50.6 | 968,763 |
| Siaya | 50.5 | 49.5 | 1,059,458 |
| Kisumu | 49.7 | 50.3 | 1,248,474 |
| Homabay | 49.1 | 50.9 | 1,231,659 |
| Migori | 49.2 | 50.8 | 1,234,082 |
| Kisii | 49.6 | 50.4 | 1,344,907 |
| Nyamira | 48.4 | 51.6 | 657,502 |
| Nairobi City | 50.0 | 50.0 | 4,750,056 |

## 3.4. Marital Status of Household Heads

The highest proportion of the household heads aged 15 years and above were those who are married/ living together-monogamous (60.0%), widow/ widowers, (14.3%), and never married (12.9%) as shown in Figure 3.2.

Of the Household heads who were married/living together-polygamous and married/living together-monogamous 84.8 Per cent and 62.9 per cent were rural residents respectively. Of those who had never married, 69.2 per cent were urban residents, while 80.9 per cent of widows/widowers were rural residents.

*Figure 3.2: Marital Status of Household Heads*

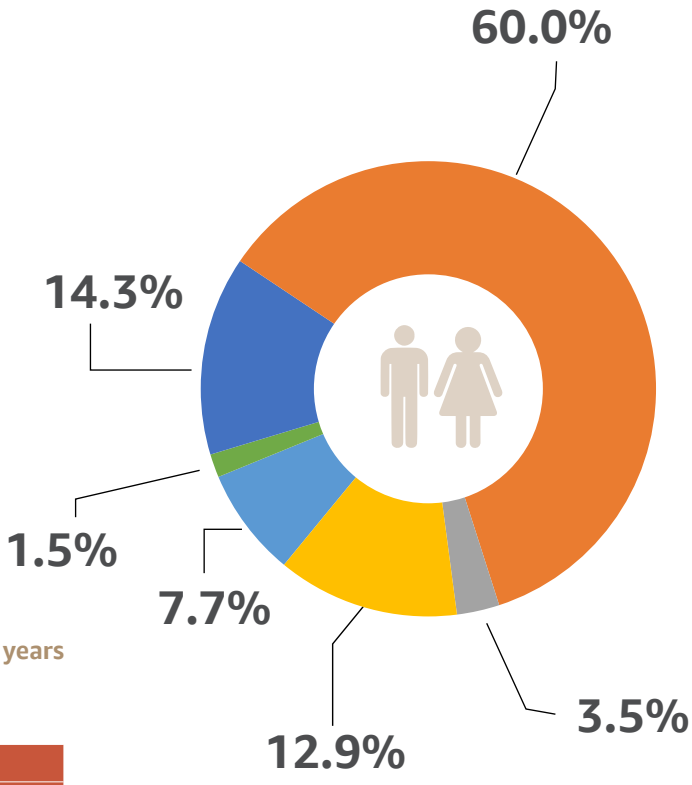



**Table 3.3: Marital Status of Household Heads aged 15 years and above by Sex and Residency**

| | Sex | | |
|---|---|---|---|
| **Marital status** | **Male** | **Female** | **Total** |
| | **%** | **%** | **No.** |
| Married/Living Together - Monogamous | 88.3 | 11.7 | 8,327,918 |
| Married/Living Together - Polygamous | 69.4 | 30.6 | 492,093 |
| Separated | 44.4 | 55.6 | 1,071,279 |
| Divorced | 33.8 | 66.2 | 212,008 |
| Widow or Widower | 14.4 | 85.6 | 1,986,842 |
| Never married | 53.0 | 47.0 | 1,794,193 |
| **Total** | **68.3** | **31.7** | **13,884,333** |
| | **Residency** | | |
| | **Rural** | **Urban** | **Total** |
| | **%** | **%** | **No.** |
| Married/Living Together - Monogamous | 62.9 | 37.1 | 8,327,918 |
| Married/Living Together - Polygamous | 84.8 | 15.2 | 492,093 |
| Separated | 54.1 | 45.9 | 1,071,279 |
| Divorced | 57.0 | 43.0 | 212,008 |
| Widow or Widower | 80.9 | 19.1 | 1,986,842 |
| Never married | 30.8 | 69.2 | 1,794,193 |
| **Total** | **61.4** | **38.6** | **13,884,333** |

**Understanding demographic shifts is crucial for anticipating future housing market trends.**

## 3.5. Dependency Ratios

Dependency ratio, also referred to as total dependency ratio, is the measure of the number of dependents aged 0-14 years and the older population aged 65 years and above, relative to the working age population 15-64 years. This ratio typically indicates the number of dependents (both young and old) per 100 working-age individuals. Child dependency is the number of children (0-14 years) per 100 working population (15-64 years).

The total dependency ratio was 65.5 per cent with a child dependency ratio of 59.0 per cent and an old age dependency ratio of 6.5 per cent. There was a clear distinction between urban (lower dependency ratios) and rural areas (higher dependency ratios) as shown in Table 3.4.

**Table 3.4: Dependency Ratios by Type and Residence**

| Residence | Total Dependency | Child Dependency | Old Age Dependency |
|---|---|---|---|
| **Kenya** | **65.5** | **59.0** | **6.5** |
| Rural | 72.8 | 64.6 | 8.3 |
| Urban | 51.6 | 48.5 | 3.0 |

## 3.6 Household Distribution

The number of households gives an indication of the number of housing units required to serve the population. The results in Table 3.5 shows that there were more households in rural areas (61.4 %) than in urban areas (38.6%). Besides Nairobi and Mombasa, which are entirely urban, Kiambu, Kajiado, and Nakuru had higher proportions of households in urban areas at 73.8, 66.0, and 54.9 per cent, respectively, relative to the rural areas. In contrast Bomet, Elgeyo Marakwet, and Kitui had relatively high proportions of households in rural areas at 95.0, 93.8, and 92.7 per cent, respectively.

Table 3.6 shows the proportion of home owners and tenants by residence presented by different categories of housing tenure. Nationally, 61.3 per cent of the households were home owners, while 33.4 per cent paid rent/lease. Analysis by residence showed that rural areas had higher rates of home ownership (85.5%) compared to urban areas (22.8%). Conversely, urban areas had a higher proportion of households paying rent/leasing (72.3%) than rural areas (8.9%).

**61.4%**

The No. of households in rural areas.

**Table 3.5: Percentage Distribution of Households by County and Residence**

| | Rural | Urban | Total |
|---|---|---|---|
| | % | % | Number |
| **Kenya** | **61.4** | **38.6** | **13,886,126** |
| **County** | | | |
| Mombasa | 0.0 | 100.0 | 405,415 |
| Kwale | 78.6 | 21.4 | 183,739 |
| Kilifi | 62.2 | 37.8 | 407,221 |
| Tana River | 70.5 | 29.5 | 74,962 |
| Lamu | 69.9 | 30.1 | 40,543 |
| Taita-Taveta | 68.8 | 31.2 | 108,463 |
| Garissa | 73.4 | 26.6 | 180,468 |
| Wajir | 76.4 | 23.6 | 152,058 |
| Mandera | 68.4 | 31.6 | 167,096 |
| Marsabit | 73.6 | 26.4 | 87,421 |
| Isiolo | 47.6 | 52.4 | 63,947 |
| Meru | 88.1 | 11.9 | 463,535 |
| Tharaka-Nithi | 89.2 | 10.8 | 120,886 |
| Embu | 84.6 | 15.4 | 199,046 |
| Kitui | 92.7 | 7.3 | 275,514 |
| Machakos | 64.3 | 35.7 | 430,469 |
| Makueni | 89.0 | 11.0 | 257,105 |
| Nyandarua | 87.0 | 13.0 | 198,250 |
| Nyeri | 77.3 | 22.7 | 270,743 |
| Kirinyaga | 75.8 | 24.2 | 217,216 |
| Murang'a | 86.9 | 13.1 | 385,599 |
| Kiambu | 26.2 | 73.8 | 997,101 |
| Turkana | 81.6 | 18.4 | 219,588 |
| West Pokot | 92.6 | 7.4 | 183,115 |
| Samburu | 80.5 | 19.5 | 95,708 |
| Trans Nzoia | 77.8 | 22.2 | 266,538 |
| Uasin Gishu | 46.5 | 53.5 | 351,899 |
| Elgeyo-Marakwet | 93.8 | 6.2 | 110,356 |
| Nandi | 90.7 | 9.3 | 226,515 |
| Baringo | 84.1 | 15.9 | 157,303 |
| Laikipia | 70.7 | 29.3 | 154,631 |
| Nakuru | 45.1 | 54.9 | 673,026 |
| Narok | 86.6 | 13.4 | 263,863 |
| Kajiado | 34.0 | 66.0 | 371,234 |
| Kericho | 85.0 | 15.0 | 233,615 |
| Bomet | 95.0 | 5.0 | 219,222 |
| Kakamega | 87.4 | 12.6 | 484,205 |
| Vihiga | 88.9 | 11.1 | 160,520 |
| Bungoma | 85.9 | 14.1 | 470,168 |
| Busia | 84.5 | 15.5 | 216,855 |
| Siaya | 90.0 | 10.0 | 247,647 |
| Kisumu | 56.9 | 43.1 | 338,619 |
| Homabay | 88.0 | 12.0 | 270,043 |
| Migori | 82.0 | 18.0 | 267,547 |
| Kisii | 85.1 | 14.9 | 371,985 |
| Nyamira | 90.8 | 9.2 | 183,594 |
| Nairobi City | 0.0 | 100.0 | 1,661,533 |

The proportion of home ownership in rural areas was highest in Isiolo (98.0%), Marsabit (97.5%), and Baringo (96.9%), while in urban areas home ownership was highest in Wajir at 87.0 per cent. The proportion of Squatters was highest in Mandera (14.0%), Lamu (9.0%), and Garissa (6.2%). Proportion of tenants who did not pay rent with the consent of owners was highest in Lamu (19.3%), Mandera (18.9%), and Nyandarua (12.0%).

**61.3%**
The percentage of the households that were home owners.

**33.4%**
The percentage of household that paid rent/ leased.

**85.5%**
The percentage of rural areas had higher rates of home ownership compared to urban areas (22.8%).

**72.3%**
The percentage of urban areas had a higher proportion of households paying rent/leasing than rural areas (8.9%).

**5,366,201**
The number of households in urban areas

## Table 3.6: Distribution of Households by Tenureship Status, County and Residence

| | Owns | | | Pays Rent/Lease | | | No Rent with Consent of Owner | | | No Rent, Squatting | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Rural | Urban | Total | Rural | Urban | Total | Rural | Urban | Total | Rural | Urban | Number | Rural | Urban |
| **Kenya** | **61.3** | **85.5** | **22.8** | **33.4** | **8.9** | **72.3** | **4.6** | **4.6** | **4.4** | **0.8** | **1.0** | **0.4** | **13,886,126** | **8,519,926** | **5,366,201** |
| **County** | | | | | | | | | | | | | | | |
| Mombasa | 23.5 | 0.0 | 23.5 | 71.8 | 0.0 | 71.8 | 4.5 | 0.0 | 4.5 | 0.2 | 0.0 | 0.2 | 405,415 | 0.0 | 405,415 |
| Kwale | 72.3 | 79.6 | 45.5 | 19.9 | 11.5 | 51.0 | 7.8 | 8.9 | 3.5 | 0.0 | 0.0 | 0.0 | 183,739 | 144,491 | 39,248 |
| Kilifi | 68.7 | 89.8 | 33.9 | 24.3 | 2.8 | 59.6 | 6.4 | 6.4 | 6.5 | 0.6 | 1.0 | 0.0 | 407,221 | 253,356 | 153,865 |
| Tana River | 70.2 | 82.4 | 41.3 | 22.5 | 9.9 | 52.6 | 6.9 | 7.3 | 5.8 | 0.4 | 0.4 | 0.3 | 74,962 | 52,849 | 22,113 |
| Lamu | 44.2 | 51.9 | 26.3 | 27.6 | 13.2 | 60.8 | 19.3 | 22.1 | 12.9 | 9.0 | 12.8 | 0.0 | 40,543 | 28,324 | 12,219 |
| Taita-Taveta | 60.2 | 70.6 | 37.3 | 28.0 | 17.7 | 50.9 | 11.8 | 11.7 | 11.8 | 0.0 | 0.0 | 0.0 | 108,463 | 74,647 | 33,816 |
| Garissa | 73.7 | 82.0 | 50.8 | 11.5 | 0.7 | 41.5 | 8.5 | 9.1 | 7.1 | 6.2 | 8.2 | 0.6 | 180,468 | 132,499 | 47,970 |
| Wajir | 89.3 | 90.1 | 87.0 | 1.7 | 0.3 | 6.0 | 8.9 | 9.6 | 6.7 | 0.1 | 0.0 | 0.3 | 152,058 | 116,110 | 35,948 |
| Mandera | 61.0 | 62.7 | 57.4 | 6.1 | 1.6 | 15.7 | 18.9 | 19.7 | 17.2 | 14.0 | 15.9 | 9.7 | 167,096 | 114,212 | 52,884 |
| Marsabit | 86.6 | 97.5 | 56.0 | 7.0 | 0.9 | 23.8 | 6.5 | 1.5 | 20.3 | 0.0 | 0.0 | 0.0 | 87,421 | 64,361 | 23,060 |
| Isiolo | 72.8 | 98.0 | 49.9 | 23.3 | 0.0 | 44.5 | 3.4 | 0.9 | 5.6 | 0.5 | 1.1 | 0.0 | 63,947 | 30,465 | 33,482 |
| Meru | 77.2 | 83.4 | 31.3 | 20.7 | 14.8 | 64.3 | 1.7 | 1.4 | 3.7 | 0.4 | 0.4 | 0.8 | 463,535 | 408,180 | 55,354 |
| Tharaka-Nithi | 80.9 | 86.1 | 38.0 | 18.6 | 13.5 | 60.1 | 0.6 | 0.4 | 1.9 | 0.0 | 0.0 | 0.0 | 120,886 | 107,816 | 13,070 |
| Embu | 78.9 | 90.2 | 16.7 | 19.7 | 8.3 | 81.7 | 0.8 | 0.7 | 1.6 | 0.6 | 0.7 | 0.0 | 199,046 | 168,359 | 30,687 |
| Kitui | 66.1 | 71.0 | 4.6 | 28.7 | 23.7 | 91.9 | 5.3 | 5.4 | 3.5 | 0.0 | 0.0 | 0.0 | 275,514 | 255,301 | 20,213 |
| Machakos | 69.0 | 93.5 | 24.9 | 26.9 | 2.8 | 70.4 | 3.9 | 3.5 | 4.8 | 0.2 | 0.3 | 0.0 | 430,469 | 276,728 | 153,741 |
| Makueni | 85.4 | 95.0 | 8.6 | 11.7 | 2.2 | 89.0 | 2.8 | 2.9 | 2.4 | 0.0 | 0.0 | 0.0 | 257,105 | 228,731 | 28,374 |
| Nyandarua | 62.8 | 69.0 | 21.3 | 25.2 | 18.0 | 73.7 | 12.0 | 13.0 | 5.0 | 0.0 | 0.0 | 0.0 | 198,250 | 172,422 | 25,827 |
| Nyeri | 56.2 | 68.5 | 14.3 | 32.7 | 19.0 | 79.4 | 11.1 | 12.5 | 6.3 | 0.0 | 0.0 | 0.0 | 270,743 | 209,337 | 61,407 |
| Kirinyaga | 71.5 | 85.7 | 27.1 | 22.7 | 7.7 | 69.6 | 5.8 | 6.6 | 3.3 | 0.0 | 0.0 | 0.0 | 217,216 | 164,590 | 52,626 |
| Murang'a | 77.8 | 80.6 | 58.7 | 18.0 | 14.8 | 39.7 | 4.2 | 4.6 | 1.6 | 0.0 | 0.0 | 0.0 | 385,599 | 335,245 | 50,354 |
| Kiambu | 44.8 | 68.1 | 36.5 | 46.6 | 18.8 | 56.5 | 7.5 | 8.9 | 7.0 | 1.1 | 4.2 | 0.0 | 997,101 | 261,215 | 735,886 |
| Turkana | 86.7 | 92.1 | 62.9 | 6.5 | 1.1 | 30.1 | 6.1 | 6.0 | 6.9 | 0.7 | 0.9 | 0.0 | 219,588 | 179,087 | 40,501 |
| West Pokot | 90.1 | 95.4 | 24.8 | 8.8 | 3.6 | 73.9 | 0.3 | 0.2 | 1.4 | 0.8 | 0.8 | 0.0 | 183,115 | 169,519 | 13,595 |
| Samburu | 74.5 | 86.1 | 27.0 | 23.2 | 12.0 | 69.4 | 2.0 | 1.6 | 3.6 | 0.3 | 0.4 | 0.0 | 95,708 | 77,010 | 18,698 |
| Trans Nzoia | 67.8 | 79.7 | 26.0 | 27.5 | 15.5 | 69.9 | 4.6 | 4.9 | 3.5 | 0.1 | 0.0 | 0.5 | 266,538 | 207,482 | 59,056 |
| Uasin Gishu | 49.8 | 87.6 | 17.0 | 47.2 | 7.5 | 81.7 | 2.9 | 4.8 | 1.2 | 0.1 | 0.0 | 0.2 | 351,899 | 163,563 | 188,336 |
| Elgeyo-Marakwet | 85.0 | 89.1 | 22.5 | 12.8 | 8.7 | 75.2 | 2.1 | 2.1 | 1.6 | 0.0 | 0.0 | 0.7 | 110,356 | 103,569 | 6,787 |
| Nandi | 77.6 | 82.4 | 30.7 | 13.5 | 8.1 | 65.5 | 9.0 | 9.5 | 3.8 | 0.0 | 0.0 | 0.0 | 226,515 | 205,427 | 21,088 |
| Baringo | 86.0 | 96.9 | 28.5 | 12.1 | 1.4 | 68.8 | 1.6 | 1.4 | 2.8 | 0.3 | 0.3 | 0.0 | 157,303 | 132,342 | 24,961 |

Table 3.6: Distribution of Households by Tenureship Status, County and Residence (Continued)

| | Owns | | | Pays Rent/Lease | | | No Rent with Consent ff Owner | | | No Rent, Squatting | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Rural | Urban | Total | Rural | Urban | Total | Rural | Urban | Total | Rural | Urban | Number | Rural | Urban |
| Laikipia | 52.5 | 64.7 | 23.0 | 34.5 | 18.2 | 73.7 | 10.1 | 12.9 | 3.3 | 2.9 | 4.2 | 0.0 | 154,631 | 109,279 | 45,351 |
| Nakuru | 51.6 | 83.7 | 25.3 | 44.3 | 10.7 | 71.9 | 3.5 | 4.7 | 2.6 | 0.5 | 0.9 | 0.2 | 673,026 | 303,230 | 369,795 |
| Narok | 71.7 | 82.1 | 4.4 | 22.9 | 12.2 | 92.1 | 4.1 | 4.2 | 3.5 | 1.3 | 1.5 | 0.0 | 263,863 | 228,600 | 35,263 |
| Kajiado | 41.1 | 83.4 | 19.3 | 53.0 | 12.2 | 74.0 | 5.5 | 3.9 | 6.4 | 0.4 | 0.4 | 0.4 | 371,234 | 126,274 | 244,960 |
| Kericho | 82.6 | 94.8 | 13.5 | 15.8 | 3.7 | 84.9 | 1.0 | 0.9 | 1.6 | 0.5 | 0.6 | 0.0 | 233,615 | 198,666 | 34,949 |
| Bomet | 87.4 | 91.0 | 20.3 | 6.3 | 2.9 | 69.8 | 1.9 | 1.8 | 3.8 | 4.4 | 4.3 | 6.1 | 219,222 | 208,282 | 10,940 |
| Kakamega | 78.9 | 87.3 | 20.9 | 16.4 | 7.8 | 75.5 | 4.1 | 4.2 | 3.0 | 0.7 | 0.7 | 0.6 | 484,205 | 422,956 | 61,248 |
| Vihiga | 92.5 | 95.8 | 65.9 | 7.0 | 3.8 | 32.4 | 0.5 | 0.4 | 1.6 | 0.0 | 0.0 | 0.0 | 160,520 | 142,719 | 17,800 |
| Bungoma | 79.2 | 84.9 | 44.6 | 17.7 | 12.4 | 50.1 | 3.0 | 2.7 | 4.7 | 0.1 | 0.0 | 0.6 | 470,168 | 403,710 | 66,458 |
| Busia | 81.9 | 91.5 | 29.3 | 14.8 | 5.7 | 64.3 | 3.3 | 2.8 | 6.4 | 0.0 | 0.0 | 0.0 | 216,855 | 183,163 | 33,692 |
| Siaya | 84.8 | 92.5 | 16.0 | 12.0 | 4.7 | 78.2 | 2.3 | 2.0 | 5.3 | 0.8 | 0.8 | 0.5 | 247,647 | 222,889 | 24,758 |
| Kisumu | 62.8 | 92.4 | 23.8 | 32.6 | 2.3 | 72.6 | 3.6 | 3.6 | 3.6 | 1.0 | 1.7 | 0.0 | 338,619 | 192,568 | 146,051 |
| Homabay | 85.1 | 94.3 | 17.4 | 12.3 | 4.4 | 70.9 | 1.5 | 1.0 | 5.2 | 1.1 | 0.3 | 6.5 | 270,043 | 237,766 | 32,277 |
| Migori | 82.3 | 94.7 | 26.0 | 16.3 | 4.2 | 71.5 | 1.4 | 1.1 | 2.4 | 0.0 | 0.0 | 0.0 | 267,547 | 219,503 | 48,044 |
| Kisii | 81.2 | 92.1 | 19.2 | 16.9 | 6.4 | 76.5 | 1.2 | 0.8 | 3.1 | 0.7 | 0.7 | 1.2 | 371,985 | 316,452 | 55,533 |
| Nyamira | 84.6 | 88.0 | 52.1 | 8.4 | 5.1 | 41.3 | 5.9 | 5.9 | 5.9 | 1.0 | 1.0 | 0.7 | 183,594 | 166,629 | 16,965 |
| Nairobi City | 7.7 | 0.0 | 7.7 | 88.8 | 0.0 | 88.8 | 3.1 | 0.0 | 3.1 | 0.5 | 0.0 | 0.5 | 1,661,533 | 0.0 | 1,661,533 |

## 3.7 Household Size

Household size influences the demand for housing and the sizes of the units. As household size increases, the demand for larger space increases. Household size membership varied from 1-2 persons to 11+ members. The most common household size membership as shown in Table 3.7 had 1-2 persons (34.1%) and 3-4 persons (33.5%). Urban areas had a higher percentage of households with 1-2 persons (43.7%) and "3-4 persons" (35.9%) compared to rural areas with 28.0 per cent and 32.1 per cent, respectively. Larger household size membership of 5-6 persons and 7-8 persons were more common in rural areas.

The proportion of households with 1-2 members was highest in Nyeri (55.4%), Laikipia (46.8%), and Kiambu (46.7%). Elgeyo-Marakwet (12.3%), Garissa (9.9%), and West Pokot (9.0%) had the highest proportion of household size with 9+ members.

Table 3.7: Percentage Distribution of Household Sizes by Residence and Counties.

| Residence | HouseHold Size | | | | | |
|---|---|---|---|---|---|---|
| | 1-2 persons | 3-4 persons | 5-6 persons | 7-8 persons | 9-10 persons | 11+ persons |
| **Kenya** | **34.1** | **33.5** | **22.1** | **7.7** | **1.9** | **0.6** |
| Rural | 28.0 | 32.1 | 26.3 | 10.1 | 2.6 | 0.9 |
| Urban | 43.7 | 35.9 | 15.5 | 3.8 | 0.8 | 0.3 |
| **County** | | | | | | |
| Mombasa | 39.9 | 35.6 | 16.2 | 6.3 | 1.1 | 0.9 |
| Kwale | 28.4 | 32.5 | 21.7 | 11.4 | 3.5 | 2.5 |
| Kilifi | 39.7 | 28.2 | 19.4 | 8.6 | 2.5 | 1.7 |
| Tana River | 21.0 | 30.5 | 29.1 | 14.9 | 3.4 | 1.0 |
| Lamu | 38.4 | 35.3 | 21.0 | 3.5 | 1.3 | 0.5 |
| Taita-Taveta | 45.3 | 27.1 | 18.1 | 7.4 | 1.4 | 0.7 |
| Garissa | 27.1 | 28.6 | 22.5 | 11.9 | 5.0 | 4.9 |
| Wajir | 15.2 | 39.5 | 32.2 | 10.8 | 2.0 | 0.4 |
| Mandera | 10.0 | 21.8 | 33.5 | 26.3 | 7.1 | 1.4 |
| Marsabit | 11.1 | 26.1 | 32.2 | 22.8 | 6.1 | 1.7 |
| Isiolo | 13.9 | 25.4 | 32.9 | 19.6 | 6.2 | 2.0 |
| Meru | 33.1 | 36.5 | 25.1 | 4.3 | 1.0 | 0.0 |
| Tharaka-Nithi | 35.5 | 38.7 | 20.1 | 4.9 | 0.2 | 0.6 |
| Embu | 39.2 | 41.9 | 15.6 | 2.8 | 0.3 | 0.3 |
| Kitui | 39.5 | 29.7 | 20.2 | 8.0 | 2.0 | 0.6 |
| Machakos | 38.5 | 38.0 | 19.5 | 3.1 | 0.7 | 0.2 |
| Makueni | 36.7 | 37.3 | 20.3 | 4.1 | 1.3 | 0.4 |
| Nyandarua | 39.1 | 33.3 | 22.4 | 4.9 | 0.4 | 0.0 |
| Nyeri | 55.4 | 29.2 | 14.4 | 0.3 | 0.7 | 0.0 |
| Kirinyaga | 46.5 | 36.3 | 15.2 | 1.2 | 0.7 | 0.0 |
| Murang'a | 40.6 | 33.7 | 18.3 | 6.4 | 0.1 | 0.9 |
| Kiambu | 46.7 | 32.1 | 17.1 | 2.4 | 1.7 | 0.0 |
| Turkana | 16.8 | 24.8 | 30.3 | 19.7 | 6.6 | 1.8 |
| West Pokot | 16.6 | 26.6 | 33.1 | 14.8 | 6.3 | 2.7 |
| Samburu | 16.2 | 28.4 | 33.7 | 16.5 | 4.6 | 0.6 |
| Trans Nzoia | 20.6 | 40.0 | 25.5 | 11.6 | 2.3 | 0.0 |
| Uasin Gishu | 39.2 | 32.5 | 20.8 | 5.5 | 1.8 | 0.2 |
| Elgeyo-Marakwet | 20.9 | 25.5 | 30.1 | 11.2 | 8.4 | 3.9 |
| Nandi | 28.7 | 29.5 | 30.5 | 9.1 | 1.8 | 0.4 |
| Baringo | 17.1 | 28.4 | 30.0 | 16.3 | 3.7 | 4.5 |
| Laikipia | 46.8 | 29.1 | 19.4 | 4.1 | 0.6 | 0.0 |
| Nakuru | 35.0 | 35.4 | 22.2 | 5.7 | 1.3 | 0.4 |
| Narok | 19.1 | 33.9 | 28.6 | 14.3 | 3.2 | 0.8 |
| Kajiado | 41.2 | 45.3 | 12.0 | 1.2 | 0.2 | 0.2 |
| Kericho | 27.1 | 25.6 | 30.3 | 11.6 | 5.1 | 0.3 |
| Bomet | 24.3 | 29.0 | 27.1 | 15.7 | 3.6 | 0.4 |
| Kakamega | 37.6 | 32.1 | 23.0 | 6.1 | 1.1 | 0.0 |
| Vihiga | 35.7 | 32.5 | 23.1 | 7.2 | 1.1 | 0.4 |
| Bungoma | 25.6 | 34.3 | 29.2 | 9.3 | 1.2 | 0.3 |
| Busia | 24.5 | 31.2 | 27.6 | 11.8 | 3.3 | 1.6 |
| Siaya | 26.4 | 30.1 | 26.1 | 13.0 | 3.1 | 1.3 |
| Kisumu | 33.5 | 36.2 | 20.5 | 8.3 | 0.8 | 0.7 |
| Homabay | 20.0 | 26.4 | 32.8 | 15.4 | 4.6 | 0.9 |
| Migori | 20.7 | 23 | 32.7 | 18.0 | 4.3 | 1.3 |
| Kisii | 30.0 | 34.9 | 23.2 | 9.6 | 1.9 | 0.2 |
| Nyamira | 30.0 | 29.5 | 30.0 | 7.8 | 2.6 | 0.1 |
| Nairobi City | 41.7 | 40.0 | 14.8 | 3.3 | 0.2 | 0.1 |

An analysis of the household sizes and their tenureship status, as shown in Table 3.8, reveals that households with 3-4 persons (32.5%) had the highest proportion of home ownership followed by 5-6 persons households (28.1%) and 1-2 persons households (24.4%). Households with 1-2 persons (48.3%) were the highest proportion of renters followed by 3-4 persons households (37.2%) and 5-6 persons households (12.0%).

**Table 3.8: Proportions of Household Size by Tenureship Status**

| HH size categories | Owns | Pays Rent/ Lease | No Rent with Consent of Owner | No Rent, Squatting |
|---|---|---|---|---|
| 1-2 persons | 24.4 | 48.3 | 58.8 | 41.5 |
| 3-4 persons | 32.5 | 37.2 | 22.3 | 21.7 |
| 5-6 persons | 28.1 | 12.0 | 14.7 | 27.9 |
| 7-8 persons | 11.0 | 2.2 | 3.4 | 8.6 |
| 9-10 persons | 3.0 | 0.2 | 0.6 | 0.3 |
| 11+ persons | 1.0 | 0.1 | 0.2 | 0 |
| **Total** | **8,503,898** | **4,635,229** | **637,765** | **109,234** |

## 3.8 Education

Information on the education history of all household members aged 3 years and above was collected during the 2023/24 Kenya Housing Survey. The information included; school attendance status, highest grade/year of education currently attending, and the highest grade/ year of education completed.

Figure 3.2 shows the percentage distribution of population age 3 years and above by level of education completed. Overall, 19.7 per cent of the household members had not attained any level of education, 37.6 per cent had primary education, 26.4 per cent had secondary education, and 4.7 per cent had University education. Analysis by residence shows that 21.6 per cent of rural residents had no education compared to 15.7 per cent of urban residents.

*Figure 3.3 Distribution of Population by Level of Education Completed*

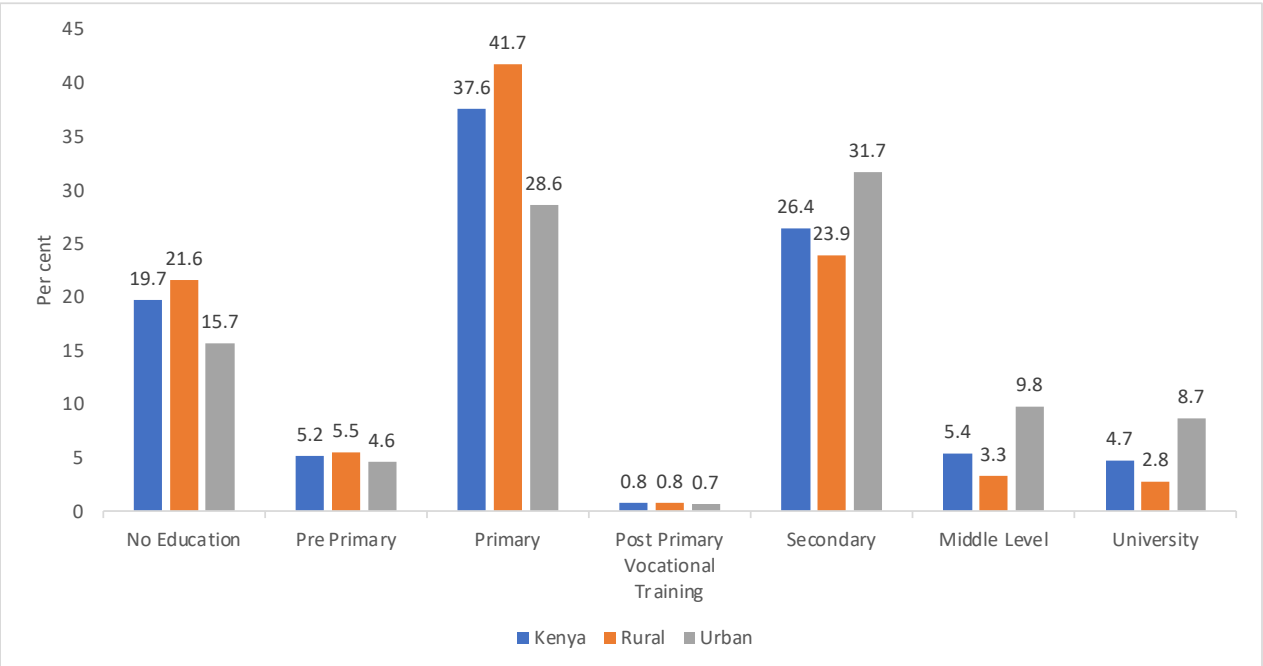
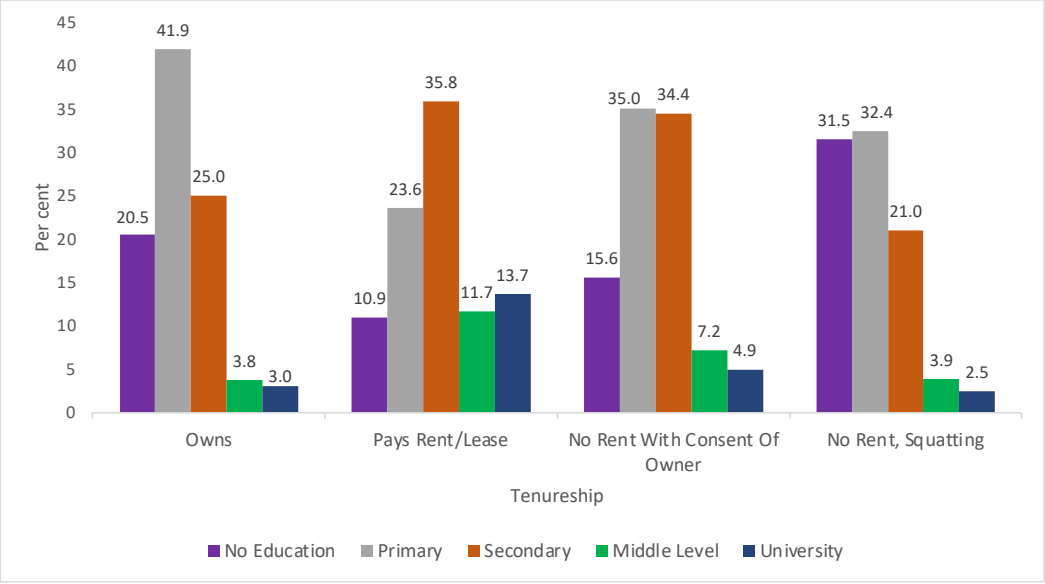


Figure 3.3 shows the proportion of household heads by their level of education attained and tenureship status of their dwelling units. Four out of every ten home owners (41.9%) had primary level education, while 20.5 per cent had no education. Among the tenants paying rent/ leasing, 35.8 per cent had secondary education, 23.6 per cent had primary education, and 13.7 per cent had university education. The highest proportion of tenants who don't pay rent with the owner's consent, as well as squatters had only attained primary level education.

*Figure 3.4: Distribution of Tenureship Status by Level of Education Completed*




## 3.9 Economic Activity Status of Household Members

The economic activity status of household members determines their financial capability and housing affordability. This section analyzes how the economic activity status of household heads relates with various housing dynamics. Information on economic activity status was collected for household members aged 5 years and above.

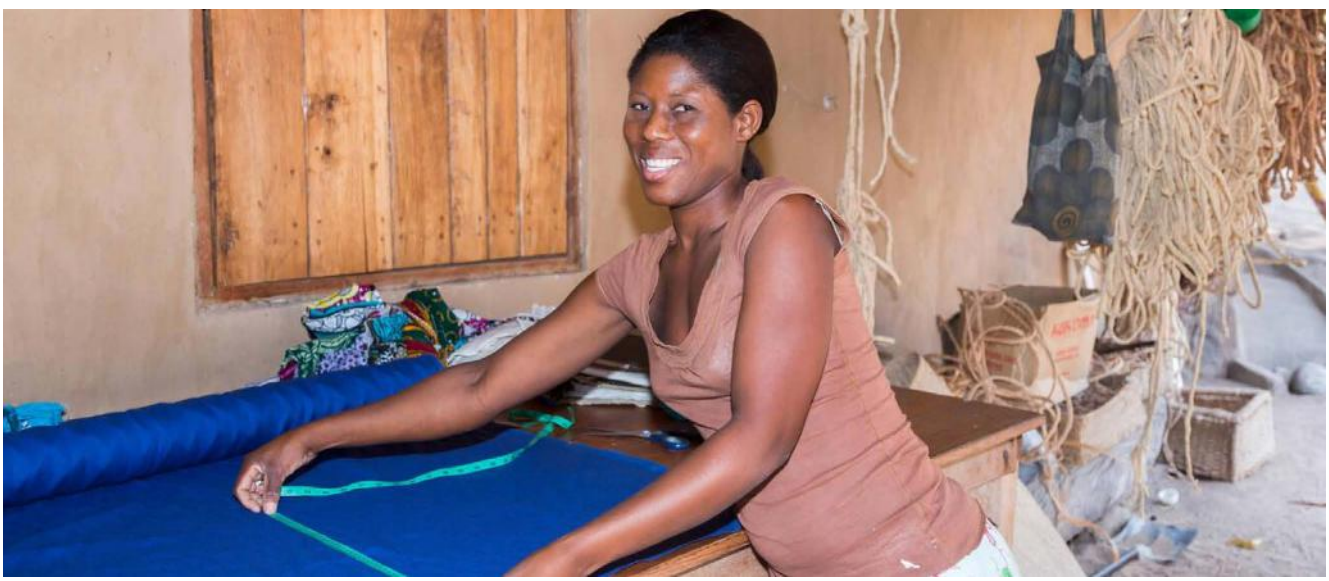
The active population consists of persons (15 years and above) who during the reference period were either employed or unemployed. Population outside the labour force refers to persons who are not involved in the labour market, that is, they are neither in employment nor are they unemployed.

### 3.9.1 Summary of Key Labour Market Indicators

Labour market indicators from the 2023/24 Kenya Housing Survey revealed notable disparities in employment and labour force participation across gender and residence. A large majority of the working-age population (15 to 64 years), which totaled over 31 million, were from rural areas, with nearly equal distribution between males and females. However, labour force participation was higher for males at 73.2 per cent compared to 62.2 per cent for females, and urban areas had a slightly higher participation rate of 69.4 per cent compared to 66.8 per cent in rural areas. The employment-to-population ratio was 61.6 per cent, with men more likely to be employed at 68.1 per cent compared to women at 55.1 per cent. Unemployment rates showed a contrast, with females reporting a higher rate of 11.5 per cent compared to 6.9 per cent for males, and urban areas experiencing a higher unemployment rate of 12.5 per cent compared to 7.2 per cent in rural areas. Additionally, the proportion of youth Not in Employment, Education, or Training (NEET) was 20.2 per cent, with females having a much higher NEET rate of 26.1 per cent compared to 14.3 per cent for males.

**Table 3.9a: Summary of Key Labour Market Indicators**

| Indicator | Total | Male | Female | Rural | Urban |
|---|---|---|---|---|---|
| Population (15-64) | 31,140,313 | 15,465,079 | 15,675,235 | 20,336,116 | 10,804,198 |
| Labour Force | 21,081,871 | 11,324,308 | 9,757,562 | 13,584,413 | 7,497,458 |
| Employed | 19,169,953 | 10,539,237 | 8,630,716 | 12,609,022 | 6,560,931 |
| Employment/Population Ratio (%) | 61.6 | 68.1 | 55.1 | 62.0 | 60.7 |
| Unemployed[1] | 1,911,918 | 785,071 | 1,126,846 | 975,391 | 936,527 |
| Unemployment Rate [LU1](%) | 9.1 | 6.9 | 11.5 | 7.2 | 12.5 |
| Not in Labor Force (Inactive) | 10,058,442 | 4,140,771 | 5,917,672 | 6,751,703 | 3,306,740 |
| Labour Force Participation (%) | 67.7 | 73.2 | 62.2 | 66.8 | 69.4 |
| Youth (15-34yrs) | 19,544,108 | 9,739,907 | 9,804,200 | 12,702,378 | 6,841,728 |
| Youth Not in Employment Education or Training (NEET) | 3,954,510 | 1,392,833 | 2,561,677 | 2,249,041 | 1,705,469 |
| NEET Rate | 20.2 | 14.3 | 26.1 | 17.7 | 24.9 |



As presented in Table 3.9b, the survey results reveal that the highest labour force participation rates were observed in the 45-49 cohort at 89.9 per cent, followed closely by the 40-44 age group at 89.2 per cent. The highest employment-to-population ratios were also found in these age groups, with 87.4 per cent for ages 45-49 and 86.1 per cent for ages 40-44. In contrast, the highest unemployment rate was recorded in the 20-24 age group at 22.4 per cent, highlighting significant challenges for younger job seekers. The middle-aged workforce displayed the highest levels of labour force engagement and employment stability, while younger cohorts reported lower employment rates.

**Table 3.9b: Distribution of Population 15-64 Years by Activity Status, Residence, Sex, and Age**

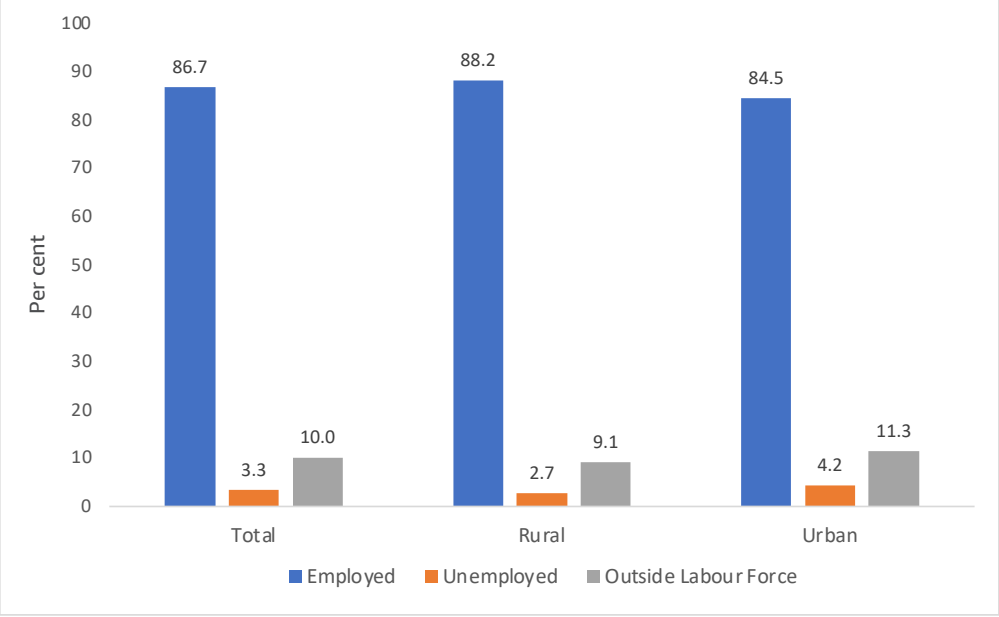
| Age | Employed | Unemployed | Not in Labour Force | Total | Labour Force Participation Rate | Employment to Population Ratio | Unemployment Rate |
|---|---|---|---|---|---|---|---|
| 15-19 | 886,805 | 158,976 | 4,558,365 | 5,604,147 | 18.7 | 15.8 | 15.2 |
| 20-24 | 2,117,154 | 610,535 | 2,449,732 | 5,177,420 | 52.7 | 40.9 | 22.4 |
| 25-29 | 3,183,464 | 547,772 | 983,349 | 4,714,586 | 79.1 | 67.5 | 14.7 |
| 30-34 | 3,199,851 | 256,878 | 591,226 | 4,047,955 | 85.4 | 79.0 | 7.4 |
| 35-39 | 2,710,648 | 128,079 | 389,299 | 3,228,026 | 87.9 | 84.0 | 4.5 |
| 40-44 | 2,291,574 | 81,311 | 287,216 | 2,660,101 | 89.2 | 86.1 | 3.4 |
| 45-49 | 1,848,444 | 52,540 | 214,603 | 2,115,586 | 89.9 | 87.4 | 2.8 |
| 50-54 | 1,313,818 | 39,380 | 214,553 | 1,567,750 | 86.3 | 83.8 | 2.9 |
| 55-59 | 958,386 | 27,403 | 169,927 | 1,155,716 | 85.3 | 82.9 | 2.8 |
| 60-64 | 659,810 | 9,043 | 200,172 | 869,026 | 77.0 | 75.9 | 1.4 |
| **Total** | **19,169,953** | **1,911,918** | **10,058,442** | **31,140,313** | **67.7** | **61.6** | **9.1** |
| **RURAL** | | | | | | | |
| 15-19 | 758,015 | 84,370 | 3,223,860 | 4,066,245 | 20.7 | 18.6 | 10.0 |
| 20-24 | 1,449,291 | 319,957 | 1,609,917 | 3,379,165 | 52.4 | 42.9 | 18.1 |
| 25-29 | 1,917,732 | 283,961 | 610,244 | 2,811,937 | 78.3 | 68.2 | 12.9 |
| 30-34 | 1,956,603 | 115,735 | 372,694 | 2,445,031 | 84.8 | 80.0 | 5.6 |
| 35-39 | 1,688,012 | 60,125 | 250,431 | 1,998,568 | 87.5 | 84.5 | 3.4 |
| 40-44 | 1,473,676 | 53,821 | 175,516 | 1,703,013 | 89.7 | 86.5 | 3.5 |
| 45-49 | 1,219,218 | 23,768 | 142,701 | 1,385,687 | 89.7 | 88.0 | 1.9 |
| 50-54 | 907,694 | 19,063 | 127,390 | 1,054,148 | 87.9 | 86.1 | 2.1 |
| 55-59 | 709,095 | 10,907 | 110,934 | 830,936 | 86.6 | 85.3 | 1.5 |
| 60-64 | 529,686 | 3,684 | 128,016 | 661,386 | 80.6 | 80.1 | 0.7 |
| **Total** | **12,609,022** | **975,391** | **6,751,703** | **20,336,116** | **66.8** | **62.0** | **7.2** |

| Age | Employed | Unemployed | Not in Labour Force | Total | Labour Force Participation Rate | Employment to Population Ratio | Unemployment Rate |
|---|---|---|---|---|---|---|---|
| **URBAN** | | | | | | | |
| 15-19 | 128,791 | 74,606 | 1,334,505 | 1,537,902 | 13.2 | 8.4 | 36.7 |
| 20-24 | 667,862 | 290,577 | 839,815 | 1,798,254 | 53.3 | 37.1 | 30.3 |
| 25-29 | 1,265,732 | 263,811 | 373,106 | 1,902,649 | 80.4 | 66.5 | 17.2 |
| 30-34 | 1,243,248 | 141,144 | 218,532 | 1,602,923 | 86.4 | 77.6 | 10.2 |
| 35-39 | 1,022,636 | 67,954 | 138,868 | 1,229,458 | 88.7 | 83.2 | 6.2 |
| 40-44 | 817,897 | 27,491 | 111,700 | 957,088 | 88.3 | 85.5 | 3.3 |
| 45-49 | 629,226 | 28,772 | 71,902 | 729,899 | 90.1 | 86.2 | 4.4 |
| 50-54 | 406,124 | 20,316 | 87,162 | 513,602 | 83.0 | 79.1 | 4.8 |
| 55-59 | 249,291 | 16,496 | 58,993 | 324,780 | 81.8 | 76.8 | 6.2 |
| **60-64** | **130,125** | **5,360** | **72,156** | **207,641** | **65.2** | **62.7** | **4.0** |
| **Total** | **6,560,931** | **936,527** | **3,306,740** | **10,804,198** | **69.4** | **60.7** | **12.5** |
| **MALE** | | | | | | | |
| 15-19 | 505,852 | 76,755 | 2,195,736 | 2,778,343 | 21.0 | 18.2 | 13.2 |
| 20-24 | 1,230,833 | 262,075 | 1,089,053 | 2,581,960 | 57.8 | 47.7 | 17.6 |
| 25-29 | 1,801,999 | 227,442 | 325,680 | 2,355,121 | 86.2 | 76.5 | 11.2 |
| 30-34 | 1,797,504 | 88,778 | 138,201 | 2,024,483 | 93.2 | 88.8 | 4.7 |
| 35-39 | 1,481,672 | 39,865 | 85,014 | 1,606,551 | 94.7 | 92.2 | 2.6 |
| 40-44 | 1,205,860 | 27,289 | 85,955 | 1,319,103 | 93.5 | 91.4 | 2.2 |
| 45-49 | 971,254 | 18,998 | 56,936 | 1,047,188 | 94.6 | 92.7 | 1.9 |
| 50-54 | 700,604 | 23,480 | 46,240 | 770,325 | 94.0 | 90.9 | 3.2 |
| 55-59 | 500,191 | 16,241 | 45,637 | 562,069 | 91.9 | 89.0 | 3.1 |
| 60-64 | 343,468 | 4,149 | 72,319 | 419,936 | 82.8 | 81.8 | 1.2 |
| **Total** | **10,539,237** | **785,071** | **4,140,771** | **15,465,079** | **73.2** | **68.1** | **6.9** |
| **FEMALE** | | | | | | | |
| 15-19 | 380,954 | 82,221 | 2,362,629 | 2,825,804 | 16.4 | 13.5 | 17.8 |
| 20-24 | 886,321 | 348,460 | 1,360,679 | 2,595,459 | 47.6 | 34.1 | 28.2 |
| 25-29 | 1,381,466 | 320,331 | 657,669 | 2,359,465 | 72.1 | 58.5 | 18.8 |
| 30-34 | 1,402,347 | 168,101 | 453,025 | 2,023,472 | 77.6 | 69.3 | 10.7 |
| 35-39 | 1,228,976 | 88,214 | 304,285 | 1,621,475 | 81.2 | 75.8 | 6.7 |
| 40-44 | 1,085,714 | 54,022 | 201,261 | 1,340,998 | 85.0 | 81.0 | 4.7 |
| 45-49 | 877,189 | 33,542 | 157,667 | 1,068,399 | 85.2 | 82.1 | 3.7 |
| 50-54 | 613,214 | 15,900 | 168,312 | 797,426 | 78.9 | 76.9 | 2.5 |
| 55-59 | 458,195 | 11,162 | 124,290 | 593,647 | 79.1 | 77.2 | 2.4 |
| 60-64 | 316,342 | 4,894 | 127,854 | 449,090 | 71.5 | 70.4 | 1.5 |
| **Total** | **8,630,716** | **1,126,846** | **5,917,672** | **15,675,235** | **62.2** | **55.1** | **11.5** |

## 3.10 Economic Activity Status of Household Heads

This section focuses on the household heads and their economic activity status. Results as shown in Figure 3.4 reveal that 86.7 per cent were employed/working during the reference period, while 3.3 per cent were unemployed and 10.0 per cent were not-in-labour force. In the rural areas, 88.2 per cent of the household heads were employed/working compared to 84.5 per cent of their counterparts in the urban areas.

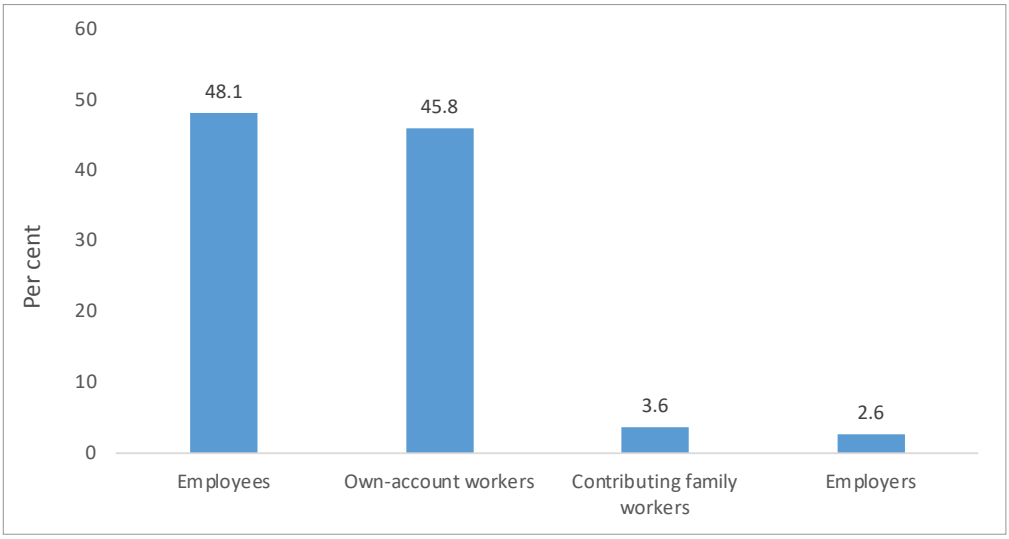
*Figure 3.5: Economic Activity Status of Household Heads by Residence*




## 3.11 Employment Status of Household Heads

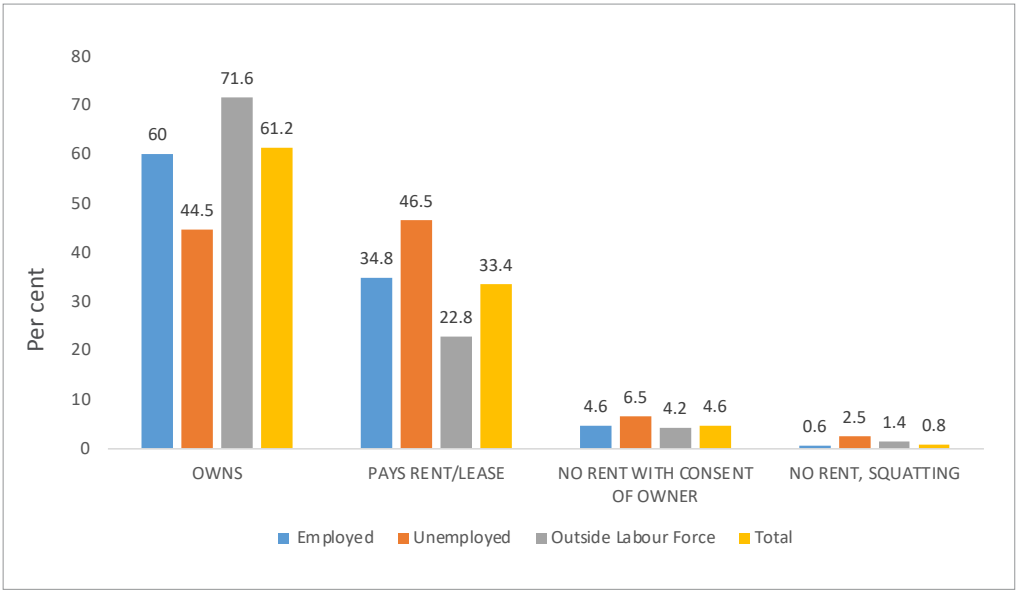
The distribution of household heads by their employment status with reference to their main job is illustrated in Figure 3.5. The majority of the household heads were employees (48.1%), while own account workers constituted 45.8 per cent. The proportion of employers was 2.6 per cent and 3.6 per cent of the household heads were contributing family workers.

*Figure 3.6: Employment Status of Household Heads*



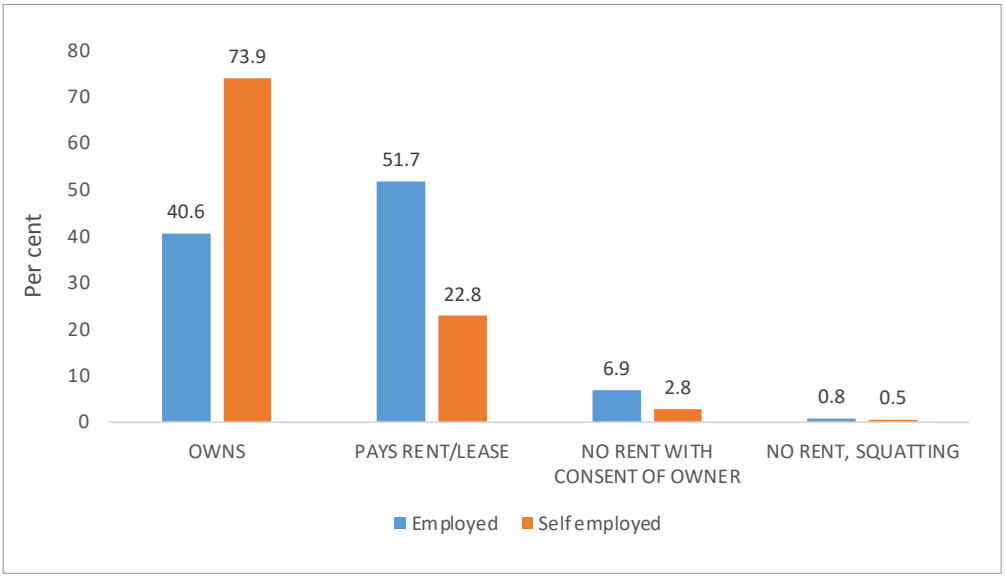
As shown in figure 3.6 the highest proportion of employed are home owners at 60.0 per cent while the highest proportion of unemployed are tenants at 46.5 per cent. The highest proprtion of those outside labour force are home owners at 71.6 per cent.

*Figure 3.7: Activity Status by Type of Tenureship*




As shown in figure 3.7 the highest proportion of self employed are home owners at 73.9 per cent, while the highest proportion of employed are tenants at 51.7 per cent. In addition, the employed represent a high proportion of squatters compared to the self employed at 0.8 per cent.

*Figure 3.8: Employment Status of Home Owners and Tenants*



## 3.12 Activity Status and Type of Dwelling

The tabulation of activity status by type of dwelling unit and residence is presented in Table 3.10. Overall, the most common dwelling structure occupied by household heads residing in urban areas, who were working, were swahili/compound houses sharing facilities (40.3%) and flats/apartments (30.8%). The data shows that 41.7 per cent of the unemployed lived in swahili/compound houses with shared facilities with a further 23.5 per cent living in flats/apartments. About 34.8 per cent of the outside labour force lived in bungalows.

**Table 3.10: Percentage Distribution of Households by Activity Status of Heads and Type of Dwelling Structure**

| Activity Status | Bungalow | Flat / Apartment | Maisonette | Swahili/ Compound Houses Sharing Facilities | Compound Houses not Sharing Facilities | Shanty | Manyatta/ Traditional House/Hut | Townhouse |
|---|---|---|---|---|---|---|---|---|
| Working | 52.2 | 12.4 | 0.8 | 21.6 | 3.5 | 0.6 | 8.7 | 0.3 |
| Unemployed | 30.6 | 13.3 | 0.5 | 31.1 | 9.4 | 0.5 | 14.4 | 0.2 |
| Outside Labour Force | 53.7 | 6.2 | 1.4 | 16.9 | 4.2 | 0.3 | 16.9 | 0.5 |
| **Total** | **51.8** | **11.5** | **0.9** | **21.2** | **3.7** | **0.5** | **10.0** | **0.3** |
| **Rural** | | | | | | | | |
| Working | 73.7 | 0.7 | 0.5 | 9.8 | 1.5 | 0.3 | 13.3 | 0.1 |
| Unemployed | 49.6 | 0.0 | 0.0 | 17.4 | 2.3 | 0.2 | 30.5 | 0.0 |
| Outside Labour Force | 63.9 | 0.4 | 0.9 | 8.2 | 1.6 | 0.3 | 24.5 | 0.2 |
| **Total** | **71.8** | **0.7** | **0.5** | **9.7** | **1.6** | **0.3** | **15.3** | **0.1** |
| **Urban** | | | | | | | | |
| Working | 18.0 | 30.8 | 1.3 | 40.3 | 6.6 | 1.1 | 1.4 | 0.6 |
| Unemployed | 16.0 | 23.5 | 0.8 | 41.7 | 15.0 | 0.6 | 2.0 | 0.4 |
| Outside Labour Force | 34.8 | 17.0 | 2.2 | 33.1 | 9.0 | 0.4 | 2.7 | 0.9 |
| **Total** | **20.0** | **28.8** | **1.4** | **39.4** | **7.2** | **1.0** | **1.6** | **0.6** |

**40.3%**

The data shows that 40.3 per cent of working household heads lived in swahili/ compound houses with shared facilities.

**41.7%**

The data shows that 41.7 per cent of the unemployed lived in swahili/compound houses with shared facilities

**34.8%**

The data shows that 34.8 per cent of the household heads who are outside labour force lived in bungalows.

## 3.13 Housing and Disability

Accessible housing is imperative to enabling independent living for many people with disabilities. People with disabilities often struggle to find and acquire accessible and affordable housing. The 2016 Housing Policy indicates that new public buildings and facilities, public housing and transport systems are required to put in place measures that ensure access by elderly and disabled persons. Similar measures are encouraged during renovation of existing buildings whenever feasible. Inaccessible housing options poses a challenge to those who need or prefer to live close to employment opportunities and social amenities such as hospitals and schools. Therefore, lack of inclusive and accessible housing continues to marginalize people living with disabilities.

The 2023/24 Kenya Housing Survey incorporated questions on levels of difficulties in performing daily activities across six domains, namely: vision, hearing, mobility, cognition, self-care and communication as per the Washington Group on Disability Short Set of Questions. Four levels of difficulties were asked for each of the six domains, that is '*No, No Difficulty*', '*Yes, Some Difficulty*', '*Yes, a lot of Difficulty*' and '*Cannot do all*'.

In addition, the survey gathered more information on adequacy, safety, and accessibility of the housing units considering design modifications made to accommodate and to account for the needs and preferences of people with disabilities.

Disability status among respondents has been computed using the threshold of those with '*A lot of difficulty*' or those who '*Cannot do at all*' in at least one of the six domains. Thus, a person is said to have a disability if he/she responded that he/she has *a lot of difficulty* or *cannot do it at all.*

## 3.14 Distribution of Population Aged 5 years and above by Disability Status, Sex and Age

Table 3.11 shows the distribution of the population by disability status disaggregated by sex and age. The analysis indicates that 942,076 persons aged 5 years and above had a disability, resulting in a disability prevalence of 2.1 per cent. Prevalence of disability was higher among females at 2.4 per cent compared to males at 1.8 per cent. Further, disability prevalence among adults (30 years and above) increases with age and is more prominent among women.

**The 2023/24 Kenya Housing Survey gathered information on adequacy, safety and accessibility of the housing units considering design modifications made to accommodate and to account for the needs and preferences of people with disabilities.**

**Table 3.11: Distribution of the Population Aged 5 years and Above by Disability Status, Sex and Age**

| Age | Persons without Disability | | | Persons with Disability | | | Prevalence (%) | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Male | Female | Total | Male | Female | Total | Male | Female |
| 5-9 | 6,084,808 | 3,000,865 | 3,083,943 | 62,026 | 33,501 | 28,525 | 1.0 | 1.1 | 0.9 |
| 10-14 | 5,855,738 | 2,896,446 | 2,959,292 | 59,978 | 29,914 | 30,064 | 1.0 | 1.0 | 1.0 |
| 15-19 | 5,532,597 | 2,745,461 | 2,787,136 | 71,550 | 32,882 | 38,668 | 1.3 | 1.2 | 1.4 |
| 20-24 | 5,128,622 | 2,560,612 | 2,568,010 | 48,799 | 21,349 | 27,450 | 0.9 | 0.8 | 1.1 |
| 25-29 | 4,655,028 | 2,313,388 | 2,341,640 | 59,559 | 41,733 | 17,826 | 1.3 | 1.8 | 0.8 |
| 30-34 | 4,011,896 | 2,007,332 | 2,004,564 | 36,059 | 17,151 | 18,908 | 0.9 | 0.8 | 0.9 |
| 35-39 | 3,186,140 | 1,590,305 | 1,595,835 | 41,886 | 16,246 | 25,640 | 1.3 | 1.0 | 1.6 |
| 40-44 | 2,602,681 | 1,298,041 | 1,304,640 | 57,420 | 21,062 | 36,358 | 2.2 | 1.6 | 2.7 |
| 45-49 | 2,055,366 | 1,028,544 | 1,026,822 | 60,220 | 18,644 | 41,576 | 2.8 | 1.8 | 3.9 |
| 50-54 | 1,507,730 | 751,547 | 756,183 | 60,021 | 18,778 | 41,243 | 3.8 | 2.4 | 5.2 |
| 55-59 | 1,102,421 | 540,814 | 561,607 | 53,294 | 21,254 | 32,040 | 4.6 | 3.8 | 5.4 |
| 60-64 | 804,160 | 397,078 | 407,082 | 64,866 | 22,858 | 42,008 | 7.5 | 5.4 | 9.4 |
| 65-69 | 583,338 | 287,288 | 296,050 | 58,756 | 24,772 | 33,984 | 9.2 | 7.9 | 10.3 |
| 70-74 | 521,561 | 251,477 | 270,084 | 70,817 | 27,569 | 43,248 | 12.0 | 9.9 | 13.8 |
| 75-79 | 287,275 | 149,317 | 137,958 | 46,986 | 14,437 | 32,549 | 14.1 | 8.8 | 19.1 |
| 80-84 | 174,824 | 72,977 | 101,847 | 43,775 | 18,582 | 25,193 | 20.0 | 20.3 | 19.8 |
| 85-89 | 89,395 | 43,623 | 45,772 | 24,751 | 10,492 | 14,259 | 21.7 | 19.4 | 23.8 |
| 90-94 | 48,359 | 21,665 | 26,694 | 9,784 | 3,195 | 6,589 | 16.8 | 12.9 | 19.8 |
| 95-99 | 21,050 | 5,994 | 15,056 | 6,496 | 1,630 | 4,866 | 23.6 | 21.4 | 24.4 |
| 100+ | 18,555 | 7,156 | 11,399 | 5,033 | 823 | 4,210 | 21.3 | 10.3 | 27.0 |
| Total | 44,271,544 | 21,969,930 | 22,301,614 | 942,076 | 396,872 | 545,204 | 2.1 | 1.8 | 2.4 |

## 3.15 Ratings of Safety and Adequacy of Housing Units by People with Disabilities

Many people with disabilities have specific housing accessibility and adequacy requirements. Consequently, the majority live in housing units which cannot meet their needs and those who do, face barriers in interacting with those in their surrounding community.

### 3.15.1 Rating of Housing Unit Safety, Especially for People with Mobility Challenges

Table 3.12 presents the ratings of housing units' safety by households with individuals with disability, by the type of disability. Across all disability categories, households that had safe (safe and very safe) housing units were 34.8 per cent. In particular, only three out of every ten (33.1%) households with individuals who have mobility challenges indicated that their housing units were safe.

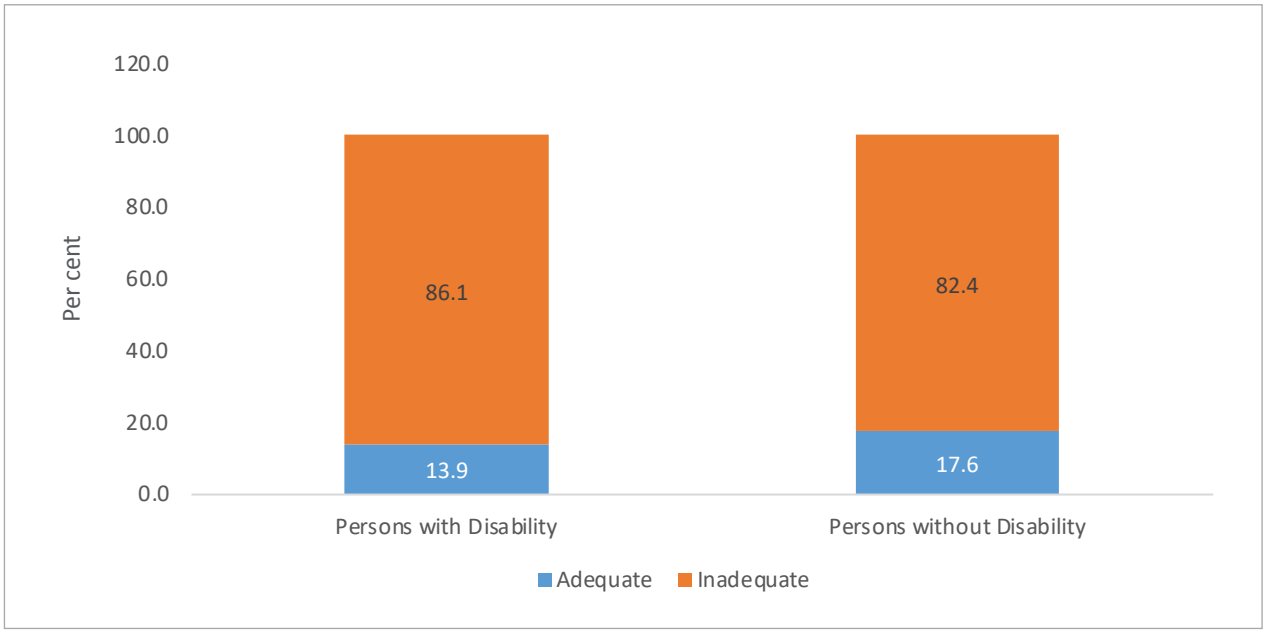
**Table 3.12: Rating of Housing Unit Safety by Households with People with Disabilities**

| | Disability Category | | | | | | |
|---|---|---|---|---|---|---|---|
| Overall Safety of Housing | Visual | Hearing | Mobility | Cognition | Selfcare | Communication | Total |
| Very Unsafe | 12.8 | 5.6 | 9.8 | 0.0 | 0.0 | 14.2 | 9.3 |
| Unsafe | 32.1 | 34.0 | 30.6 | 44.0 | 24.9 | 48.8 | 32.2 |
| Neutral | 24.0 | 25.6 | 24.0 | 16.9 | 18.9 | 17.9 | 23.6 |
| Safe | 29.5 | 34.9 | 33.1 | 39.0 | 51.2 | 19.1 | 33.0 |
| Very Safe | 1.7 | 0.0 | 2.5 | 0.0 | 5.0 | 0.0 | 1.8 |
| **Total (Number of HHs with PWDs)** | **115,216** | **55,381** | **165,750** | **14,855** | **18,143** | **7,931** | **377,275** |

### 3.15.2 Rating of the Adequacy of Main Dwelling Units

Recognizing the diversity in types and characteristics of dwelling units, the 2023/24 KHS incorporated an extensive set of questions on housing to highlight areas for improvement and to ensure that infrastructure development meets the needs of persons with disabilities. This included identification of barriers to accessibility in housing units or inadequate facilities. Figure 3.8 shows that 82.4 per cent of households without persons with disabilities and 86.1 per cent with persons with disabilities reported that they had inadequate housing units.

*Figure 3.9: Rating of the Adequacy of Main Dwelling Units by Disability Status*




## 3.16 Factors that Prevent Households from Having Adequate Housing Units

Table 3.13 shows the factors that prevent households from having adequate housing units. Majority of the households reported low income as the main reason, with 97.4 per cent being households without persons with disabilities and 2.6 per cent being those with persons with disabilities . In addition, 99.5 per cent of households without persons with disabilities reported high cost of rent as a main reason that prevents them from having adequate housing units compared to 0.5 per cent of households with persons with disabilities .

**Table 3.13: Percentage Distribution of Factors Leading to Inadequacy of Housing Units by Disability Status**

| Factors | Disability Status | | | | | |
|---|---|---|---|---|---|---|
| | Households with persons without disability | | Households with persons with disability | | Total | |
| | No. | % | No. | % | No. | % |
| High cost of rent | 216,119 | 99.5 | 1,169 | 0.5 | 217,288 | 100.0 |
| High cost of land | 19,609 | 100.0 | 0.0 | 0.0 | 19,609 | 100.0 |
| Lack of valid legal ownership of land documentation | 3,365 | 100.0 | 0.0 | 0.0 | 3,365 | 100.0 |
| Don't qualify for a loan | 1,657 | 100.0 | 0.0 | 0.0 | 1,657 | 100.0 |
| High cost of materials | 114,327 | 96.9 | 3,615 | 3.1 | 117,942 | 100.0 |
| High interest rates on loan/ mortgage | 3,021 | 100.0 | 0.0 | 0.0 | 3,021 | 100.0 |
| Houses too costly to buy | 34,705 | 100.0 | 0.0 | 0.0 | 34,705 | 100.0 |
| Low income | 1,840,138 | 97.4 | 49,502 | 2.6 | 1,889,640 | 100.0 |
| Proximity to basic amenities | 82,769 | 97.6 | 2,010 | 2.4 | 84,780 | 100.0 |
| Not interested in moving | 47,530 | 96.2 | 1,869 | 3.8 | 49,398 | 100.0 |
| Not stated | 1,793 | 61.6 | 1,116 | 38.4 | 2,910 | 100.0 |
| **Total** | **2,365,034** | **97.6** | **59,282** | **2.4** | **2,424,316** | **100.0** |

## 3.17 Accessibility of Housing Units to Persons with Disability

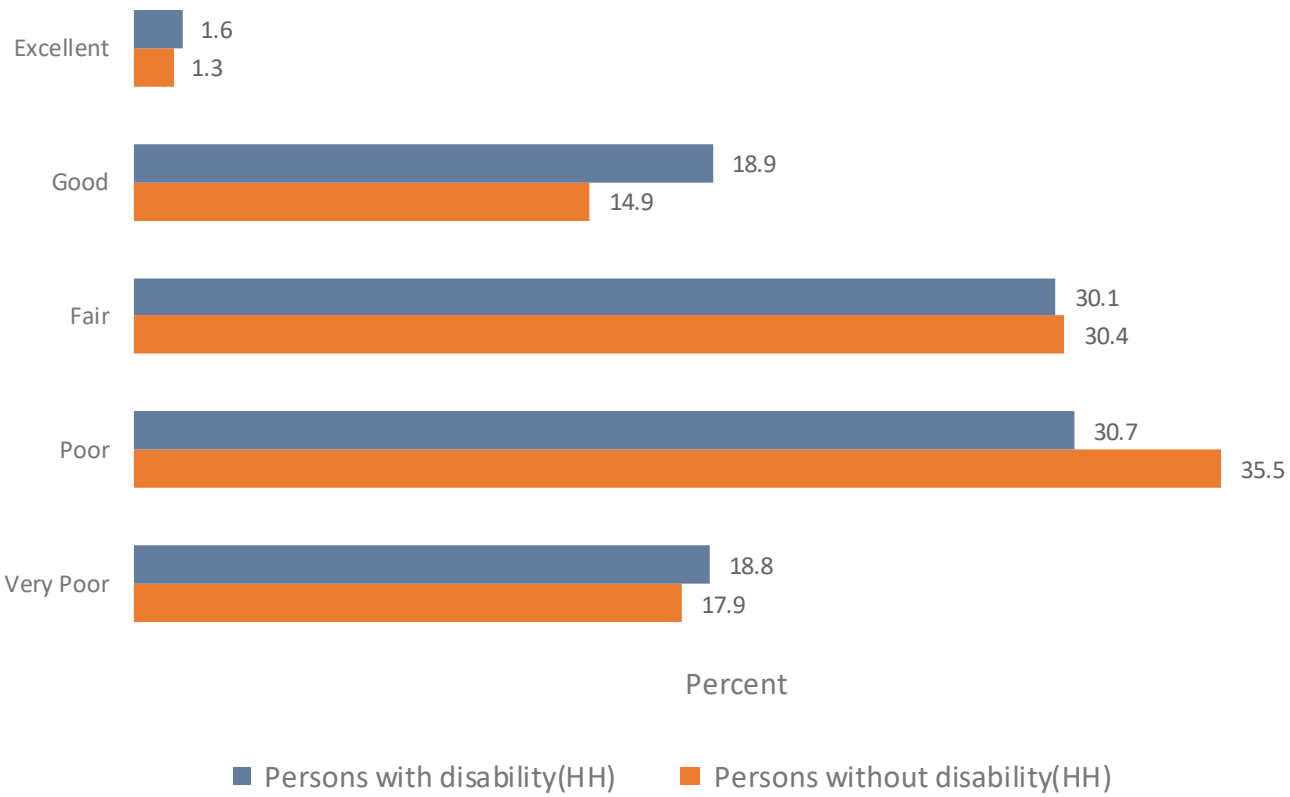
Accessible housing refers to housing that has been designed or modified to satisfy applicable accessibility requirements and to account for the needs and preferences of people with disabilities. This section is important because it assesses the overall accessibility of housing for individuals with disabilities. It provides a clear picture of the existing challenges and areas where improvements are needed.

The accessibility requirements considered in this survey included: wide doorways and hallways for wheelchair or mobility aid access; installed grab bars in the bathroom; entrance ramps or no-step entries; lever-style door handles; elevators in multi-storey buildings; visual or auditory smoke alarms for residents with sensory impairments; light switches and electrical outlets at easy-to-reach heights for individuals with limited mobility; and kitchen accommodations, such as lowered countertops and accessible cabinets.

### 3.17.1 Rating of Satisfaction with the Accessibility of Housing Unit

Analysis shows that 1.3 per cent of households without persons with disability and 1.6 per cent of households with persons with disability indicated that their current housing is excellent for the mobility of persons with disability, while 17.9 per cent of households without persons with disability and 18.8 per cent of households with persons with disability indicated that their current housing was very poor as shown in Figure 3.9.

*Figure 3.10: Rating of Satisfaction with the Accessibility of Housing Unit*



### 3.17.2 Proportion of Housing Units with Various Accessibility Aids, by Ownership Status

Majority of the households (1.5 million) reported having wide doorways and hallways, with homeowners reporting the highest percentage (66.6%). This was followed by Lowered countertops and accessible cabinets (1.4 million), with the highest number being homeowners. However, visual or audio smoke alarms and grab bars installed in the bathroom or toilet were the least reported at 15 thousand and 48 thousand respectively, as shown in Table 3.14 .

**The accessibility aids considered in this survey include: wide doorways and hallways for wheelchair or mobility aid access; installed grab bars in the bathroom; entrance ramps or no-step entries; lever-style door handles; elevators in multi-storey buildings; visual or auditory smoke alarms for residents with sensory impairments; light switches and electrical outlets at easy-to-reach heights for individuals with limited mobility; and kitchen accommodations, such as lowered countertops and accessible cabinets.**

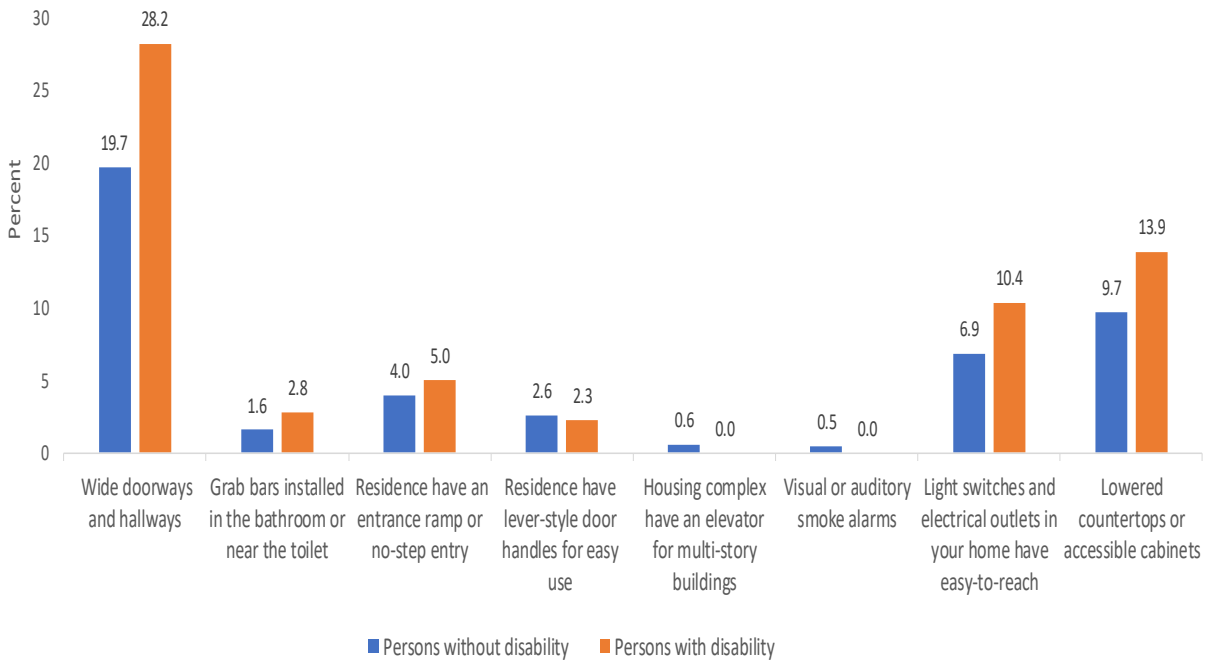
Table 3.14: Distribution of Housing Units with Various Accessibility Aids, by Ownership Status

| | Housing Tenure | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Accesibility Aid | Owns | | Pays rent/lease | | No rent with consent of owner | | No rent without consent (squatting) | | Total | |
| | No | % | No | % | No | % | No | % | No | % |
| Wide doorways and hallways | 997,028 | 66.6 | 432,439 | 28.9 | 59,668 | 4.0 | 8,145 | 0.5 | 1,497,280 | 100.0 |
| Grab bars installed in the bathroom or near the toilet | 33,410 | 69.3 | 13,336 | 27.7 | 1,466 | 3.0 | 0.0 | 0.0 | 48,212 | 100.0 |
| Entrance ramp or no-step entry | 192,082 | 72.2 | 57,660 | 21.7 | 16,073 | 6.0 | 128 | 0.0 | 265,944 | 100.0 |
| Lever-style door handles for easy use | 96,620 | 66.6 | 40,987 | 28.2 | 7,488 | 5.2 | 0.0 | 0.0 | 145,095 | 100.0 |
| Elevator for multi-storey buildings | 2,717 | 5.5 | 46,325 | 93.1 | 739 | 1.5 | 0.0 | 0.0 | 49,782 | 100.0 |
| Visual or audio smoke alarms | 7,499 | 48.7 | 7,886 | 51.3 | 0.0 | 0.0 | 0.0 | 0.0 | 15,385 | 100.0 |
| Light switches and electrical outlets in your homes | 208,307 | 51.3 | 179,919 | 44.3 | 16,471 | 4.1 | 1,029 | 0.3 | 405,727 | 100.0 |
| Lowered countertops or accesible cabinets | 841,943 | 61.9 | 432,026 | 31.8 | 71,592 | 5.3 | 13,918 | 1.0 | 1,359,479 | 100.0 |

### 3.17.3 Distribution of Housing Units with Accessibility Aids by Disability Status

Figure 3.10 shows that 28.2 per cent of the households with persons with disability had wide doorways and hallways to aid accessibility while 13.9 per cent had lowered countertops and cabinets. However, very few housing units with persons with disability had the special aids like grab bars (2.8%) and visual or audio smoke alarms (0.0%) which are key to those with mobility and visual challenges.

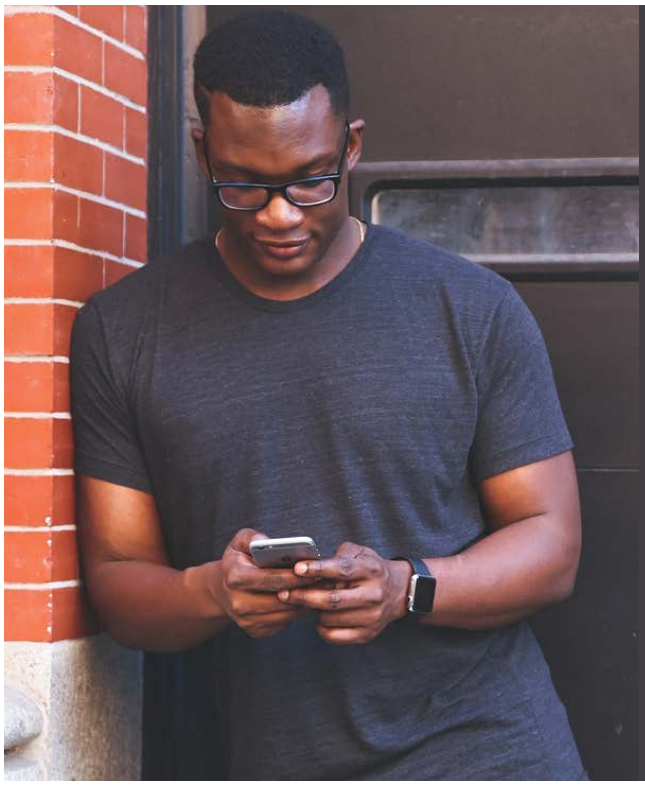
*Figure 3.11: Distribution of households with various accessibility aid by Disability Status*




## 3.18: Information and Communication Technology

### 3.18.1 Introduction

In the evolving dynamics of housing in Kenya, understanding technological integration is more than a measure of digital adoption; it's a lens through which we view the comprehensive living experiences of residents. The 2023/24 Kenya Housing Survey provides a holistic perspective on housing and residential dwellings, with a particular emphasis on key ICT indicators such as advancement in mobile phone ownership and usage of mobile phone, internet, computer and smart technology. These indicators followed the International Telecommunication Union (ITU) guidelines, ensuring alignment with global standards. The reference period for the data collected was three months, and respondents included individuals from the age of three.



### 3.18.2 Mobile Phone Ownership

The survey reveals significant disparities in mobile phone ownership across Kenyan counties and between urban and rural areas. Nationally, 53.7 per cent of the population owns a mobile phone, with urban areas showing a significantly higher ownership rate at 64.6 per cent compared to 48.6 per cent in rural areas as shown in Table 3.15.

Males and females reported near equal proportions in ownership of a mobile phone in the last three months at 54.5 per cent and 52.9 per cent, respectively at national level. A similar trend was observed for both males and females in the urban and rural areas. Mobile phone ownership varied across the counties. The highest mobile phone ownership rates were in Nairobi City (67.7%) followed by Kirinyaga (65.0%), while the least were in Turkana (29.4%) and West Pokot (29.0%).

**Table 3.15: Proportion of Individuals Aged 3 Years and Above who Owned a Mobile Phone**

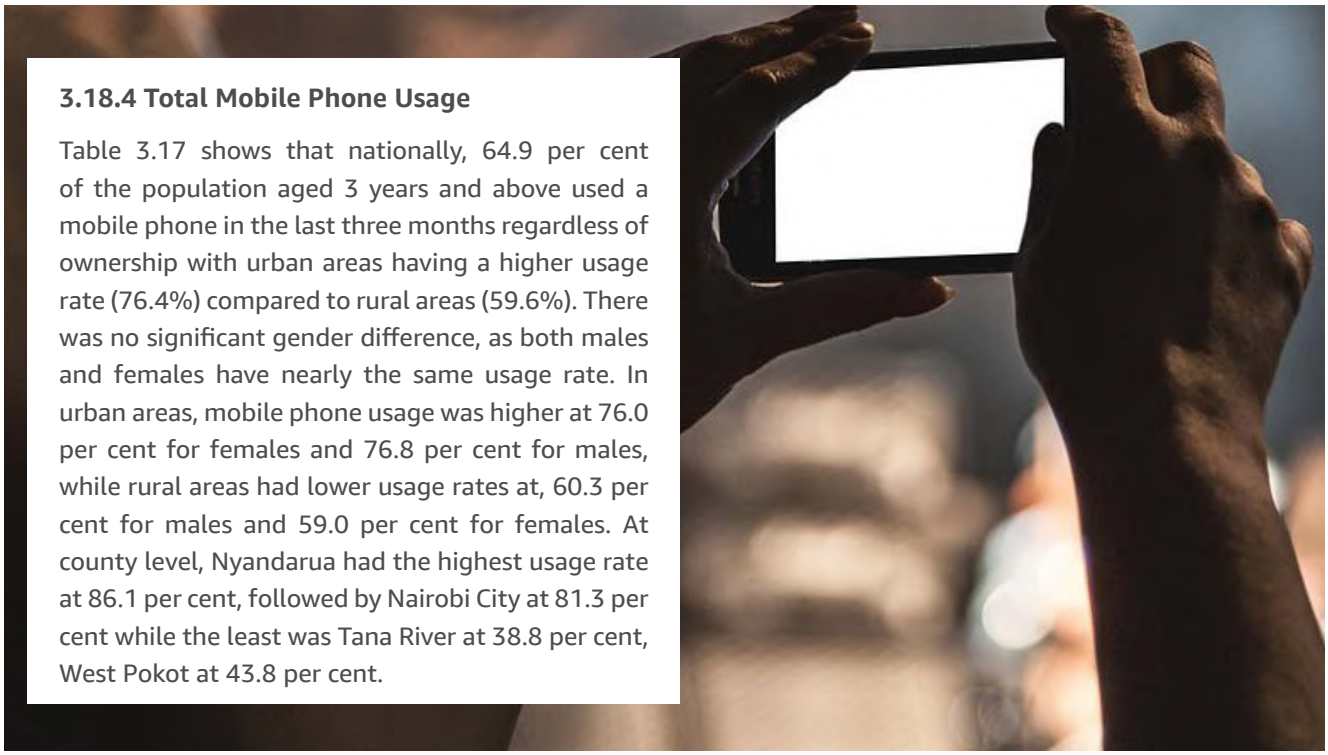
| | Male | Female | Total |
|---|---|---|---|
| **Kenya** | **54.5** | **52.9** | **53.7** |
| Urban | 65.6 | 63.7 | 64.6 |
| Rural | 49.3 | 47.9 | 48.6 |
| **County** | | | |
| Mombasa | 60.3 | 56.7 | 58.5 |
| Kwale | 44.4 | 40.9 | 42.7 |
| Kilifi | 55.6 | 45.8 | 50.7 |
| Tana River | 42.6 | 28.8 | 35.5 |
| Lamu | 53.5 | 49.0 | 51.3 |
| Taita-Taveta | 60.0 | 60.7 | 60.3 |
| Garissa | 51.7 | 48.0 | 49.8 |
| Wajir | 44.1 | 43.8 | 43.9 |
| Mandera | 45.5 | 41.3 | 43.4 |
| Marsabit | 37.0 | 32.6 | 34.8 |
| Isiolo | 47.8 | 48.0 | 47.9 |
| Meru | 57.2 | 53.6 | 55.4 |
| Tharaka-Nithi | 58.3 | 60.2 | 59.3 |
| Embu | 59.1 | 60.8 | 60.0 |
| Kitui | 50.2 | 54.5 | 52.4 |
| Machakos | 59.2 | 62.5 | 60.9 |
| Makueni | 57.7 | 55.3 | 56.5 |
| Nyandarua | 63.9 | 63.8 | 63.9 |
| Nyeri | 60.4 | 61.5 | 61.0 |
| Kirinyaga | 63.6 | 66.3 | 65.0 |
| Murang'a | 60.2 | 64.4 | 62.3 |
| Kiambu | 60.9 | 63.3 | 62.1 |
| Turkana | 31.7 | 27.1 | 29.4 |
| West Pokot | 32.4 | 25.7 | 29.0 |
| Samburu | 39.7 | 33.9 | 36.8 |
| Trans Nzoia | 54.1 | 55.3 | 54.7 |
| Uasin Gishu | 58.3 | 56.2 | 57.2 |
| Elgeyo-Marakwet | 47.7 | 46.3 | 47.0 |
| Nandi | 52.0 | 52.4 | 52.2 |
| Baringo | 44.6 | 43.8 | 44.2 |
| Laikipia | 56.5 | 59.2 | 57.9 |
| Nakuru | 59.1 | 57.6 | 58.4 |
| Narok | 42.4 | 36.3 | 39.3 |
| Kajiado | 52.6 | 52.3 | 52.4 |
| Kericho | 52.0 | 52.5 | 52.2 |
| Bomet | 46.6 | 43.2 | 44.9 |
| Kakamega | 53.7 | 52.7 | 53.2 |
| Vihiga | 50.2 | 51.5 | 50.9 |
| Bungoma | 54.9 | 54.2 | 54.6 |
| Busia | 50.7 | 47.7 | 49.2 |
| Siaya | 48.4 | 48.0 | 48.2 |
| Kisumu | 55.6 | 51.2 | 53.4 |
| Homabay | 48.1 | 45.0 | 46.5 |
| Migori | 46.2 | 40.9 | 43.5 |
| Kisii | 56.5 | 56.7 | 56.6 |
| Nyamira | 57.2 | 57.7 | 57.4 |
| Nairobi City | 69.2 | 66.3 | 67.7 |

### 3.18.3 Mobile Phone Users who Don't Own It

The report reveals insights into the use of mobile phones without ownership across different regions. Nationally, 11.3 per cent of people use mobile phones they don't own, with a slight difference observed between males and females as shown in Table 3.16. Urban areas show a higher reliance on shared or borrowed phones at 11.8 per cent, compared to 11.0 per cent in rural areas. Nyandarua (22.2%) had the highest number of individuals using non-owned phones, followed by Taita-Taveta (20.1 %), while the least were from Bomet (2.0 %) and Narok (2.0 %).

**Table 3.16: Proportion of Individuals Aged 3 Years and Above who Used a Mobile Phone Without Owning**

| | Male | Female | Total |
|---|---|---|---|
| **Kenya** | **11.0** | **11.5** | **11.3** |
| Urban | 11.2 | 12.4 | 11.8 |
| Rural | 11.0 | 11.1 | 11.0 |
| **County** | | | |
| Mombasa | 7.9 | 11.0 | 9.5 |
| Kwale | 7.4 | 10.5 | 9.0 |
| Kilifi | 5.9 | 8.8 | 7.4 |
| Tana River | 3.2 | 3.4 | 3.3 |
| Lamu | 1.6 | 2.8 | 2.2 |
| Taita-Taveta | 19.5 | 20.6 | 20.1 |
| Garissa | 4.2 | 3.9 | 4.1 |
| Wajir | 10.4 | 7.9 | 9.1 |
| Mandera | 8.1 | 9.3 | 8.7 |
| Marsabit | 7.4 | 5.8 | 6.6 |
| Isiolo | 14.5 | 16.2 | 15.4 |
| Meru | 16.1 | 19.0 | 17.5 |
| Tharaka-Nithi | 11.8 | 10.7 | 11.2 |
| Embu | 13.8 | 10.6 | 12.2 |
| Kitui | 16.3 | 14.1 | 15.2 |
| Machakos | 13.1 | 12.3 | 12.7 |
| Makueni | 10.4 | 10.1 | 10.3 |
| Nyandarua | 22.5 | 22.0 | 22.2 |
| Nyeri | 20.8 | 15.3 | 18.0 |
| Kirinyaga | 13.5 | 12.0 | 12.7 |
| Murang'a | 16.2 | 14.0 | 15.1 |
| Kiambu | 13.6 | 13.7 | 13.7 |
| Turkana | 7.9 | 11.0 | 9.4 |
| West Pokot | 14.8 | 14.7 | 14.8 |
| Samburu | 7.0 | 10.3 | 8.7 |
| Trans Nzoia | 5.4 | 6.1 | 5.7 |
| Uasin Gishu | 19.9 | 21.2 | 20.5 |
| Elgeyo-Marakwet | 7.1 | 9.7 | 8.4 |
| Nandi | 3.8 | 4.5 | 4.2 |
| Baringo | 6.5 | 8.9 | 7.7 |
| Laikipia | 21.3 | 20.4 | 20.8 |
| Nakuru | 19.8 | 22.0 | 20.9 |
| Narok | 2.4 | 1.7 | 2.0 |
| Kajiado | 3.7 | 4.3 | 4.0 |
| Kericho | 9.0 | 7.1 | 8.0 |
| Bomet | 2.3 | 1.9 | 2.0 |
| Kakamega | 13.6 | 14.5 | 14.0 |
| Vihiga | 4.4 | 5.8 | 5.1 |
| Bungoma | 13.3 | 12.4 | 12.9 |
| Busia | 17.1 | 17.7 | 17.4 |
| Siaya | 14.2 | 14.7 | 14.5 |
| Kisumu | 2.4 | 5.0 | 3.7 |
| Homabay | 5.7 | 7.6 | 6.7 |
| Migori | 10.5 | 10.4 | 10.4 |
| Kisii | 3.4 | 2.8 | 3.1 |
| Nyamira | 2.9 | 3.8 | 3.3 |
| Nairobi City | 13.2 | 13.9 | 13.6 |



### 3.18.4 Total Mobile Phone Usage

Table 3.17 shows that nationally, 64.9 per cent of the population aged 3 years and above used a mobile phone in the last three months regardless of ownership with urban areas having a higher usage rate (76.4%) compared to rural areas (59.6%). There was no significant gender difference, as both males and females have nearly the same usage rate. In urban areas, mobile phone usage was higher at 76.0 per cent for females and 76.8 per cent for males, while rural areas had lower usage rates at, 60.3 per cent for males and 59.0 per cent for females. At county level, Nyandarua had the highest usage rate at 86.1 per cent, followed by Nairobi City at 81.3 per cent while the least was Tana River at 38.8 per cent, West Pokot at 43.8 per cent.

**Table 3.17: Proportion of Individuals Aged 3 Years and Above who Used a Mobile Phone**

| | Male | Female | Total |
|---|---|---|---|
| **Kenya** | **65.5** | **64.4** | **64.9** |
| Urban | 76.8 | 76.0 | 76.4 |
| Rural | 60.3 | 59.0 | 59.6 |
| **County** | | | |
| Mombasa | 68.2 | 67.7 | 68.0 |
| Kwale | 51.8 | 51.4 | 51.6 |
| Kilifi | 61.6 | 54.6 | 58.1 |
| Tana River | 45.8 | 32.2 | 38.8 |
| Lamu | 55.1 | 51.8 | 53.4 |
| Taita-Taveta | 79.5 | 81.2 | 80.4 |
| Garissa | 55.9 | 52.0 | 53.9 |
| Wajir | 54.5 | 51.7 | 53.1 |
| Mandera | 53.7 | 50.6 | 52.1 |
| Marsabit | 44.4 | 38.3 | 41.4 |
| Isiolo | 62.3 | 64.2 | 63.3 |
| Meru | 73.3 | 72.6 | 73.0 |
| Tharaka-Nithi | 70.0 | 70.9 | 70.5 |
| Embu | 73.0 | 71.4 | 72.2 |
| Kitui | 66.5 | 68.6 | 67.6 |
| Machakos | 72.2 | 74.8 | 73.5 |
| Makueni | 68.1 | 65.4 | 66.7 |
| Nyandarua | 86.4 | 85.8 | 86.1 |
| Nyeri | 81.2 | 76.8 | 79.0 |
| Kirinyaga | 77.0 | 78.3 | 77.7 |
| Murang'a | 76.4 | 78.4 | 77.4 |
| Kiambu | 74.5 | 77.1 | 75.8 |
| Turkana | 39.6 | 38.0 | 38.8 |

| | Male | Female | Total |
|---|---|---|---|
| West Pokot | 47.2 | 40.5 | 43.8 |
| Samburu | 46.7 | 44.2 | 45.4 |
| Trans Nzoia | 59.5 | 61.3 | 60.4 |
| Uasin Gishu | 78.1 | 77.3 | 77.7 |
| Elgeyo-Marakwet | 54.8 | 56.1 | 55.4 |
| Nandi | 55.8 | 56.9 | 56.4 |
| Baringo | 51.1 | 52.7 | 51.9 |
| Laikipia | 77.9 | 79.6 | 78.7 |
| Nakuru | 79.0 | 79.6 | 79.3 |
| Narok | 44.8 | 38.0 | 41.3 |
| Kajiado | 56.2 | 56.6 | 56.4 |
| Kericho | 61.0 | 59.6 | 60.3 |
| Bomet | 48.8 | 45.1 | 46.9 |
| Kakamega | 67.2 | 67.1 | 67.2 |
| Vihiga | 54.6 | 57.3 | 56.0 |
| Bungoma | 68.2 | 66.6 | 67.4 |
| Busia | 67.8 | 65.4 | 66.6 |
| Siaya | 62.6 | 62.7 | 62.7 |
| Kisumu | 58.0 | 56.2 | 57.1 |
| Homabay | 53.7 | 52.6 | 53.2 |
| Migori | 56.7 | 51.2 | 54.0 |
| Kisii | 59.8 | 59.5 | 59.7 |
| Nyamira | 60.0 | 61.5 | 60.8 |
| Nairobi City | 82.4 | 80.2 | 81.3 |

### 3.18.5 Internet Use

The report reveals notable disparities in internet usage across different counties. Nationally, 35.0 per cent of the population used the internet in the last three months preceding the survey with urban areas (56.5%) recording a higher penetration rate compared to rural (25.0%). Analysis by gender shows that nationally, 37.8 per cent of males and 32.2 per cent of females used the internet in the last three months preceding the survey as shown in Table 3.18. In urban areas, the usage was higher, with 58.4 per cent of males and 54.8 per cent of females, while in rural areas, usage rates declined to 28.3 per cent for males and 21.7 per cent for females, indicating a digital divide between urban and rural regions. The counties with the highest internet usage rates are Nairobi City (64.7%), Kiambu (54.0%), while the least counties with the lowest penetration rates were West Pokot (9.1%) followed by Turkana (12.7%).

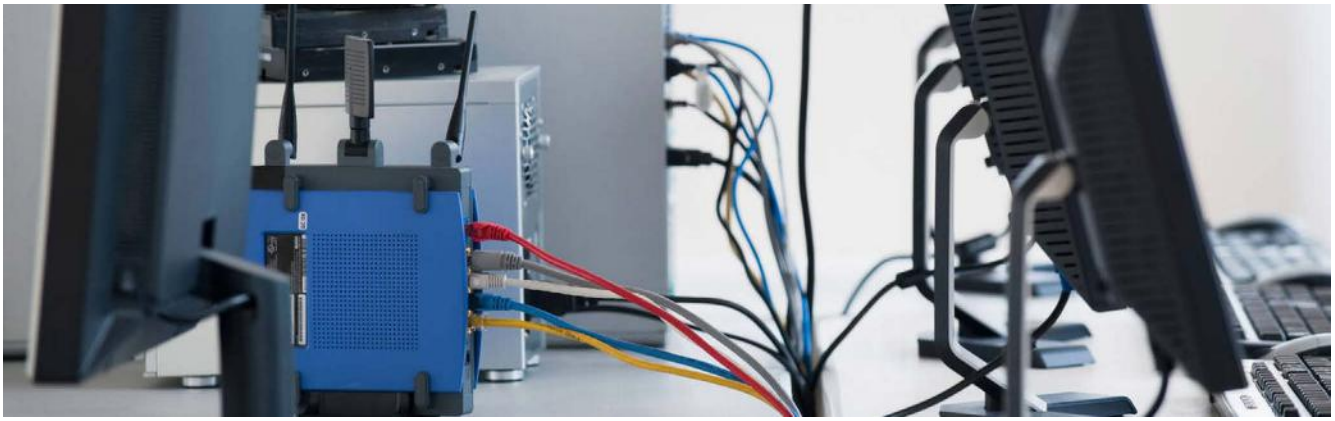


**Table 3.18: Proportion of Individuals Aged 3 Years and Above who Used Internet**

| | Male | Female | Total |
|---|---|---|---|
| **Kenya** | **37.8** | **32.2** | **35.0** |
| Urban | 58.4 | 54.8 | 56.6 |
| Rural | 28.3 | 21.7 | 25.0 |
| **County** | | | |
| Mombasa | 49.2 | 44.6 | 46.9 |
| Kwale | 27.1 | 24.2 | 25.6 |
| Kilifi | 36.2 | 24.9 | 30.5 |
| Tana River | 21.3 | 9.9 | 15.5 |
| Lamu | 31.6 | 25.9 | 28.8 |
| Taita-Taveta | 40.2 | 35.0 | 37.6 |
| Garissa | 18.8 | 14.3 | 16.5 |
| Wajir | 27.6 | 20.8 | 24.2 |
| Mandera | 32.5 | 17.5 | 24.9 |
| Marsabit | 18.9 | 13.8 | 16.3 |
| Isiolo | 34.2 | 32.1 | 33.1 |
| Meru | 35.8 | 26.9 | 31.4 |
| Tharaka-Nithi | 34.7 | 32.1 | 33.4 |
| Embu | 37.7 | 36.0 | 36.8 |
| Kitui | 27.1 | 25.4 | 26.2 |
| Machakos | 38.1 | 36.6 | 37.3 |
| Makueni | 32.9 | 27.8 | 30.3 |
| Nyandarua | 42.7 | 40.5 | 41.6 |
| Nyeri | 52.3 | 48.0 | 50.1 |
| Kirinyaga | 37.9 | 35.4 | 36.6 |
| Murang'a | 34.9 | 36.7 | 35.8 |
| Kiambu | 50.5 | 57.4 | 54.0 |
| Turkana | 13.9 | 11.4 | 12.7 |
| West Pokot | 10.7 | 7.6 | 9.1 |
| Samburu | 25.4 | 12.5 | 18.9 |
| Trans Nzoia | 32.5 | 28.7 | 30.6 |
| Uasin Gishu | 50.2 | 34.1 | 42.1 |
| Elgeyo-Marakwet | 34.8 | 25.8 | 30.3 |
| Nandi | 26.5 | 22.3 | 24.4 |
| Baringo | 27.2 | 19.7 | 23.4 |
| Laikipia | 40.2 | 35.9 | 38.0 |
| Nakuru | 42.7 | 37.5 | 40.1 |
| Narok | 26.6 | 14.5 | 20.5 |
| Kajiado | 39.1 | 34.9 | 37.0 |
| Kericho | 31.9 | 21.0 | 26.4 |
| Bomet | 27.4 | 14.1 | 20.6 |
| Kakamega | 38.6 | 31.3 | 35.0 |
| Vihiga | 18.6 | 18.0 | 18.3 |
| Bungoma | 39.0 | 30.8 | 34.9 |
| Busia | 33.2 | 26.4 | 29.7 |
| Siaya | 30.3 | 24.5 | 27.4 |
| Kisumu | 36.6 | 30.2 | 33.4 |
| Homabay | 31.5 | 24.2 | 27.7 |
| Migori | 36.5 | 24.4 | 30.4 |
| Kisii | 31.1 | 25.1 | 28.1 |
| Nyamira | 31.0 | 22.1 | 26.4 |
| Nairobi City | 66.7 | 62.8 | 64.7 |

### 3.18.6 Computer Use

Table 3.19 highlights the disparities in computer usage across different counties in the last three months. Nationally, 11.6 per cent of the population used a computer, with those in urban areas (20.9%) having a higher usage compared to rural areas (7.3%) indicating limited digital engagement overall. This difference underscores the digital divide between rural and urban regions, reflecting disparities in infrastructure, access to technology, and educational resources. Analysis by gender shows that 13.1 per cent of males and 10.1 per cent of females used a computer in the last three months, indicating a gender gap in digital engagement. Analysis by counties show that computer usage was higher in Nairobi City (27.8%), followed by Nyeri (21.3%), while counties with the least usage were in Wajir (2.0%) and Mandera (3.6%).

**Table 3.19: Proportion of Individuals Aged 3 Years and Above who Used a Computer**

| | Male | Female | Total |
|---|---|---|---|
| **Kenya** | **13.1** | **10.1** | **11.6** |
| Urban | 23.8 | 18.1 | 20.9 |
| Rural | 8.1 | 6.4 | 7.3 |
| **County** | | | |
| Mombasa | 18.4 | 12.4 | 15.4 |
| Kwale | 5.1 | 4.7 | 4.9 |
| Kilifi | 7.6 | 5.2 | 6.4 |
| Tana River | 5.6 | 1.9 | 3.7 |
| Lamu | 5.2 | 3.7 | 4.4 |
| Taita-Taveta | 15.0 | 11.8 | 13.4 |
| Garissa | 6.6 | 2.7 | 4.6 |
| Wajir | 2.6 | 1.4 | 2.0 |
| Mandera | 5.4 | 1.9 | 3.6 |
| Marsabit | 3.3 | 3.7 | 3.5 |
| Isiolo | 12.7 | 10.1 | 11.3 |
| Meru | 9.8 | 11.2 | 10.5 |
| Tharaka-Nithi | 13.6 | 10.3 | 11.9 |
| Embu | 15.2 | 11.2 | 13.2 |
| Kitui | 6.2 | 7.8 | 7.0 |
| Machakos | 14.0 | 12.9 | 13.5 |
| Makueni | 4.0 | 5.0 | 4.5 |
| Nyandarua | 13.9 | 13.3 | 13.6 |
| Nyeri | 23.4 | 19.4 | 21.3 |
| Kirinyaga | 13.7 | 11.6 | 12.6 |
| Murang'a | 11.8 | 11.6 | 11.7 |
| Kiambu | 16.7 | 12.7 | 14.7 |

| | Male | Female | Total |
|---|---|---|---|
| Turkana | 5.4 | 3.2 | 4.3 |
| West Pokot | 5.0 | 3.7 | 4.4 |
| Samburu | 9.2 | 3.7 | 6.4 |
| Trans Nzoia | 11.8 | 8.4 | 10.1 |
| Uasin Gishu | 13.8 | 8.2 | 10.9 |
| Elgeyo-Marakwet | 11.8 | 9.5 | 10.6 |
| Nandi | 9.1 | 8.6 | 8.8 |
| Baringo | 5.3 | 5.1 | 5.2 |
| Laikipia | 15.7 | 11.6 | 13.6 |
| Nakuru | 14.5 | 13.0 | 13.8 |
| Narok | 7.3 | 6.2 | 6.7 |
| Kajiado | 13.4 | 11.3 | 12.4 |
| Kericho | 12.6 | 6.8 | 9.6 |
| Bomet | 11.3 | 6.5 | 8.8 |
| Kakamega | 7.9 | 5.0 | 6.4 |
| Vihiga | 7.2 | 5.2 | 6.2 |
| Bungoma | 11.7 | 8.9 | 10.3 |
| Busia | 9.6 | 6.9 | 8.2 |
| Siaya | 10.9 | 8.0 | 9.5 |
| Kisumu | 18.9 | 12.7 | 15.8 |
| Homabay | 13.0 | 9.9 | 11.4 |
| Migori | 14.5 | 9.6 | 12.0 |
| Kisii | 11.1 | 8.4 | 9.8 |
| Nyamira | 15.4 | 9.8 | 12.5 |
| Nairobi City | 31.2 | 24.4 | 27.8 |

## 3.19 Smart Technologies

The integration of smart technologies into housing encompasses a range of devices and systems, such as internet connectivity, smart lighting, security systems, and home automation devices like smart plugs and smart door locks. These technologies enhance the quality of life by providing convenience, improving energy efficiency, and boosting security. The report shows that households in urban areas had a higher uptake of smart technologies. Nationally, 36.3 per cent of households had an internet connection (either mobile or fixed), and 8.8 per cent had computers. The least adopted smart technologies were smart plugs and smart door locks and garages, at 0.2 per cent and 0.4 per cent, respectively.

**Table 3.20: Proportion of Households with Smart Technologies by Type**

| | Kenya | Rural | Urban |
|---|---|---|---|
| Total Internet connection | 36.3 | 25.1 | 54.1 |
| Fixed internet connection | 7.0 | 0.6 | 17.3 |
| Mobile Internet connection | 34.9 | 24.9 | 50.6 |
| Computer | 8.8 | 3.0 | 17.9 |
| Smart Lighting | 1.7 | 1.3 | 2.4 |
| Smart security | 2.0 | 0.6 | 4.2 |
| Smart door locks and garages | 0.4 | 0.2 | 0.8 |
| Smart plugs | 0.2 | 0.1 | 0.4 |
| CCTV | 3.8 | 0.8 | 8.5 |

Analysis by the uptake of selected smart techonologies by type of dwelling structure as shown in Table 3.21 reveals that the uptake of fixed internet (61.3%) was high in flat/apartments followed by bungalows (17.0%). Smart lighting systems were more in bungalow (52.2%), while smart security systems were more in flat/ apartments (46.8%).

**Table 3.21: Proportion of Households with Smart Technologies by Type of Dwelling Structure**

| Type of Dwelling Structure | Fixed internet connection (e.g. Fiber optic cable etc) | Computer/ Tablet/ Laptop | Smart lighting systems | Smart security systems like alarms, cameras, smoke detectors and sensors | Smart door locks and garage door openers |
|---|---|---|---|---|---|
| Bungalow | 17.0 | 27.9 | 52.2 | 30.2 | 42.4 |
| Flat / apartment | 61.3 | 40.9 | 18.4 | 46.8 | 23.3 |
| Maisonette | 5.7 | 5.9 | 9.4 | 12.1 | 24.8 |
| Swahili/compound houses sharing facilities | 9.2 | 16.5 | 17.1 | 6.0 | 5.0 |
| Compound houses not sharing facilities | 5.7 | 7.6 | 1.3 | 4.3 | 3.3 |
| Shanty | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Manyatta/traditional house/hut | 0.0 | 0.3 | 1.1 | 0.3 | 0.0 |
| Townhouse | 1.2 | 0.9 | 0.4 | 0.3 | 1.2 |

# CHAPTER 04

# Home Ownership and Tenancy

## Key Findings

| | |
|---|---|
| 51.8 | Nationally, bungalows were the predominant type of dwelling units |
| 38.0 | Nationally, urban renting households spend a higher proportion of their expenditure on rent |
| 76.5 | Proportion of tenants who paid their rent directly to individuals |
| 71.8 | Proportion of Kenyan tenants did not have written agreements |
| 87.4 | Propotion of tenants reported to have not experienced rent increment in the last five years |
| 76.9 | Proportionof tenants were not willing to purchase their current dwelling. |
| 55.5 | Proportion of tenants preferring to build. |
| 63.1 | Dwelling units tenants preferred to build/buy Bungalows at 63.1% |
| 17.1 | Nairobi City was the most preferred for tenants seeking home ownership |
| 52.2 | 52.2% of the respondents prefer to rent because their dwellings are too far from work |
| 8.2 | Nationally, 8.2 per cent of tenants have had Rent dispute. |
| 17.9 | The Highest cases of rent dispute were reported in Nandi County |
| 84.0 | Proportion of tenants who faced threats of eviction who were residing in urban areas. |
| 52.5 | Houses acquired through one-off construction |
| 85.5 | Proportion of houses which were built in less than one year |
| 19.4 | Proportion of architects who were utilized in acquisition of housing |

## 4.1 Introduction

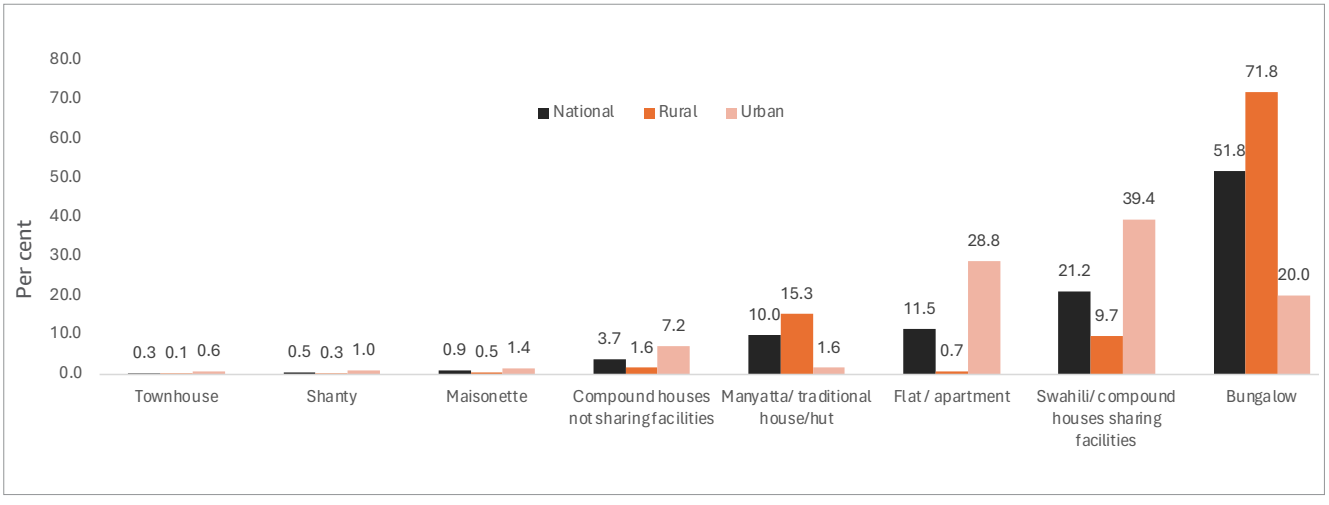
This chapter highlights the evolving housing dynamics, for both homeowners and tenants, which play a critical role in determining the market dynamics of rental and home ownership. For tenants, the discussion covers preferences of tenants, rent costs, rent-to-expenditure ratios, plans to build or buy homes, among others. For homeowners, the chapter highlights the modes of home acquisition, multiple home ownership, factors influencing construction, and the use of building professionals.

The chapter begins by analysing the distribution of dwelling structures in the country, followed by rental patterns across rural and urban areas, highlighting variations within different counties and finally the chapter gives the analysis of home ownership. The term "owners" refers to households who reside in their own houses irrespective of the mode of acquisition whereas "tenants" refers to those who pay rent either directly or indirectly to their landlords.

## 4.2 Distribution of Dwelling Structures

Bungalows are the predominant type of dwelling units in the country, making up 51.8 per cent of all units, followed by Swahili/compound houses with shared facilities at 21.2 per cent as shown in Figure 4.1.

*Figure 4.1 Distribution of Dwelling Structures by Type and Residence*



## 4.3 Tenancy

This section covers various aspects related to tenants in the country. Analysis includes the amount of rent paid, the rent-to-expenditure ratio, tenant preferences, rent disputes, and tenants' plans for home ownership.

### 4.3.1 Amount of Rent Paid by Tenants

This section looks at the different rents tenants paid, influenced by factors such as the type of housing unit, level of urbanization, available amenities, and location across various counties. It highlights both high-end properties and more affordable housing options, showing the wide range of rental costs in urban areas. Table 4.1 shows the average rent paid by tenants across counties, dwelling types, and the number of bedrooms in urban areas. In Kajiado, a rent of Ksh 120,000 was recorded for a five-bedroom house.In Nairobi City, households paid Ksh 70,000 for a three-bedroom townhouse and Ksh 65,000 for a three-bedroom bungalow. Among the lowest rents, households in Siaya paid Ksh 1,000 for single-room Swahili/compound houses with shared facilities and no designated bedroom.

**Table 4.1: Average Rent by County, Dwelling Type and Number of Bedrooms, Urban**

| County | Dwelling Type | Number of Bedrooms | Average Urban Rent |
|---|---|---|---|
| Mombasa | Bungalow | 1 | 6,000 |
| | | **2** | **10,000** |
| | | 4 | 30,000 |
| | Flat / Apartment | 0 | 6,000 |
| | | 1 | 9,500 |
| | | 2 | 15,000 |
| | | 3 | 20,000 |
| | Maisonette | 2 | 18,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 4,500 |
| | | 2 | 6,000 |
| | Compound Houses Not Sharing Facilities | 0 | 6,500 |
| | | 1 | 7,000 |
| | | 2 | 7,400 |
| | | 3 | 13,000 |
| | | 4 | 16,000 |
| | Townhouse | 1 | 15,000 |
| Kwale | Bungalow | 1 | 9,000 |
| | | 2 | 7,500 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 4,000 |
| | | 2 | 6,300 |
| | Compound Houses Not Sharing Facilities | 1 | 7,000 |
| | | 2 | 13,000 |
| | Townhouse | 2 | 12,000 |
| Kilifi | Bungalow | 1 | 6,000 |
| | | 2 | 9,000 |
| | | 4 | 10,000 |
| | Flat / Apartment | 1 | 8,500 |
| | | 2 | 15,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 5,000 |
| | Compound Houses Not Sharing Facilities | 1 | 8,000 |
| | | 2 | 15,000 |
| Tana River | Flat / Apartment | 1 | 5,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,500 |
| | Compound Houses Not Sharing Facilities | 1 | 7,000 |
| | Townhouse | 1 | 11,000 |
| Lamu | Bungalow | 1 | 2,500 |
| | | 2 | 5,250 |
| | Flat / Apartment | 1 | 5,750 |
| | | 2 | 5,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 5,500 |
| | | 2 | 3,000 |
| | Compound Houses Not Sharing Facilities | 1 | 4,000 |
| | | 2 | 6,000 |
| | Townhouse | 1 | 5,250 |
| | | 2 | 5,250 |
| Taita-Taveta | Bungalow | 1 | 4,500 |
| | Flat / Apartment | 1 | 6,500 |
| | | 2 | 12,000 |
| | | 3 | 15,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 2,250 |

| County | Dwelling Type | Number of Bedrooms | Average Urban Rent |
|---|---|---|---|
| | | 3 | 2,000 |
| | Compound Houses Not Sharing Facilities | 1 | 4,750 |
| | | 2 | 6,000 |
| | Townhouse | 3 | 16,500 |
| Garissa | | 2 | 6,000 |
| | | 3 | 8,750 |
| | | 4 | 8,750 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 5,500 |
| | | 2 | 6,000 |
| | | 3 | 12,000 |
| | Compound Houses Not Sharing Facilities | 1 | 6,000 |
| | | 2 | 6,000 |
| | | 3 | 8,750 |
| | Townhouse | 2 | 12,000 |
| Wajir | Bungalow | 1 | 5,000 |
| | | 2 | 5,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 5,000 |
| | | 2 | 5,000 |
| Mandera | Bungalow | 1 | 8,000 |
| | | 3 | 15,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 4,000 |
| | | 2 | 5,500 |
| | | 3 | 10,000 |
| | | 4 | 16,000 |
| | Manyatta/ Traditional House/Hut | 2 | 3,500 |
| Marsabit | Bungalow | 1 | 3,500 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 4,000 |
| | Compound Houses Not Sharing Facilities | 1 | 7,000 |
| | Townhouse | 2 | 8,000 |
| Isiolo | Bungalow | 1 | 2,750 |
| | | 2 | 8,000 |
| | | 4 | 35,000 |
| | Flat / Apartment | 1 | 8,000 |
| | | 2 | 12,500 |
| | | 4 | 15,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 5,750 |
| | | 2 | 8,750 |
| | Compound Houses Not Sharing Facilities | 1 | 7,000 |

| County | Dwelling Type | Number of Bedrooms | Average Urban Rent |
|---|---|---|---|
| Meru | Bungalow | 1 | 7,000 |
| | | 2 | 12,500 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 2,500 |
| | | 2 | 5,000 |
| | Compound Houses Not Sharing Facilities | 1 | 7,000 |
| | | 2 | 11,500 |
| Tharaka-Nithi | Bungalow | 2 | 9,500 |
| | Flat / Apartment | 1 | 6,250 |
| | | 2 | 10,000 |
| | | 3 | 16,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,000 |
| | | 2 | 3,000 |
| | Compound Houses Not Sharing Facilities | 1 | 4,750 |
| | | 3 | 12,000 |
| Embu | Bungalow | 1 | 5,000 |
| | | 2 | 5,000 |
| | | 3 | 9,000 |
| | Flat / Apartment | 1 | 6,000 |
| | | 2 | 8,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,000 |
| | | 2 | 3,750 |
| | Compound Houses Not Sharing Facilities | 1 | 3,750 |
| | | 2 | 6,500 |
| Kitui | Bungalow | 1 | 4,500 |
| | Flat / Apartment | 1 | 10,000 |
| | | 2 | 13,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 4,000 |
| | Compound Houses Not Sharing Facilities | 1 | 5,000 |
| | | 2 | 6,250 |
| Machakos | Bungalow | 1 | 6,000 |
| | | 2 | 10,000 |
| | | 3 | 9,000 |
| | Flat / Apartment | 1 | 5,500 |
| | | 2 | 8,000 |
| | Maisonette | 4 | 35,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 2,750 |
| | | 2 | 3,500 |

| County | Dwelling Type | Number of Bedrooms | Average Urban Rent |
|---|---|---|---|
| | Compound Houses Not Sharing Facilities | 1 | 4,500 |
| Makueni | Bungalow | 2 | 2,000 |
| | Flat / Apartment | 1 | 8,250 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,750 |
| | | 2 | 4,000 |
| | Compound Houses Not Sharing Facilities | 1 | 6,000 |
| | | 2 | 7,000 |
| | | 3 | 12,000 |
| Nyandarua | Bungalow | 1 | 2,050 |
| | | 2 | 3,500 |
| | | 4 | 10,000 |
| | Flat / Apartment | 1 | 4,750 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,000 |
| | | 3 | 3,700 |
| | Compound Houses Not Sharing Facilities | 1 | 4,500 |
| | | 2 | 5,500 |
| | Townhouse | 2 | 8,000 |
| Nyeri | Bungalow | 4 | 42,000 |
| | Flat / Apartment | 1 | 5,000 |
| | | 2 | 7,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,500 |
| | Compound Houses Not Sharing Facilities | 1 | 5,000 |
| | | 2 | 8,000 |
| | Townhouse | 2 | 8,500 |
| Kirinyaga | Bungalow | 1 | 5,000 |
| | | 2 | 4,000 |
| | | 3 | 7,250 |
| | Flat / Apartment | 1 | 7,500 |
| | | 2 | 11,000 |
| | | 3 | 12,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 2,550 |
| | | 2 | 3,750 |
| | Compound Houses Not Sharing Facilities | 1 | 5,500 |
| | | 2 | 7,000 |
| Murang'a | Bungalow | 1 | 7,550 |
| | Flat / Apartment | 1 | 6,000 |
| | | 2 | 7,000 |

| County | Dwelling Type | Number of Bedrooms | Average Urban Rent |
|---|---|---|---|
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,300 |
| | | 2 | 10,300 |
| Kiambu | Bungalow | 3 | 20,000 |
| | Flat / Apartment | 1 | 6,000 |
| | | 2 | 14,500 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,500 |
| | | 2 | 4,000 |
| | Compound Houses Not Sharing Facilities | 1 | 3,400 |
| | | 2 | 6,500 |
| Turkana | Swahili/ Compound Houses Sharing Facilities | 1 | 4,750 |
| | Compound Houses Not Sharing Facilities | 2 | 8,000 |
| | Townhouse | 1 | 3,000 |
| | | 2 | 5,000 |
| West Pokot | Bungalow | 1 | 3,000 |
| | | 2 | 5,500 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,000 |
| | | 2 | 3,500 |
| | Compound Houses Not Sharing Facilities | 1 | 6,000 |
| | | 2 | 7,000 |
| | | 3 | 6,000 |
| Samburu | Bungalow | 1 | 5,250 |
| | | 2 | 5,000 |
| | | 3 | 6,250 |
| | Flat / Apartment | 1 | 5,500 |
| | Swahili/ Compound Houses Sharing Facilities | 0 | 3,500 |
| | | 1 | 4,000 |
| | | 2 | 5,250 |
| | | 3 | 12,000 |
| | Compound Houses Not Sharing Facilities | 1 | 9,500 |
| | Townhouse | 1 | 3,000 |
| | | 2 | 4,500 |

| County | Dwelling Type | Number of Bedrooms | Average Urban Rent |
|---|---|---|---|
| Trans Nzoia | Bungalow | 2 | 6,500 |
| | Flat / Apartment | 1 | 7,000 |
| | | 2 | 10,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,500 |
| | | 2 | 4,000 |
| | Compound Houses Not Sharing Facilities | 1 | 6,500 |
| | | 3 | 12,000 |
| | Manyatta/ Traditional House/Hut | 1 | 1,000 |
| | | 2 | 2,500 |
| Uasin Gishu | Flat / Apartment | 0 | 4,500 |
| | | 1 | 8,000 |
| | Swahili/ Compound Houses Sharing Facilities | 0 | 4,000 |
| | | 1 | 5,000 |
| | Compound Houses Not Sharing Facilities | 0 | 4,750 |
| | | 1 | 6,000 |
| | | 2 | 9,000 |
| Elgeyo-Marakwet | Bungalow | 1 | 4,500 |
| | | 2 | 5,000 |
| | | 3 | 7,000 |
| | Flat / Apartment | 1 | 4,500 |
| | | 2 | 5,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,000 |
| | | 2 | 3,750 |
| | Compound Houses Not Sharing Facilities | 1 | 5,500 |
| | | 2 | 7,500 |
| | Manyatta/ Traditional House/Hut | 1 | 3,500 |
| | Townhouse | 1 | 5,000 |
| | | 2 | 5,000 |
| Nandi | Bungalow | 1 | 2,400 |
| | | 2 | 8,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,500 |
| | | 2 | 4,000 |
| | Compound Houses Not Sharing Facilities | 1 | 3,750 |
| | | 2 | 8,500 |
| Baringo | Bungalow | 1 | 2,000 |
| | | 2 | 8,000 |
| | Flat / Apartment | 1 | 4,550 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,000 |
| | | 2 | 4,250 |
| | Compound Houses Not Sharing Facilities | 1 | 1,800 |
| | | 2 | 6,500 |
| Laikipia | Bungalow | 1 | 3,000 |
| | | 2 | 7,000 |
| | | 3 | 20,000 |
| | Flat / Apartment | 1 | 6,000 |
| | | 2 | 11,500 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,200 |
| | Compound Houses Not Sharing Facilities | 1 | 6,000 |
| | | 2 | 12,500 |
| Nakuru | Townhouse | 2 | 10,000 |
| | | 3 | 30,000 |
| | Flat / Apartment | 1 | 6,000 |
| | | 2 | 13,000 |
| | | 3 | 14,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 4,500 |
| | | 2 | 3,500 |
| | Compound Houses Not Sharing Facilities | 1 | 5,000 |
| | | 2 | 5,350 |
| Narok | Swahili/ Compound Houses Sharing Facilities | 0 | 5,000 |
| | | 1 | 4,000 |
| | | 2 | 8,000 |
| | Compound Houses Not Sharing Facilities | 1 | 8,000 |
| | | 2 | 12,000 |
| Kajiado | Bungalow | 1 | 4,500 |

| County | Dwelling Type | Number of Bedrooms | Average Urban Rent |
|---|---|---|---|
| | | 3 | 15,000 |
| | Flat / Apartment | 0 | 3,500 |
| | | 1 | 8,000 |
| | | 2 | 17,500 |
| | | 3 | 37,500 |
| | Maisonette | 5 | 120,000 |
| | Swahili/ Compound Houses Sharing Facilities | 0 | 3,000 |
| | | 1 | 4,500 |
| | | 2 | 4,250 |
| | | 3 | 9,000 |
| | Compound Houses Not Sharing Facilities | 1 | 6,500 |
| Kericho | Bungalow | 1 | 3,500 |
| | Flat / Apartment | 1 | 5,000 |
| | | 2 | 7,500 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,700 |
| | Compound Houses Not Sharing Facilities | 1 | 7,000 |
| | | 2 | 8,000 |
| Bomet | Bungalow | 1 | 4,000 |
| | | 2 | 4,000 |
| | Flat / Apartment | 1 | 4,250 |
| | | 2 | 5,000 |
| | Maisonette | 1 | 5,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 2,000 |
| | | 2 | 4,000 |
| | Compound Houses Not Sharing Facilities | 1 | 4,000 |
| | | 2 | 10,000 |
| | | 4 | 13,000 |
| Kakamega | Bungalow | 1 | 3,000 |
| | | 2 | 6,000 |
| | Flat / Apartment | 1 | 6,500 |
| | | 2 | 13,250 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,500 |
| | | 2 | 4,000 |

| County | Dwelling Type | Number of Bedrooms | Average Urban Rent |
|---|---|---|---|
| | Compound Houses Not Sharing Facilities | 1 | 5,000 |
| | | 2 | 6,500 |
| Vihiga | Flat / Apartment | 1 | 6,000 |
| | | 2 | 7,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 4,500 |
| | | 2 | 5,500 |
| | Compound Houses Not Sharing Facilities | 1 | 6,000 |
| Bungoma | | 2 | 4,500 |
| | Flat / Apartment | 2 | 15,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 2,500 |
| | | 2 | 4,500 |
| | | 3 | 10,000 |
| | Compound Houses Not Sharing Facilities | 1 | 5,000 |
| Busia | | 2 | 6,000 |
| | | 2 | 3,000 |
| | | 3 | 4,000 |
| | Flat / Apartment | 2 | 14,000 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,000 |
| | | 2 | 5,000 |
| | Compound Houses Not Sharing Facilities | 1 | 6,000 |
| | | 2 | 9,000 |
| | Manyatta/ Traditional House/Hut | 1 | 6,500 |
| Siaya | Bungalow | 1 | 4,200 |
| | | 2 | 6,000 |
| | | 3 | 7,500 |
| | Flat / Apartment | 1 | 8,500 |
| | Swahili/ Compound Houses Sharing Facilities | 0 | 1,000 |
| | | 1 | 3,500 |
| | | 2 | 5,000 |
| | Compound Houses Not Sharing Facilities | 1 | 5,000 |

| County | Dwelling Type | Number of Bedrooms | Average Urban Rent |
|---|---|---|---|
| | | 2 | 8,000 |
| | Manyatta/ Traditional House/Hut | 1 | 2,000 |
| Kisumu | Bungalow | 1 | 3,000 |
| | | 2 | 7,750 |
| | Flat / Apartment | 1 | 8,500 |
| | | 2 | 10,000 |
| | Maisonette | 2 | 28,000 |
| | | 3 | 32,500 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 4,000 |
| | Compound Houses Not Sharing Facilities | 1 | 7,000 |
| | Manyatta/ Traditional House/Hut | 1 | 4,000 |
| | Townhouse | 1 | 8,000 |
| | | 2 | 24,500 |
| | | 3 | 28,000 |
| Homabay | Bungalow | 1 | 3,000 |
| | | 2 | 5,500 |
| | Flat / Apartment | 1 | 8,000 |
| | | 2 | 16,500 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,000 |
| | | 2 | 3,400 |
| | Townhouse | 1 | 8,000 |
| | | 2 | 15,000 |
| Migori | Bungalow | 3 | 11,000 |
| | Flat / Apartment | 2 | 15,750 |
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,000 |
| | | 2 | 4,500 |
| | Compound Houses Not Sharing Facilities | 1 | 3,250 |
| | Manyatta/ Traditional House/Hut | 1 | 4,300 |
| | Townhouse | 2 | 5,500 |
| Kisii | Bungalow | 2 | 4,000 |
| | Flat / Apartment | 0 | 3,500 |
| | | 1 | 4,250 |
| | | 2 | 12,000 |
| | | 4 | 15,000 |

| County | Dwelling Type | Number of Bedrooms | Average Urban Rent |
|---|---|---|---|
| | Swahili/ Compound Houses Sharing Facilities | 1 | 3,750 |
| | | 2 | 5,000 |
| | Compound Houses Not Sharing Facilities | 1 | 3,500 |
| | | 2 | 5,250 |
| Nyamira | Bungalow | 2 | 4,000 |
| | Flat / Apartment | 1 | 6,000 |
| | | 2 | 7,750 |
| | Swahili/ Compound Houses Sharing Facilities | 0 | 3,500 |
| | | 2 | 3,750 |
| | Compound Houses Not Sharing Facilities | 0 | 3,000 |
| | | 1 | 3,250 |
| | | 2 | 6,000 |
| | Townhouse | 1 | 2,500 |
| | | 2 | 6,500 |
| Nairobi City | Bungalow | 1 | 13,000 |
| | | 2 | 18,000 |
| | | 3 | 65,000 |
| | Flat / Apartment | 0 | 7,500 |
| | | 1 | 8,500 |
| | | 2 | 15,000 |
| | | 4 | 30,000 |
| | | 5 | 38,000 |
| | Maisonette | 3 | 25,000 |
| | Swahili/ Compound Houses Sharing Facilities | 0 | 8,000 |
| | | 1 | 6,000 |
| | | 2 | 9,000 |
| | Compound Houses Not Sharing Facilities | 0 | 7,750 |
| | | 1 | 9,000 |
| | | 2 | 10,000 |
| | | 3 | 8,500 |
| | Shanty | 1 | 2,500 |
| | Townhouse | 3 | 70,000 |
| | | 2 | 4,500 |

#### 4.3.1.1 Rent to Household Expenditure

The proportion of household expenditure on housing to total household expenditure shows that nationally, urban renting households spend a higher proportion of their expenditure on rent compared to rural renting households at 38.0 per cent and 29.6 per cent respectively, as shown in Table 4.2.

**Table 4.2: Proportion of Rent to Household Expenditure, 2024**

| | Residence | | |
|---|---|---|---|
| **County** | **Rural** | **Urban** | **Total** |
| **Kenya** | **29.6** | **38.0** | **36.9** |
| Mombasa | 0.0 | 34.6 | 34.6 |
| Kwale | 27.8 | 27.3 | 27.4 |
| Kilifi | 17.0 | 35.4 | 34.3 |
| Tana River | 20.5 | 22.7 | 22.3 |
| Lamu | 24.1 | 31.3 | 29.9 |
| Taita-Taveta | 25.3 | 34.0 | 31.5 |
| Garissa | 15.0 | 35.9 | 35.5 |
| Wajir | 73.9 | 32.5 | 38.9 |
| Mandera | 16.4 | 29.2 | 28.2 |
| Marsabit | 50.3 | 41.4 | 42.0 |
| Isiolo | 0.0 | 32.6 | 32.6 |
| Meru | 23.7 | 35.2 | 31.8 |
| Tharaka-Nithi | 27.4 | 38.2 | 35.5 |
| Embu | 30.3 | 36.8 | 35.8 |
| Kitui | 33.8 | 33.7 | 33.8 |
| Machakos | 29.5 | 34.9 | 34.6 |
| Makueni | 19.1 | 27.5 | 27.1 |
| Nyandarua | 36.0 | 51.7 | 46.8 |
| Nyeri | 30.9 | 40.8 | 38.2 |
| Kirinyaga | 27.7 | 29.5 | 29.2 |
| Murang'a | 23.4 | 50.3 | 39.8 |
| Kiambu | 29.9 | 36.1 | 34.9 |
| Turkana | 21.7 | 28.0 | 27.7 |

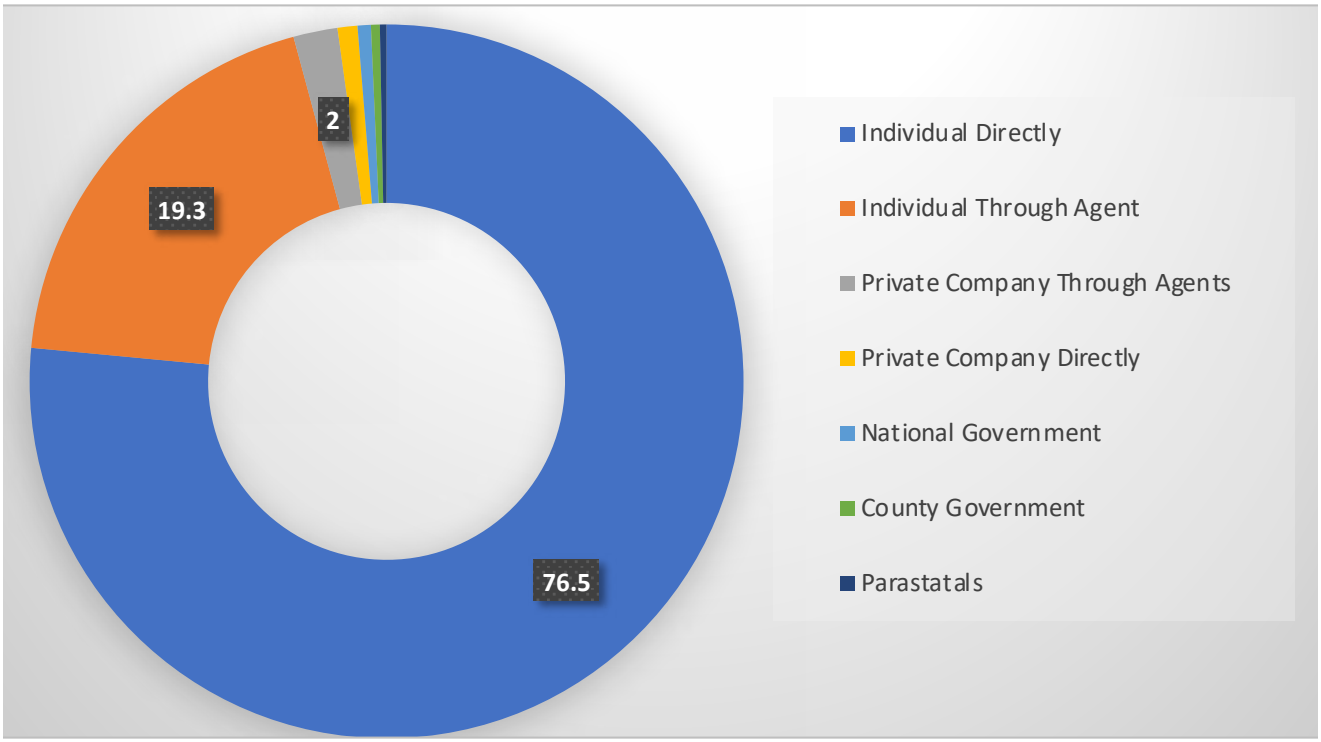
| | Residence | | |
|---|---|---|---|
| **County** | **Rural** | **Urban** | **Total** |
| West Pokot | 45.3 | 47.1 | 46.9 |
| Samburu | 37.4 | 33.7 | 34.1 |
| Trans Nzoia | 43.5 | 43.7 | 43.7 |
| Uasin Gishu | 24.5 | 39.8 | 38.5 |
| Elgeyo-Marakwet | 21.6 | 31.6 | 29.4 |
| Nandi | 28.5 | 38.4 | 36.5 |
| Baringo | 10.6 | 26.3 | 25.8 |
| Laikipia | 28.7 | 35.1 | 33.8 |
| Nakuru | 24.5 | 34.6 | 33.3 |
| Narok | 19.7 | 48.0 | 43.2 |
| Kajiado | 41.5 | 67.4 | 64.7 |
| Kericho | 59.1 | 52.8 | 53.2 |
| Bomet | 30.6 | 33.9 | 33.6 |
| Kakamega | 38.9 | 42.5 | 42.0 |
| Vihiga | 31.7 | 33.8 | 33.4 |
| Bungoma | 43.4 | 42.5 | 42.8 |
| Busia | 26.1 | 36.9 | 35.4 |
| Siaya | 40.5 | 33.8 | 34.4 |
| Kisumu | 21.0 | 44.7 | 43.9 |
| Homabay | 12.7 | 26.1 | 24.7 |
| Migori | 14.9 | 25.4 | 24.5 |
| Kisii | 43.4 | 56.1 | 54.6 |
| Nyamira | 27.7 | 44.6 | 41.4 |
| Nairobi City | 0.0 | 38.0 | 38.0 |

### 4.3.2 Rent Collection Entities

The entity or organization to whom rent is paid can significantly impact various aspects of their renting experience such as: regulations, affordability, flexibility of the lease agreement, ethical guidelines, among others as presented in Figure 4.2.

Analysis shows that 76.5 per cent of tenants paid their rent directly to individuals, while 19.3 per cent paid individuals through agents, and 0.9 per cent paid their rent to private companies directly. Table 4.5 shows the rent collection entities by county.

*Figure 4.2 Rent Collection Entities*



### Table 4.3: Rent Collection Entities by County

| County | Government | Private Company | Individual directly | Individual through Agent | Faith Based Organization |
|---|---|---|---|---|---|
| | % | % | % | % | % |
| Mombasa | 0.0 | 2.6 | 70.0 | 27.5 | 0.0 |
| Kwale | 0.0 | 6.6 | 81.2 | 12.2 | 0.0 |
| Kilifi | 0.8 | 1.2 | 93.4 | 4.6 | 0.0 |
| Tana River | 0.0 | 0.8 | 96.9 | 2.3 | 0.0 |
| Lamu | 2.6 | 1.4 | 94.9 | 1.1 | 0.0 |
| Taita-Taveta | 11.4 | 0.0 | 83.0 | 5.6 | 0.0 |
| Garissa | 5.0 | 3.4 | 90.6 | 1.0 | 0.0 |
| Wajir | 0.0 | 7.2 | 64.2 | 28.6 | 0.0 |
| Mandera | 0.0 | 0.0 | 90.9 | 9.1 | 0.0 |
| Marsabit | 0.0 | 0.0 | 93.5 | 6.5 | 0.0 |
| Isiolo | 0.0 | 12.8 | 75.8 | 11.5 | 0.0 |
| Meru | 0.0 | 3.1 | 94.4 | 2.6 | 0.0 |
| Tharaka-Nithi | 0.0 | 0.0 | 93.0 | 7.0 | 0.0 |
| Embu | 10.7 | 2.7 | 82.6 | 3.5 | 0.5 |
| Kitui | 1.9 | 0.1 | 96.6 | 1.3 | 0.2 |
| Machakos | 5.6 | 1.0 | 70.7 | 22.7 | 0.0 |
| Makueni | 0.0 | 0.0 | 90.0 | 10.0 | 0.0 |
| Nyandarua | 0.0 | 4.0 | 85.8 | 10.0 | 0.3 |
| Nyeri | 0.8 | 0.9 | 84.3 | 13.2 | 0.8 |
| Kirinyaga | 0.0 | 1.5 | 87.4 | 11.1 | 0.0 |
| Murang'a | 0.0 | 0.0 | 95.8 | 3.6 | 0.6 |
| Kiambu | 4.3 | 0.3 | 77.0 | 18.3 | 0.0 |
| Turkana | 0.0 | 0.0 | 95.2 | 4.8 | 0.0 |
| West Pokot | 0.0 | 4.1 | 88.1 | 7.8 | 0.0 |
| Samburu | 0.0 | 0.0 | 84.6 | 15.4 | 0.0 |
| Trans Nzoia | 0.0 | 0.0 | 93.9 | 6.1 | 0.0 |
| Uasin Gishu | 0.0 | 2.9 | 71.3 | 25.9 | 0.0 |
| Elgeyo-Marakwet | 0.0 | 0.8 | 97.0 | 2.2 | 0.0 |
| Nandi | 0.0 | 0.7 | 94.8 | 4.5 | 0.0 |
| Baringo | 0.0 | 1.0 | 71.8 | 27.2 | 0.0 |
| Laikipia | 0.3 | 2.5 | 61.2 | 36.0 | 0.0 |
| Nakuru | 0.0 | 0.7 | 64.2 | 35.1 | 0.0 |
| Narok | 0.0 | 0.2 | 92.5 | 7.3 | 0.0 |
| Kajiado | 0.0 | 3.9 | 66.9 | 29.2 | 0.0 |
| Kericho | 2.5 | 2.6 | 83.0 | 11.9 | 0.0 |
| Bomet | 4.0 | 13.4 | 80.5 | 2.1 | 0.0 |
| Kakamega | 0.0 | 0.6 | 85.5 | 13.8 | 0.0 |
| Vihiga | 1.5 | 0.0 | 91.6 | 6.9 | 0.0 |
| Bungoma | 0.0 | 0.6 | 88.3 | 11.1 | 0.0 |
| Busia | 6.6 | 0.0 | 90.2 | 3.2 | 0.0 |
| Siaya | 3.0 | 2.9 | 70.8 | 23.3 | 0.0 |
| Kisumu | 0.0 | 4.7 | 86.6 | 8.7 | 0.0 |
| Homabay | 0.0 | 2.2 | 84.5 | 12.1 | 1.1 |
| Migori | 9.1 | 2.4 | 82.4 | 6.1 | 0.0 |
| Kisii | 0.0 | 0.0 | 93.2 | 6.8 | 0.0 |
| Nyamira | 0.0 | 1.6 | 89.7 | 8.7 | 0.0 |
| Nairobi City | 1.0 | 5.3 | 69.8 | 24.0 | 0.0 |

### 4.3.3 Tenancy Agreements with Landlords

Rent agreements are vital in fostering a transparent, fair, and legally protected relationship between landlords and tenants. The most basic purpose of the rent agreement is to outline the terms of the lease, including the monthly rent, maintenance and repairs of the house, security deposit on the rental, when the rent is due, among others.

Figure 4.3 and Table 4.4 present information on how many tenants in Kenya had written agreements with their landlords. Overall, 71.8 per cent of Kenyan tenants did not have written agreements, whereas only 28.2 per cent had written rent agreements. The counties of Kajiado (69.4%), Taita Taveta (50.2%), and Nairobi City (40.5%) had the highest proportion of tenants with written rent agreements. Conversely, none of the households in Mandera county had a written rent agreement.

*Figure 4.3: Proportion of Tenants with Written Rent Agreements*

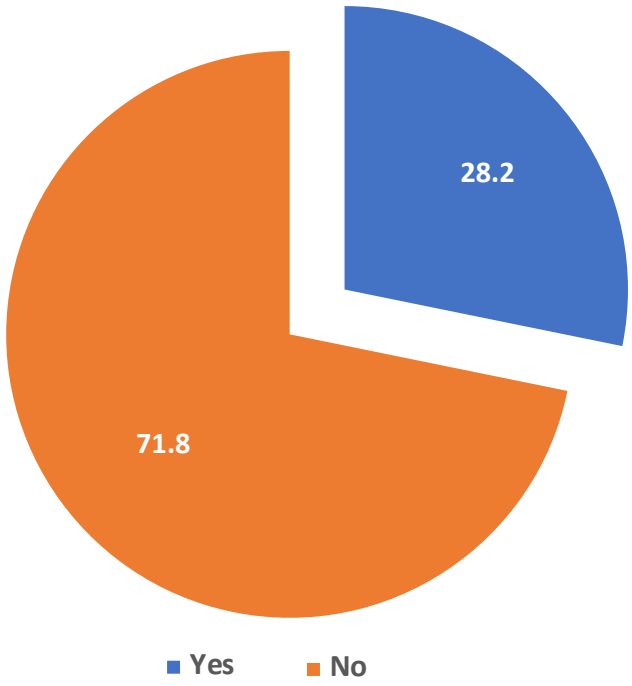



Table 4.4: Proportion of Tenants with Written Rent Agreements by County

| | Per Cent |
|---|---|
| **Kenya** | **28.2** |
| Mombasa | 23.4 |
| Kwale | 13.5 |
| Kilifi | 6.9 |
| Tana River | 3.7 |
| Lamu | 27.1 |
| Taita-Taveta | 50.2 |
| Garissa | 24.6 |
| Wajir | 39.4 |
| Mandera | 0.0 |
| Marsabit | 16.4 |
| Isiolo | 16.4 |
| Meru | 8.6 |
| Tharaka-Nithi | 12.6 |
| Embu | 24.8 |
| Kitui | 10.0 |
| Machakos | 18.1 |
| Makueni | 14.6 |
| Nyandarua | 22.0 |
| Nyeri | 21.6 |
| Kirinyaga | 22.1 |
| Murang'a | 9.2 |
| Kiambu | 37.7 |
| Turkana | 11.6 |
| West Pokot | 12.0 |
| Samburu | 7.7 |
| Trans Nzoia | 40.5 |
| Uasin Gishu | 29.3 |
| Elgeyo-Marakwet | 8.0 |
| Nandi | 18.5 |
| Baringo | 11.9 |
| Laikipia | 26.4 |
| Nakuru | 27.8 |
| Narok | 6.9 |
| Kajiado | 69.4 |
| Kericho | 15.4 |
| Bomet | 20.6 |
| Kakamega | 17.1 |
| Vihiga | 18.8 |
| Bungoma | 6.9 |
| Busia | 11.7 |
| Siaya | 8.2 |
| Kisumu | 24.8 |
| Homabay | 27.9 |
| Migori | 20.9 |
| Kisii | 12.7 |
| Nyamira | 19.0 |
| Nairobi City | 33.9 |

### 4.3.4 Rent Increments in the Last 5 Years

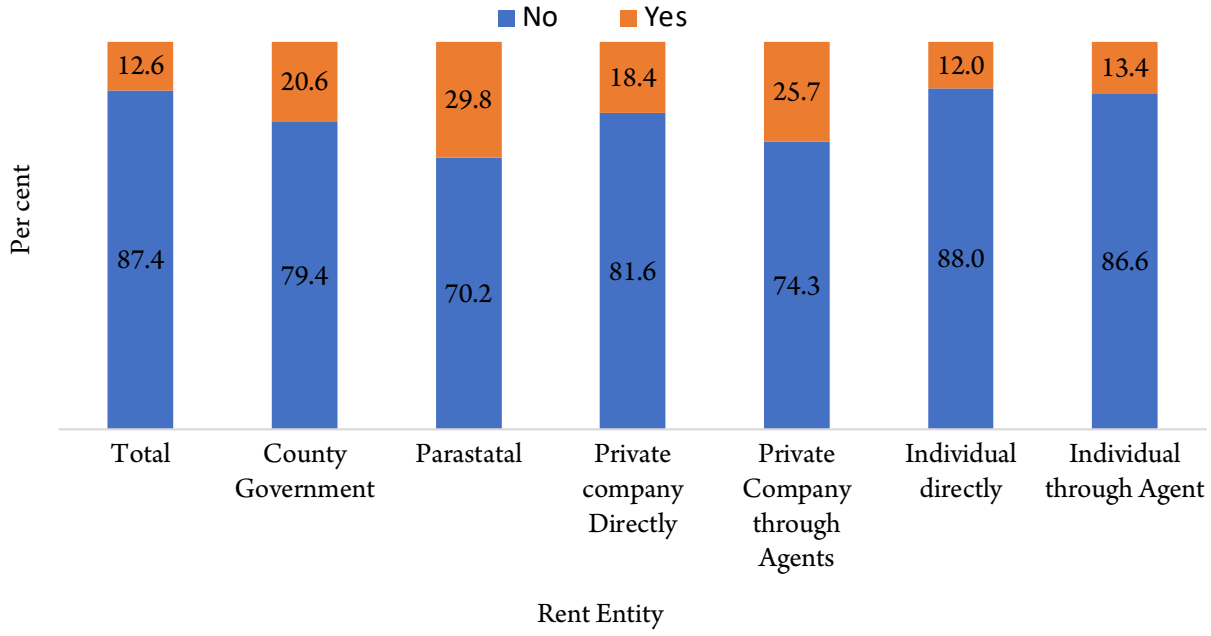
Information on rent increments provide insights into the performance of the housing market and economic conditions that affect housing affordability. Rent increments often reflect increases in the cost of living, including inflation rates and rising property taxes or maintenance costs. In addition, rent increases can indicate strong demand for housing in a particular area driven by factors such as population growth, job opportunities, or desirable amenities.

Figure 4.4 shows the percentage of tenants who had experienced rent increment from 2019 to 2023. Over the 5-year period, 87.4 per cent of tenants reported to have not experienced rent increment, whereas 12.6 per cent had experienced rent increment.

Tenants who paid rent to government entities and faith-based organization did not report rent increment. However, 13.4 per cent of those who paid rent to individuals through agents, and 12.0 per cent of those who paid to individuals directly, reported to have experienced rent increment.

**Over the 5-year period, 87.4 per cent of tenants reported to have not experienced rent increment, whereas 12.6 per cent had experienced rent increment.**

*Figure 4.4: Percentage of Tenants Who Reported Rent Increment from 2019 to 2023*

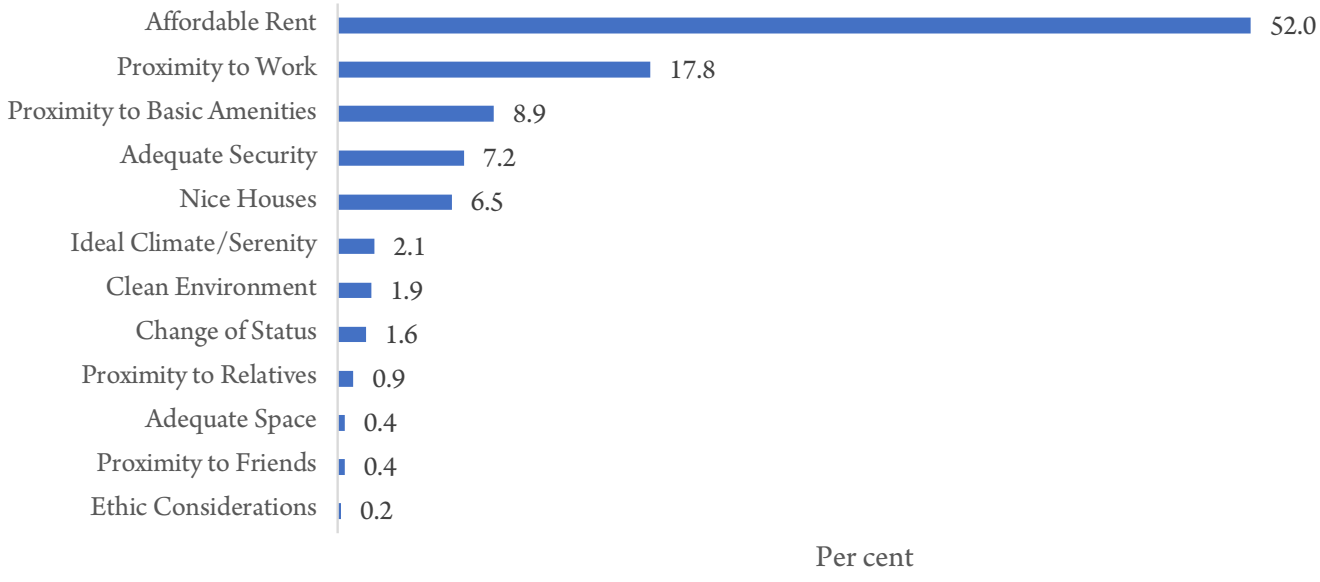



### 4.3.5 Factors Influencing Tenants' Choice of Neighbourhood

Factors influencing tenant's choice of neighborhood provide valuable insights to urban planners, real estate developers, and policymakers. These insights enable them to formulate policies and develop projects that align with the needs and preferences of the population.

As shown in Figure 4.5 more than half (52%) of the tenants cited affordability of rent as the main factor influencing their choice of the neighborhood. The second most cited factor, reported by 17.8 per cent of households was proximity to work.

*Figure 4.5: Factors Influencing Tenants' Choice of Neighborhood*



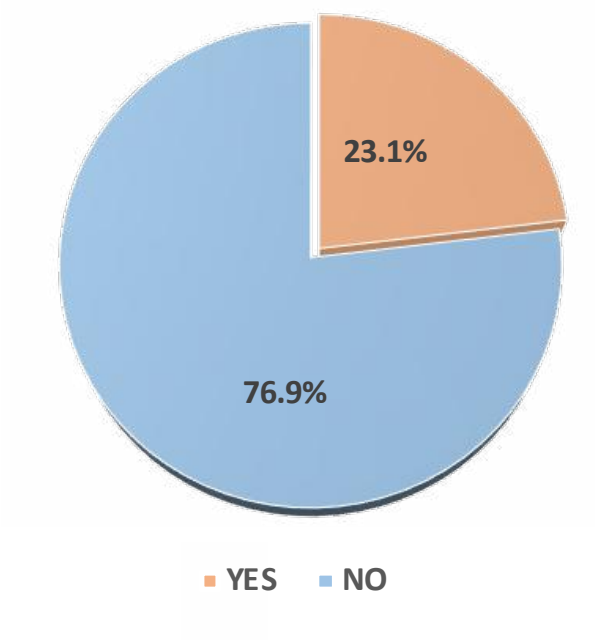
### 4.3.6 Preferences of Tenants

This section outlines tenants' preferences regarding various aspects of housing, including their interest in purchasing a home, desired locations for housing units, preferred types of housing, the ideal number of bedrooms, and whether they favor renting over owning their own home.

#### 4.3.6.1 Tenants Willingness to Purchase Current Dwelling Unit

Assessing tenants' willingness to purchase the dwelling units they reside is critical in understanding their home ownership aspirations. Figure 4.6 shows that 76.9 per cent of tenants were not willing to purchase their current dwelling.

*Figure 4.6: Proportion of Tenants Willing to Purchase Current Dwelling Unit*




#### 4.3.6.2 Tenants' Preferences to Build or Buy Own Dwelling Unit

Figure 4.7 presents the preference of tenants to build or buy own dwelling unit. More than half of the tenants at 55.5 per cent preferred to build, while 12.5 per cent preferred to buy, and 32.0 per cent of the tenants neither wanted to build or buy.

*Figure 4.7: Proportion of Tenants Preferring to Build or Buy Own Dwelling Unit*

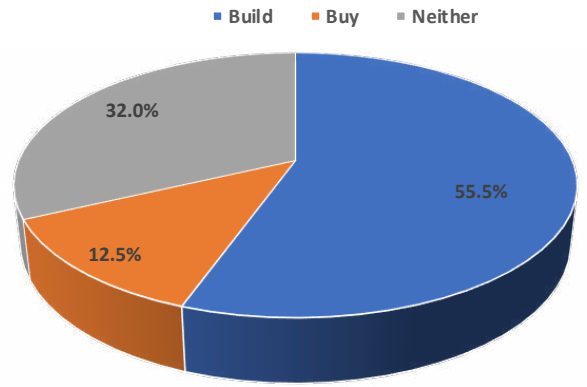



Table 4.5 presents an analysis of the type of dwelling unit tenants who prefer to build or buy for their own home. The most preferred dwelling types were Bungalows (63.1%) and Maisonnettes (23.0%).

**Table 4.5: Dwelling Units Tenants Prefer to Build/Buy**

| Type of Dwelling | % |
|---|---|
| Bungalow | 63.1 |
| Maisonnette | 23.0 |
| Flat / Apartment | 9.5 |
| Swahili/Compound Houses Sharing Facilities | 1.7 |
| Compound Houses Not Sharing Facilities | 1.7 |
| Townhouse | 0.7 |
| Manyatta/Traditional House/Hut | 0.2 |
| Shanty | 0.0 |
| Other | 0.0 |
| **Total** | **100** |

Table 4.7 presents the preferred number of bedrooms for tenants planning to build/buy. The 3-bedroom house (38.9%), 2-bedroom house (24.6%), and 4-bedroom house (19.4%) were the most preferred, while 4.1 per cent preferred a house that has 6 or more bedrooms.

Table 4.6: Number of Bedrooms Tenants Prefer to Build/ Buy

| Number of Bedrooms | % |
|---|---|
| 3 | 38.9 |
| 2 | 24.6 |
| 4 | 19.4 |
| 5 | 8.1 |
| 1 | 4.7 |
| 6+ | 4.1 |

### 4.3.6.3 Type of Rental Units Preferred by Tenants

Table 4.7 presents preferred type of rental units for tenants. Flats/apartments (56.3%) were the most preferred type of dwelling unit among tenants followed by bungalows (20.8%). Townhouses (0.3%) were the least popular type of dwelling units.

Table 4.7: Dwelling Unit Tenants Prefer to Rent

| Preferred Dwelling Unit | % |
|---|---|
| Flat/Apartment | 56.3 |
| Bungalow | 20.8 |
| Compound Houses Not sharing facilitites | 11.5 |
| Swahili/Compound House Sharing Facilitites | 5.8 |
| Maisonnette | 4.8 |
| Manyatta/Traditional House | 0.5 |
| Townhouse | 0.3 |
| Others | 0.1 |

Table 4.8 presents the number of rooms tenants prefer to rent with a majority preferring a 2-bedroom house (33.9%) and one-bedroom house (31.4%).

Table 4.8: Number of Bedrooms Tenants Prefer to Rent

| Number of Rooms | Percentage |
|---|---|
| 2 bedroom | 33.9 |
| 1 bedroom | 31.4 |
| 3 bedroom | 15.7 |
| Studio | 7.0 |
| More than 3 bedroom | 4.8 |
| 2 rooms | 3.8 |
| 1 room | 2.8 |
| More than 3 rooms | 0.5 |
| 3 rooms | 0.2 |

### 4.3.6.4 Counties of Preferrence for Tenants Seeking Home Ownership

Table 4.9 shows counties of preferrece for tenants seeking home ownership. Nairobi City was the most preferred county at 17.1 per cent followed by Kiambu and Nakuru at 8.6 per cent and 6.6 per cent, respectively.

Table 4.9: Counties of Preference for Tenants Seeking Home Ownership

| County | % |
|---|---|
| Mombasa | 4.6 |
| Kwale | 1.1 |
| Kilifi | 2.4 |
| Tana River | 0.3 |
| Lamu | 0.1 |
| Taita-Taveta | 0.9 |
| Garissa | 0.4 |
| Wajir | 0.1 |
| Mandera | 0.2 |
| Marsabit | 0.2 |
| Isiolo | 0.4 |
| Meru | 3.1 |
| Tharaka-Nithi | 0.7 |
| Embu | 1.3 |
| Kitui | 1.8 |
| Machakos | 5.1 |
| Makueni | 1.8 |
| Nyandarua | 1.4 |
| Nyeri | 1.6 |
| Kirinyaga | 1.3 |
| Murang'a | 2.1 |
| Kiambu | 8.6 |
| Turkana | 0.3 |
| West Pokot | 0.2 |
| Samburu | 0.6 |

| County | % |
|---|---|
| Trans Nzoia | 2.4 |
| Uasin Gishu | 3.6 |
| Elgeyo-Marakwet | 0.2 |
| Nandi | 0.8 |
| Baringo | 0.5 |
| Laikipia | 1.7 |
| Nakuru | 6.6 |
| Narok | 0.9 |
| Kajiado | 4.0 |
| Kericho | 0.6 |
| Bomet | 0.5 |
| Kakamega | 3.4 |
| Vihiga | 1.7 |
| Bungoma | 2.4 |
| Busia | 1.2 |
| Siaya | 2.9 |
| Kisumu | 3.1 |
| Homabay | 1.5 |
| Migori | 1.3 |
| Kisii | 2.3 |
| Nyamira | 0.6 |
| Nairobi City | 17.1 |
| **Total** | **100.0** |

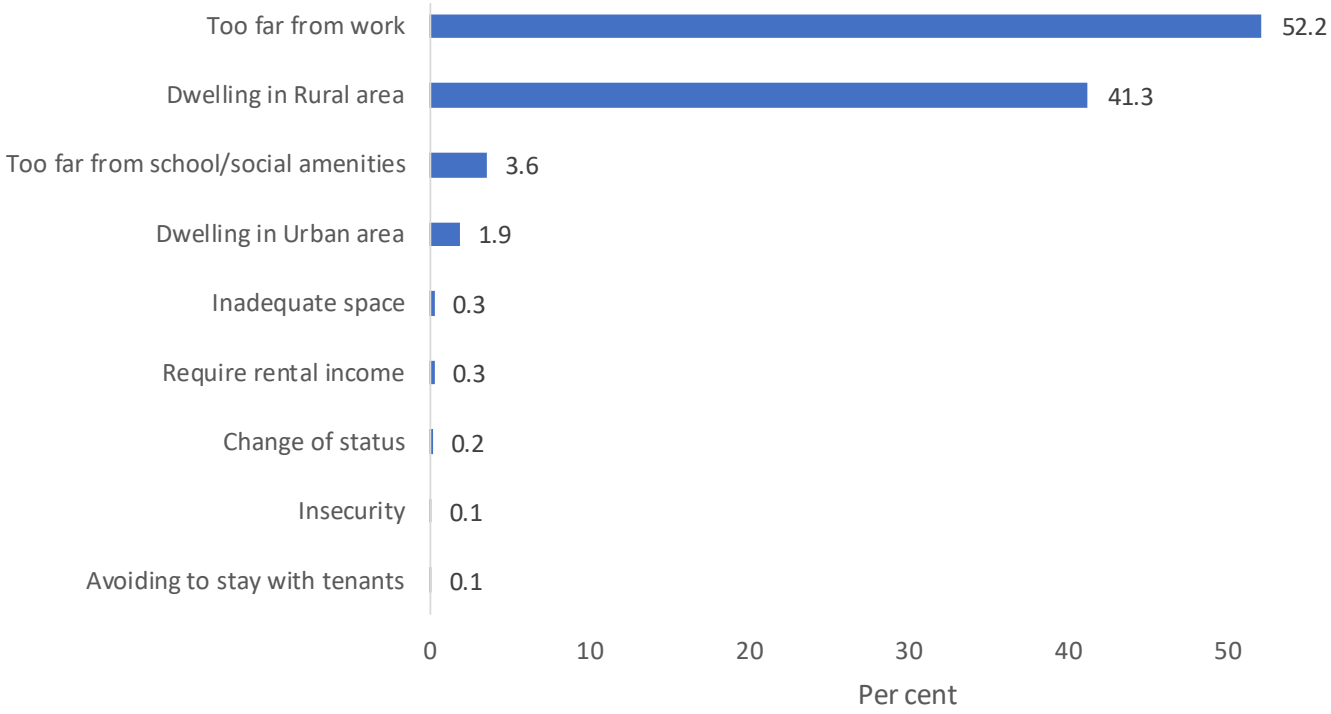
**17.1%**

Nairobi City is the most preferred county by tenants seeking home ownership.

#### 4.3.6.5 Reasons for Renting Instead of Residing in Own Dwelling

Some tenants own dwelling units but do not reside in them regularly. Figure 4.8 presents the reasons why tenants who owned dwelling units opted to rent instead of residing in their own dwelling. Slightly more than half (52.2%) of the respondents prefered to rent because their dwellings were too far from work, while 41.3 per cent prefered to rent because their dwellings were in rural areas.

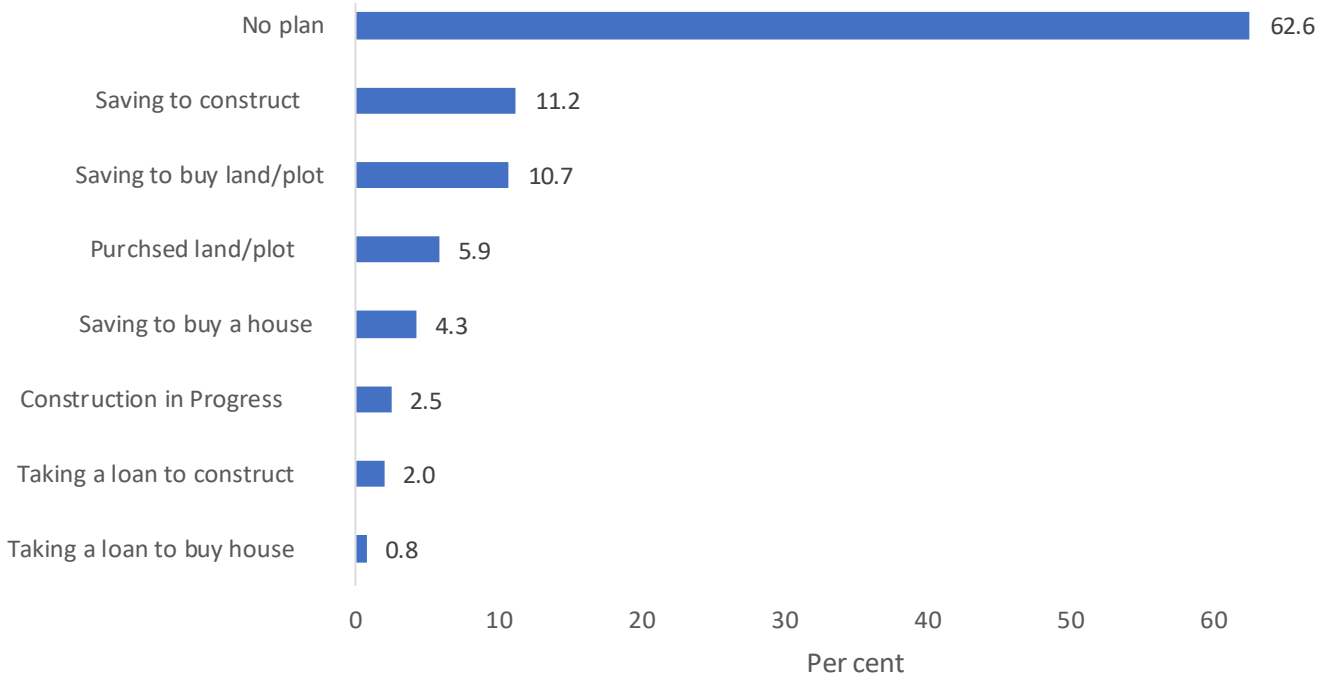
*Figure 4.8: Reasons for Renting Instead of Residing in Own Dwelling*




#### 4.3.7 Plans Made by Tenants Towards Home Ownership

Figure 4.9 shows that 62.6 per cent of tenants who wanted to own homes had not made plans towards home ownership. However, 11.2 per cent were saving to construct a house, while 10.7 per cent were saving to buy land.

*Figure 4.9: Plans Made by Tenants Towards Home Ownership*




### 4.3.8 Rental Disputes and Awareness of the Rent Restriction Tribunal by Tenants

Rental disputes refer to issues arising from non-payment of rent, rent increment, eviction procedures, and the conditions of the rental property. To address these disputes, the government established a Rent Restriction Tribunal to manage and handle disputes arising between tenants and landlords. This section highlights the proportion of tenants who have had disputes with their landlords and their awareness of the existence of the tribunal.

Table 4.10 presents the proportion of tenants who have ever had a rent dispute with their landlords by county. Nationally, 8.2 per cent of tenants have had a rent dispute with their landlord with the highest proportion in Nandi County at 17.9 per cent followed by Meru, Migori, and Nyandarua at 14.2 per cent, 13.7 per cent, and 12.9 per cent respectively. Out of the tenants who reported having had rental dispute, 12.6 per cent of tenants were aware of the Rent Restriction Tribunal. The counties with the highest proportion of Tenants who are aware of the Rent Restriction Tribunal are Mandera, Laikipia, and Kilifi counties at 86.6, 52.1, and 40.1 per cent, respectively.

**Nationally, 8.2 per cent of tenants have had a rent dispute with their landlord and out of these, 12.6 per cent were aware of Rent Restriction Tribunal.**

Table 4.10: Proportion of Tenants with Rent Disputes and Awareness of the Rent Restriction Tribunal by County

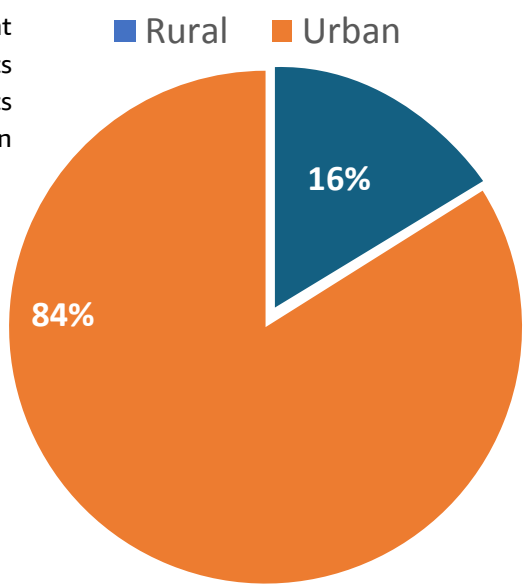
| County | Ever had rental dispute | Aware of Rent Restriction Tribunal |
|---|---|---|
| Kenya | 8.2 | 12.6 |
| Mombasa | 9.3 | 9.3 |
| Kwale | 3.9 | 0.0 |
| Kilifi | 2.5 | 40.1 |
| Tana River | 4.8 | 0.0 |
| Lamu | 0.0 | 0.0 |
| Taita-Taveta | 9.3 | 33.0 |
| Garissa | 1.6 | 0.0 |
| Wajir | 0.0 | 0.0 |
| Mandera | 4.3 | 86.6 |
| Marsabit | 10.2 | 0.0 |
| Isiolo | 8.7 | 0.0 |
| Meru | 14.2 | 28.3 |
| Tharaka-Nithi | 2.7 | 10.9 |
| Embu | 2.7 | 0.0 |
| Kitui | 5.0 | 0.0 |
| Machakos | 4.9 | 15.5 |
| Makueni | 5.9 | 0.0 |
| Nyandarua | 12.9 | 9.7 |
| Nyeri | 6.0 | 7.3 |
| Kirinyaga | 8.3 | 9.3 |
| Murang'a | 5.1 | 0.0 |
| Kiambu | 8.8 | 19.7 |
| Turkana | 2.1 | 0.0 |

| County | Ever had rental dispute | Aware of Rent Restriction Tribunal |
|---|---|---|
| West Pokot | 7.9 | 2.7 |
| Samburu | 6.3 | 24.8 |
| Trans Nzoia | 6.5 | 19.1 |
| Uasin Gishu | 8.4 | 4.6 |
| Elgeyo-Marakwet | 4.5 | 15.8 |
| Nandi | 17.9 | 4.7 |
| Baringo | 5.1 | 19.8 |
| Laikipia | 6.0 | 52.1 |
| Nakuru | 8.2 | 15.3 |
| Narok | 1.8 | 0.0 |
| Kajiado | 3.4 | 0.0 |
| Kericho | 5.6 | 0.0 |
| Bomet | 1.7 | 0.0 |
| Kakamega | 2.1 | 30.4 |
| Vihiga | 0.0 | 0.0 |
| Bungoma | 0.4 | 0.0 |
| Busia | 2.3 | 0.0 |
| Siaya | 7.9 | 0.0 |
| Kisumu | 7.7 | 32.2 |
| Homabay | 6.6 | 0.0 |
| Migori | 13.7 | 21.6 |
| Kisii | 1.8 | 11.1 |
| Nyamira | 1.2 | 0.0 |
| Nairobi City | 11.1 | 9.7 |

### 4.3.9 Eviction Threats

Figure 4.10 shows that the majority of tenants (84%) who faced threats of eviction were residing in urban areas.

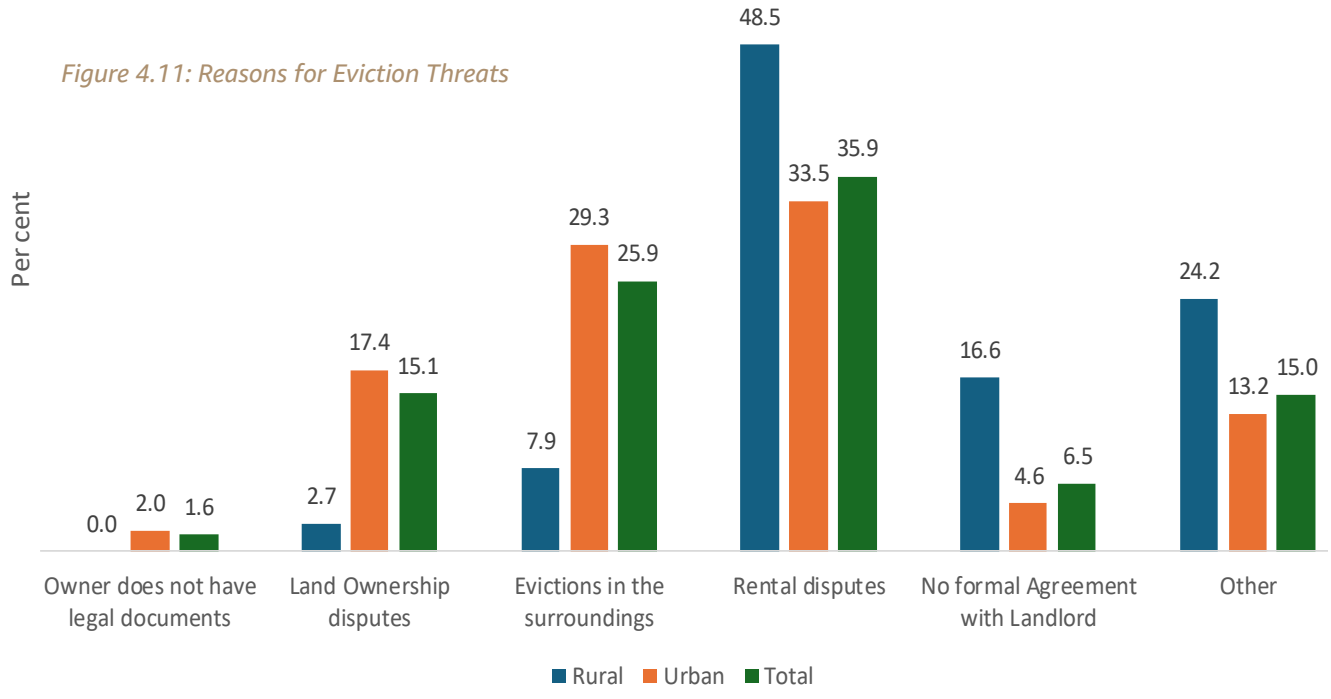
*Figure 4.10: Threats of Eviction*




#### 4.3.9.1 Reasons for Eviction Threats

Figure 4.11 presents the various reasons for eviction threats, by residence, as cited by tenants. Nationally, rent dispute was cited as the most common reason with for eviction threats (35.9%), with rural and urban residence reporting 48.5 per cent and 33.5 per cent, respectively.

*Figure 4.11: Reasons for Eviction Threats*




### 4.3.10 Demolitions in the Neighborhood in the Last 5 Years

Figure 4.12 shows the occurrence of demolitions in the last 5 years. About 6.1 per cent of tenants experienced demolitions in their neighbourhood in the last five years.

*Figure 4.12 Demolitions in the Neighbourhood in the Last 5 Years*

## 4.4 Home Owners

Ownership of residential property can be in various forms, such as single ownership, joint ownership, or through entities like corporations or trusts. Owners have the right to use, sell, lease, or transfer the property, and they are responsible for its upkeep and any associated costs, such as property taxes and maintenance. This section highlights the dynamics of home ownership in the country including mode of home acquisition, financing, sources of financing, construction of homes, use of Built Environment Professionals, among others.

### 4.4.1. Mode of Home Acquisition

Nationally, more than half (52.8%) of the houses were acquired through one-off construction, while 27.0 per cent were constructed incrementally. Only 2.5 per cent of the homes were purchased as shown in Table 4.11.

### 4.4.2 Mode of Financing Home Acquisition

Table 4.12 shows the modes of financing acquisition of homes. Nationally, 91.4 per cent of home acquisitions were financed through cash/ savings, while 5.5 per cent through loans. Uptake of mortgage was low across the country with less than one per cent of households reporting to have acquired their homes through mortgages.

### 4.4.3 Sources of Financing

Table 4.13 shows the sources of financing used by households towards home purchase or construction. Commercial Banks provided financing to majority of the households (38.7%), while Cooperatives/ SACCOs were reported to have provided financing to 34.1 per cent of households. Self-help group/ chama and employer schemes provided financing for purchasing/constructing houses to 15.0 per cent and 5.5 per cent of the households, respectively.

### Table 4.11: Modes of Home Acquisition by County

| | Purchased | Constructed One-Off | Constructed Incremental | Inherited | Gift | Bartered | From the Govern-ment | squatting | Total |
|---|---|---|---|---|---|---|---|---|---|
| | % | % | % | % | % | % | % | % | |
| **Kenya** | **2.5** | **52.8** | **27** | **13.2** | **4.2** | **0.2** | **0.1** | **0** | **8,503,898** |
| **County** | | | | | | | | | |
| Mombasa | 4.7 | 29.3 | 46.8 | 19.2 | 0 | 0 | 0 | 0 | 95,292 |
| Kwale | 2.2 | 51.7 | 33.7 | 10.5 | 1.5 | 0 | 0 | 0.5 | 132,836 |
| Kilifi | 1.7 | 37.9 | 47.7 | 7 | 5.8 | 0 | 0 | 0 | 278,424 |
| Tana River | 0.8 | 47.3 | 6.8 | 36.4 | 8.6 | 0 | 0 | 0 | 52,648 |
| Lamu | 11.9 | 22 | 13.9 | 40.3 | 7.2 | 4.1 | 0.6 | 0 | 17,913 |
| Taita-Taveta | 0 | 47.9 | 39.3 | 9.3 | 3.5 | 0 | 0 | 0 | 65,589 |
| Garissa | 4.4 | 30.6 | 0 | 57.9 | 7.1 | 0 | 0 | 0 | 133,365 |
| Wajir | 2.7 | 16.6 | 0 | 47.1 | 32.8 | 0.7 | 0 | 0.1 | 135,953 |
| Mandera | 11.7 | 27.4 | 14.1 | 23.4 | 22.5 | 0.9 | 0 | 0 | 101,907 |
| Marsabit | 0.5 | 81.6 | 0.9 | 11.8 | 5.2 | 0 | 0 | 0 | 75,685 |
| Isiolo | 11 | 65.4 | 0.2 | 11.5 | 9.7 | 0.2 | 0 | 2 | 46,556 |
| Meru | 3.5 | 22.3 | 53.5 | 20.3 | 0.4 | 0 | 0 | 0 | 357,909 |
| Tharaka-Nithi | 0.1 | 36.5 | 54.1 | 3.9 | 5.5 | 0 | 0 | 0 | 97,765 |
| Embu | 1.7 | 62 | 13.6 | 21.4 | 1.3 | 0 | 0 | 0 | 157,064 |
| Kitui | 0 | 79.6 | 13.5 | 3.2 | 3.7 | 0 | 0 | 0 | 182,075 |
| Machakos | 0.5 | 51.7 | 36.4 | 8.9 | 2.5 | 0 | 0 | 0 | 296,884 |
| Makueni | 1.2 | 55.6 | 26.4 | 16.6 | 0.3 | 0 | 0 | 0 | 218,862 |
| Nyandarua | 15.1 | 48.8 | 13.8 | 14.8 | 6.9 | 0.5 | 0 | 0 | 122,427 |
| Nyeri | 0.4 | 57.1 | 20.1 | 14.2 | 8.1 | 0 | 0 | 0 | 152,147 |
| Kirinyaga | 1.3 | 29 | 40.1 | 26.1 | 3.5 | 0 | 0 | 0 | 154,059 |
| Murang'a | 0 | 48.5 | 44.9 | 1.4 | 5.2 | 0 | 0 | 0 | 301,283 |
| Kiambu | 2.9 | 41.7 | 27.7 | 24.6 | 2.7 | 0 | 0.4 | 0 | 446,620 |
| Turkana | 0.4 | 89 | 2.8 | 2.3 | 3.1 | 0 | 2.4 | 0 | 190,365 |
| West Pokot | 3.1 | 53.1 | 5.3 | 31.9 | 3.8 | 2.9 | 0 | 0 | 165,015 |
| Samburu | 0.1 | 93.5 | 3.6 | 1 | 1.8 | 0 | 0 | 0 | 71,350 |
| Trans Nzoia | 3.4 | 51 | 43.7 | 1.7 | 0.2 | 0 | 0 | 0 | 180,697 |
| Uasin Gishu | 3.6 | 72.1 | 15.9 | 5.4 | 3 | 0 | 0 | 0 | 175,284 |
| Elgeyo-Marakwet | 1 | 71.8 | 6.5 | 12.8 | 7.9 | 0 | 0 | 0 | 93,839 |
| Nandi | 1.1 | 42.2 | 50.3 | 5.9 | 0 | 0.5 | 0 | 0 | 174,117 |
| Baringo | 1.3 | 43.6 | 38.2 | 6.4 | 10.3 | 0.2 | 0 | 0 | 135,314 |
| Laikipia | 1 | 47.2 | 38.4 | 11.5 | 1.5 | 0.5 | 0 | 0 | 80,358 |
| Nakuru | 4.4 | 55.3 | 28.8 | 7.5 | 3.7 | 0 | 0 | 0.2 | 348,276 |
| Narok | 2.8 | 82.3 | 1.1 | 12.2 | 1.6 | 0 | 0 | 0 | 189,170 |
| Kajiado | 5.5 | 45.6 | 9.3 | 36.3 | 3.3 | 0 | 0 | 0 | 152,568 |
| Kericho | 1.1 | 32.5 | 46.8 | 18.3 | 1.3 | 0 | 0 | 0 | 193,003 |
| Bomet | 0.5 | 89.7 | 3.2 | 5 | 1.5 | 0 | 0 | 0 | 191,584 |
| Kakamega | 0.4 | 76.1 | 13.2 | 6.6 | 2.9 | 0.9 | 0 | 0 | 381,957 |
| Vihiga | 0.7 | 51.7 | 24.8 | 12.8 | 10 | 0 | 0 | 0 | 148,481 |
| Bungoma | 0.6 | 49.8 | 37.8 | 4.8 | 7 | 0 | 0 | 0 | 372,429 |
| Busia | 1.6 | 33.4 | 35.9 | 28.6 | 0.5 | 0 | 0 | 0 | 177,742 |
| Siaya | 0 | 60 | 39.4 | 0.6 | 0 | 0 | 0 | 0 | 210,185 |
| Kisumu | 2.7 | 51.8 | 21.8 | 22.5 | 1.2 | 0 | 0 | 0 | 213,435 |
| Homabay | 0.1 | 83.6 | 11.8 | 1.6 | 2.8 | 0 | 0 | 0.1 | 229,776 |
| Migori | 0 | 53.3 | 41.9 | 2 | 2.8 | 0 | 0 | 0 | 220,319 |
| Kisii | 0 | 59 | 28 | 7.2 | 5.8 | 0 | 0 | 0 | 302,057 |
| Nyamira | 1 | 58.6 | 16 | 15.4 | 8.9 | 0.1 | 0 | 0 | 155,409 |
| Nairobi City | 34.8 | 19.9 | 31.8 | 10.9 | 2.5 | 0 | 0 | 0 | 127,901 |

## Table 4.12: Modes of Financing Homes Acquisition by County

| | Cash / Savings | Loan | Mortgage | Donation from relatives/friends/NGO | No cost | Total |
|---|---|---|---|---|---|---|
| | % | % | % | % | % | |
| **Kenya** | **91.4** | **5.5** | **0.2** | **1.2** | **1.6** | **6,961,563** |
| **County** | | | | | | |
| Mombasa | 76.6 | 21.9 | 1.5 | 0.0 | 0.0 | 77,012 |
| Kwale | 94.6 | 4.9 | 0.0 | 0.5 | 0.0 | 116,313 |
| Kilifi | 92.5 | 6.1 | 0.0 | 1.4 | 0.0 | 242,852 |
| Tana River | 92.6 | 1.9 | 0.4 | 5.1 | 0.0 | 28,923 |
| Lamu | 90.0 | 3.5 | 0.0 | 0.0 | 6.5 | 8,567 |
| Taita-Taveta | 92.6 | 7.4 | 0.0 | 0.0 | 0.0 | 57,203 |
| Garissa | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 46,330 |
| Wajir | 80.2 | 0.0 | 0.0 | 0.0 | 19.8 | 26,250 |
| Mandera | 96.9 | 0.0 | 0.0 | 2.5 | 0.6 | 54,012 |
| Marsabit | 98.2 | 0.5 | 0.0 | 1.2 | 0.2 | 62,774 |
| Isiolo | 92.3 | 1.1 | 0.0 | 0.0 | 6.6 | 35,649 |
| Meru | 96.4 | 3.6 | 0.0 | 0.0 | 0.0 | 283,833 |
| Tharaka-Nithi | 91.8 | 8.2 | 0.0 | 0.0 | 0.0 | 88,630 |
| Embu | 92.2 | 7.8 | 0.0 | 0.0 | 0.0 | 121,410 |
| Kitui | 95.8 | 1.4 | 0.0 | 2.7 | 0.0 | 168,492 |
| Machakos | 93.3 | 6.6 | 0.2 | 0.0 | 0.0 | 263,158 |
| Makueni | 97.5 | 2.5 | 0.0 | 0.0 | 0.0 | 181,869 |
| Nyandarua | 91.9 | 7.4 | 0.7 | 0.0 | 0.0 | 95,143 |
| Nyeri | 87.0 | 12.4 | 0.0 | 0.6 | 0.0 | 118,213 |
| Kirinyaga | 92.4 | 5.9 | 0.6 | 1.1 | 0.0 | 108,569 |
| Murang'a | 81.0 | 16.6 | 0.4 | 2.0 | 0.0 | 281,440 |
| Kiambu | 83.2 | 16.8 | 0.0 | 0.0 | 0.0 | 322,670 |
| Turkana | 37.2 | 2.4 | 0.0 | 10.4 | 50.0 | 154,105 |
| West Pokot | 99.3 | 0.7 | 0.0 | 0.0 | 0.0 | 101,380 |
| Samburu | 67.6 | 7.3 | 0.1 | 0.1 | 24.8 | 68,613 |
| Trans Nzoia | 96.7 | 3.3 | 0.0 | 0.0 | 0.0 | 177,230 |
| Uasin Gishu | 96.9 | 2.6 | 0.5 | 0.0 | 0.0 | 160,565 |
| Elgeyo-Marakwet | 94.8 | 5.1 | 0.1 | 0.0 | 0.0 | 74,351 |
| Nandi | 94.3 | 5.2 | 0.0 | 0.5 | 0.0 | 163,040 |
| Baringo | 91.3 | 7.6 | 0.0 | 1.1 | 0.0 | 111,787 |
| Laikipia | 86.2 | 9.3 | 0.0 | 4.5 | 0.0 | 67,992 |
| Nakuru | 92.2 | 7.8 | 0.0 | 0.0 | 0.0 | 307,394 |
| Narok | 99.4 | 0.6 | 0.0 | 0.0 | 0.0 | 162,978 |
| Kajiado | 73.1 | 4.4 | 0.0 | 10.9 | 11.6 | 91,414 |
| Kericho | 94.9 | 5.1 | 0.0 | 0.0 | 0.0 | 155,199 |
| Bomet | 95.0 | 4.9 | 0.1 | 0.0 | 0.0 | 178,995 |
| Kakamega | 99.2 | 0.5 | 0.0 | 0.3 | 0.0 | 342,243 |
| Vihiga | 97.3 | 2.7 | 0.0 | 0.0 | 0.0 | 114,591 |
| Bungoma | 94.5 | 2.4 | 0.0 | 3.1 | 0.0 | 328,520 |
| Busia | 99.5 | 0.5 | 0.0 | 0.0 | 0.0 | 126,120 |
| Siaya | 95.6 | 2.0 | 0.0 | 2.4 | 0.0 | 209,011 |
| Kisumu | 89.9 | 8.9 | 0.7 | 0.5 | 0.0 | 159,906 |
| Homabay | 91.7 | 1.3 | 0.0 | 7.1 | 0.0 | 215,901 |
| Migori | 94.1 | 5.9 | 0.0 | 0.0 | 0.0 | 209,761 |
| Kisii | 96.8 | 3.2 | 0.0 | 0.0 | 0.0 | 262,925 |
| Nyamira | 96.9 | 3.1 | 0.0 | 0.0 | 0.0 | 117,530 |
| Nairobi City | 84.2 | 9.7 | 6.1 | 0.0 | 0.0 | 110,696 |

### Table 4.13: Modes of Acquisition of Homes by Owners by County, 2024

| | Source of Finance | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Co-operative/ SACCOs | Commercial Banks | Housing Finance Institution | Micro Finance Institution | Employer scheme | Self Help Group/ Chama | Family/ Friends within the country | Other |
| | % | % | % | % | % | % | % | % |
| **Kenya** | **34.1** | **38.7** | **1.1** | **6.6** | **6.3** | **12.3** | **0.8** | **0.3** |
| **County** | | | | | | | | |
| Mombasa | 17.3 | 56.8 | 0.0 | 14.2 | 0.0 | 5.3 | 6.4 | 0.0 |
| Kwale | 25.3 | 37 | 0.0 | 0.0 | 2.6 | 27.2 | 0.0 | 7.8 |
| Kilifi | 33.6 | 7.8 | 0.0 | 19.1 | 12.5 | 27 | 0.0 | 0.0 |
| Tana River | 10.3 | 89.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lamu | 47.8 | 52.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Taita-Taveta | 4.5 | 39.3 | 0.0 | 18.6 | 0.0 | 37.6 | 0.0 | 0.0 |
| Marsabit | 0.0 | 100 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Isiolo | 53.7 | 46.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Meru | 14.6 | 51.4 | 0.0 | 0.6 | 0.0 | 33.4 | 0.0 | 0.0 |
| Tharaka-Nithi | 44.5 | 37.7 | 0.0 | 3.4 | 0.0 | 14.4 | 0.0 | 0.0 |
| Embu | 33.1 | 14.9 | 0.0 | 19.6 | 0.0 | 32.4 | 0.0 | 0.0 |
| Kitui | 36.2 | 42.2 | 0.0 | 0.0 | 21.7 | 0.0 | 0.0 | 0.0 |
| Machakos | 22.9 | 50.6 | 0.0 | 5.0 | 0.0 | 21.5 | 0.0 | 0.0 |
| Makueni | 1.5 | 60.5 | 0.0 | 38 | 0.0 | 0.0 | 0.0 | 0.0 |
| Nyandarua | 62.7 | 20.9 | 0.0 | 0.0 | 2.3 | 14.1 | 0.0 | 0.0 |
| Nyeri | 58.5 | 34.1 | 0.0 | 0.0 | 7.4 | 0.0 | 0.0 | 0.0 |
| Kirinyaga | 33.9 | 31.8 | 5.9 | 0.0 | 2.9 | 25.6 | 0.0 | 0.0 |
| Murang'a | 42 | 35.3 | 0.0 | 5.7 | 0.4 | 16.7 | 0.0 | 0.0 |
| Kiambu | 56.2 | 9.7 | 0.0 | 0.0 | 27.8 | 6.4 | 0.0 | 0.0 |
| Turkana | 19.9 | 80.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| West Pokot | 0.0 | 100 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Samburu | 22.1 | 73 | 0.0 | 0.0 | 0.0 | 4.9 | 0.0 | 0.0 |
| Trans Nzoia | 8.7 | 61.6 | 5.8 | 5.8 | 0.0 | 18.1 | 0.0 | 0.0 |
| Uasin Gishu | 2.8 | 56.2 | 0.0 | 0.0 | 21.2 | 19.9 | 0.0 | 0.0 |
| Elgeyo-Marakwet | 24.7 | 30.1 | 0.0 | 32.3 | 4.6 | 8.3 | 0.0 | 0.0 |
| Nandi | 10.6 | 54.8 | 0.0 | 9.1 | 0.0 | 25.6 | 0.0 | 0.0 |
| Baringo | 67.9 | 21 | 0.0 | 2.3 | 0.0 | 8.7 | 0.0 | 0.0 |
| Laikipia | 39.9 | 26.9 | 0.0 | 10.4 | 0.0 | 13 | 9.9 | 0.0 |
| Nakuru | 41.1 | 41.6 | 0.0 | 0.0 | 0.0 | 17.3 | 0.0 | 0.0 |
| Narok | 0.0 | 100 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Kajiado | 24.5 | 25.2 | 0.0 | 50.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Kericho | 65.2 | 27.5 | 0.0 | 0.0 | 0.0 | 7.3 | 0.0 | 0.0 |
| Bomet | 57.2 | 17.9 | 0.0 | 11.7 | 0.0 | 13.3 | 0.0 | 0.0 |
| Kakamega | 100 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Vihiga | 8.5 | 0.0 | 0.0 | 32.3 | 38.1 | 0.0 | 21.1 | 0.0 |
| Bungoma | 18 | 65.8 | 0.0 | 0.0 | 0.0 | 16.2 | 0.0 | 0.0 |
| Busia | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100 | 0.0 |
| Siaya | 76.9 | 23.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Kisumu | 45 | 36.3 | 5.5 | 3.4 | 0.0 | 6.6 | 0.0 | 3.2 |
| Homabay | 0.0 | 100 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Migori | 10.4 | 61.6 | 0.0 | 11.7 | 7.3 | 9.0 | 0.0 | 0.0 |
| Kisii | 18.7 | 58.4 | 0.0 | 18.6 | 0.0 | 4.3 | 0.0 | 0.0 |
| Nyamira | 61.9 | 17.2 | 0.0 | 15.7 | 0.0 | 5.2 | 0.0 | 0.0 |
| Nairobi City | 5.5 | 53.9 | 15.1 | 0.0 | 25.4 | 0.0 | 0.0 | 0.0 |

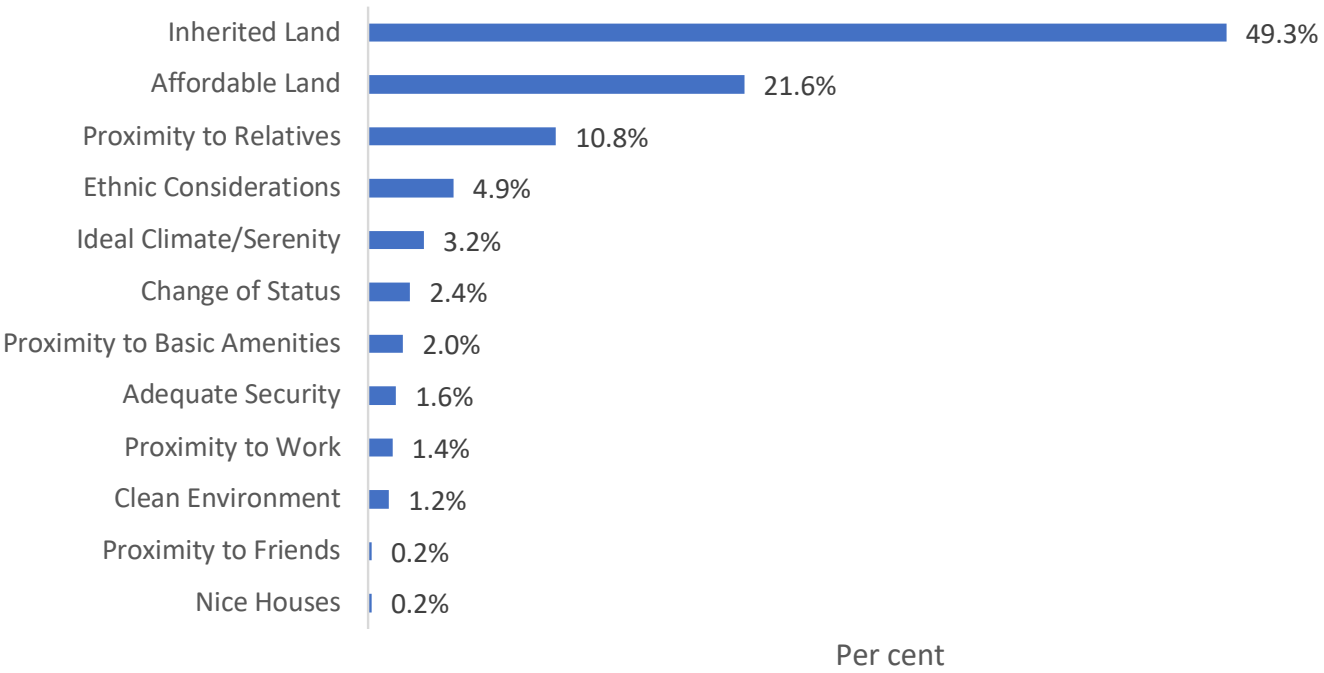
### 4.4.4 Construction of Houses

The process of constructing a house varies widely in the country. This section highlights the duration of construction, factors that influenced the choice of location and the use of built professionals.

#### 4.4.4.1 Factors Influencing the Choice of Area for Homeowners

Figure 4.13 displays the main factor that influenced homeowners to build their homes at their current location. Analysis shows that 49.3 per cent of homeowners chose their home's location primarily because they inherited the land, while 21.6 per cent opted for their location due to affordable land prices.

*Figure 4.13: Factors Influencing the Choice of Area for Homeowners*




### 4.4.4.2 Duration of Construction of Houses

Table 4.14 shows the duration of construction for houses, revealing that 85.5 per cent of houses were built in less than one year. While, 3.1 per cent of the houses had the longest construction duration of 7 years and above.

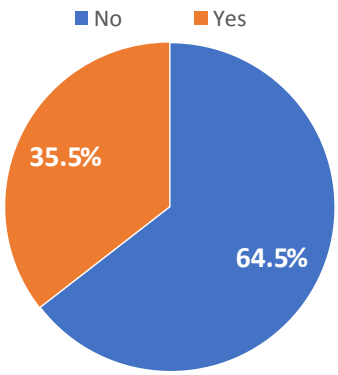
**Table 4.14: Duration of Construction by County**

| | <1 year | 1 Year | 2to3 years | 4to6 years | 7+ years |
|---|---|---|---|---|---|
| **Kenya** | **85.5** | **6.4** | **3.3** | **1.6** | **3.1** |
| **Rural** | **85.7** | **6.6** | **3.2** | **1.6** | **3.0** |
| **Urban** | **84.7** | **5.5** | **3.8** | **1.8** | **4.1** |
| **County** | | | | | |
| Mombasa | 80.8 | 5.0 | 10.3 | 0.0 | 3.9 |
| Kwale | 74.4 | 6.7 | 6.8 | 1.9 | 10.2 |
| Kilifi | 93.7 | 3.7 | 0.3 | 0.6 | 1.7 |
| TanaRiver | 77.9 | 16.8 | 3.5 | 0.9 | 0.9 |
| Lamu | 81.6 | 0.6 | 3.3 | 6.1 | 8.5 |
| Taita-Taveta | 82.9 | 5.9 | 6.6 | 1.6 | 3.0 |
| Garissa | 97.0 | 2.6 | 0.2 | 0.0 | 0.2 |
| Wajir | 98.9 | 0.5 | 0.0 | 0.3 | 0.3 |
| Mandera | 96.1 | 2.2 | 1.2 | 0.2 | 0.3 |
| Marsabit | 93.4 | 4.3 | 0.8 | 0.1 | 1.4 |
| Isiolo | 88.4 | 7.8 | 2.0 | 1.4 | 0.4 |
| Meru | 92.8 | 1.0 | 2.3 | 0.2 | 3.7 |
| Tharaka-Nithi | 90.8 | 4.7 | 2.0 | 1.6 | 0.9 |
| Embu | 81.1 | 8.5 | 4.3 | 4.9 | 1.1 |
| Kitui | 72.7 | 10.8 | 4.9 | 5.6 | 6.1 |
| Machakos | 69.7 | 8.9 | 7.8 | 5.6 | 8.0 |
| Makueni | 69.0 | 13.5 | 3.1 | 1.7 | 12.6 |
| Nyandarua | 78.4 | 12.1 | 7.1 | 1.1 | 1.3 |
| Nyeri | 77.2 | 18.1 | 2.3 | 0.9 | 1.4 |
| Kirinyaga | 89.2 | 7.1 | 0.4 | 1.8 | 1.5 |
| Murang'a | 88.9 | 4.9 | 3.8 | 1.7 | 0.7 |
| Kiambu | 84.7 | 4.2 | 2.5 | 2.1 | 6.5 |
| Turkana | 98.5 | 0.8 | 0.6 | 0.1 | 0.0 |
| West Pokot | 84.7 | 6.5 | 6.0 | 2.2 | 0.6 |
| Samburu | 87.3 | 7.8 | 3.5 | 0.9 | 0.5 |
| Trans Nzoia | 89.8 | 9.4 | 0.4 | 0.1 | 0.3 |
| Uasin Gishu | 75.4 | 7.0 | 3.5 | 7.0 | 7.1 |
| Elgeyo-Marakwet | 71.7 | 8.6 | 8.4 | 4.6 | 6.8 |
| Nandi | 88.9 | 9.6 | 0.7 | 0.1 | 0.7 |
| Baringo | 95.5 | 1.9 | 0.0 | 2.1 | 0.5 |
| Laikipia | 88.4 | 6.9 | 4.0 | 0.7 | 0.0 |
| Nakuru | 84.9 | 9.2 | 3.5 | 1.0 | 1.5 |
| Narok | 83.1 | 7.6 | 3.3 | 1.5 | 4.5 |
| Kajiado | 87.7 | 4.1 | 5.8 | 2.0 | 0.4 |
| Kericho | 90.0 | 7.5 | 0.8 | 0.6 | 1.0 |
| Bomet | 64.1 | 15.6 | 12.4 | 2.4 | 5.5 |
| Kakamega | 92.6 | 2.6 | 2.6 | 0.9 | 1.3 |
| Vihiga | 95.4 | 1.7 | 1.7 | 0.4 | 0.9 |
| Bungoma | 86.4 | 10.8 | 0.6 | 0.5 | 1.6 |
| Busia | 90.3 | 4.5 | 2.3 | 1.2 | 1.7 |
| Siaya | 95.6 | 2.1 | 1.9 | 0.3 | 0.2 |
| Kisumu | 89.2 | 7.6 | 0.7 | 1.3 | 1.1 |
| Homabay | 96.7 | 1.7 | 0.3 | 0.5 | 0.8 |
| Migori | 91.0 | 1.8 | 3.8 | 1.6 | 1.8 |
| Kisii | 72.7 | 6.6 | 7.9 | 1.6 | 11.1 |
| Nyamira | 81.8 | 9.8 | 3.3 | 2.2 | 2.9 |
| Nairobi City | 91.6 | 2.9 | 4.4 | 0.0 | 1.1 |

#### 4.4.4.3 State of Completion of Houses at the Time of Purchase

Figure 4.14 illustrates the proportion of homeowners who bought homes that were incomplete or complete, including those purchased off-plan or during construction. Out of those who purchased homes, 64.5 per cent of the homes were incomplete, while 35.5 per cent were complete.

*Figure 4.14: Proportion of Status of Completion at Time of Purchase*




### 4.4.5 Use of Built Environment Professionals in Construction

Table 4.15 presents the extent of utilization of various Built Environment Professionals (BEP) in the acquisition of housing, including both purchasing and construction. The most sourced professionals while constructing were architects (19.4%), followed by electrical engineers (15.7%), and land surveyors (9.1%).

**Table 4.15: Use of Built Environment Professionals in Construction**

| Built Environment Professionals | Per cent |
|---|---|
| Architect | 19.4 |
| Structural Engineer | 7.7 |
| Quantity Surveyor | 3.6 |
| Land Surveyor | 9.1 |
| Electrical Engineer | 15.7 |
| Mechanical Engineer | 0.8 |
| Civil Engineer | 5.2 |
| Valuer | 1.7 |
| Land scape Architect | 1.4 |
| Interior Designer | 2.4 |
| Environmental Impact Assessment & Stamp; Audit Expert | 1.4 |
| Planner | 5.8 |
| Estate Agents | 0.4 |
| Other | 25.5 |
| **Total** | **100.0** |

### 4.4.6 Reasons for Not Utilizing Services of Built Environment Professionals

Table 4.16 indicates the main reasons for not utilizing the services of various BEPs. Overall, 65.1 per cent of households found no need to use various built environment professionals as shown. This indicates a lack of awareness of the need of these professionals in the housing process, which is key in ensuring decent housing.

**Table 4.16: Reasons for Not Utilizing Services of BEP**

| Built Environment Professionals | Reasons Not Used | | | | |
|---|---|---|---|---|---|
| | High cost | Unaware | Unavailability | No need | Total |
| Architect | 2.3 | 0.8 | 0.2 | 4.1 | 7.3 |
| Structural Engineer | 1.8 | 0.9 | 0.2 | 4.6 | 7.5 |
| Quantity Surveyor | 1.8 | 1.0 | 0.2 | 4.8 | 7.8 |
| Land Surveyor | 1.9 | 0.8 | 0.2 | 4.8 | 7.6 |
| Electrical Engineer | 1.7 | 0.6 | 0.1 | 4.6 | 7.0 |
| Mechanical Engineer | 1.4 | 0.9 | 0.2 | 5.5 | 7.9 |
| Civil Engineer | 1.6 | 0.8 | 0.2 | 5.3 | 7.8 |
| Valuer | 1.4 | 1.1 | 0.2 | 5.2 | 7.9 |
| Land scape Architect | 1.4 | 1.1 | 0.3 | 5.1 | 7.9 |
| Interior Designer | 1.5 | 0.9 | 0.2 | 5.3 | 7.8 |
| Environmental Impact Assessment & Audit Expert | 1.2 | 1.44 | 0.2 | 5.1 | 7.9 |
| Planner | 1.5 | 0.9 | 0.2 | 5.0 | 7.7 |
| Estate Agents | 1.1 | 0.9 | 0.4 | 5.6 | 7.9 |
| **Total** | **20.4** | **11.9** | **2.7** | **65.1** | **100.0** |

### 4.4.7 Dwelling Units Owned Elsewhere

Some homeowners own residential properties that they do not usually reside in. These properties can be utilized for various purposes such as rental homes, holiday homes, or second homes. Nationally, a homeowner owns at least two houses in other counties as shown in Table 4.17. Analysis by counties shows that most of these additional homes were in Kiambu County, with an average of five units per homeowner, followed by Embu County, with an average of four per homeowner.

Table 4.17: Location of Additional Homes Homeowners Own Elsewhere by County

| County | Mean |
|---|---|
| Mombasa | 1 |
| Kwale | 1 |
| Kilifi | 1 |
| Tana River | 1 |
| Lamu | 1 |
| Taita-Taveta | 1 |
| Garissa | 2 |
| Wajir | 1 |
| Mandera | 1 |
| Marsabit | 1 |
| Isiolo | 1 |
| Meru | 1 |
| Tharaka-Nithi | 1 |
| Embu | 4 |
| Kitui | 2 |
| Machakos | 2 |

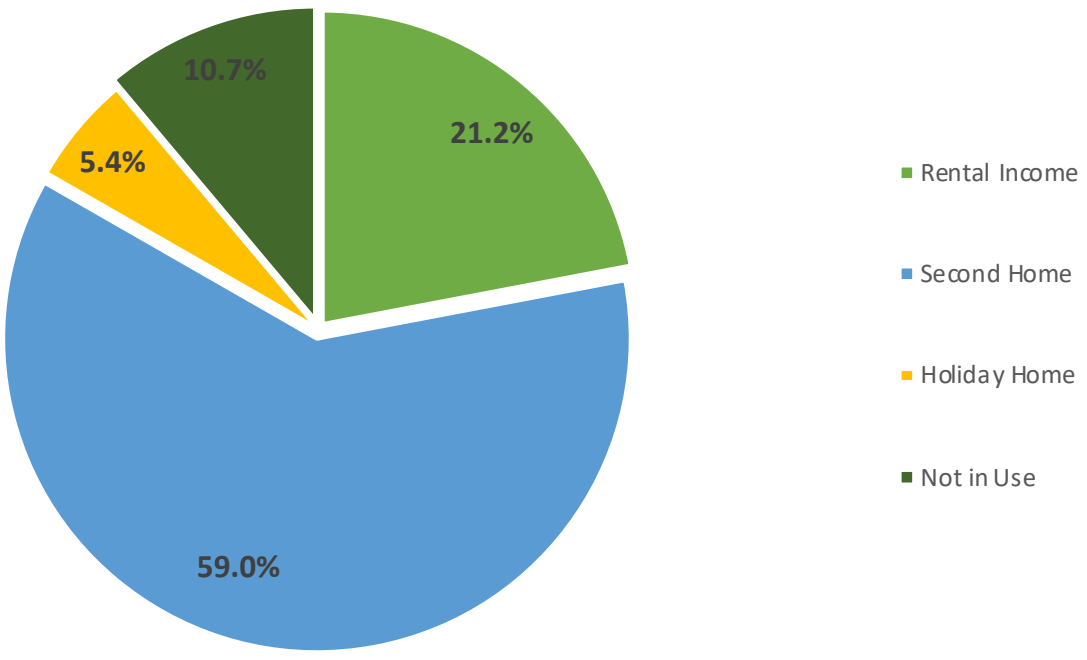
| County | Mean |
|---|---|
| Makueni | 1 |
| Nyandarua | 2 |
| Nyeri | 1 |
| Kirinyaga | 2 |
| Murang'a | 2 |
| Kiambu | 5 |
| Turkana | 1 |
| West Pokot | 1 |
| Samburu | 2 |
| Trans Nzoia | 1 |
| Uasin Gishu | 1 |
| Elgeyo-Marakwet | 2 |
| Nandi | 1 |
| Baringo | 1 |
| Laikipia | 1 |
| Nakuru | 2 |

| County | Mean |
|---|---|
| Narok | 1 |
| Kajiado | 1 |
| Kericho | 1 |
| Bomet | 1 |
| Kakamega | 1 |
| Vihiga | 1 |
| Bungoma | 1 |
| Busia | 2 |
| Siaya | 1 |
| Kisumu | 2 |
| Homabay | 2 |
| Migori | 1 |
| Kisii | 2 |
| Nyamira | 1 |
| Nairobi City | 2 |
| Total | 2 |

### 4.4.8 Current Use of Dwelling Units owned elsewhere

Figure 4.15 shows the current use of the dwelling units owned elsewhere by home owners. The report shows that 59.0 per cent of owners used them as a second home, while 21.2 per cent used them for rental income.

*Figure 4.15: Current Use of Dwelling Use*



# CHAPTER 05

# Housing Characteristics Amenities and Adequacy

## Key Findings

- Nationally, 78.8 per cent of dwelling units were classified as being of inadequate quality. The Crowding Index indicated that 68.1 per cent of dwelling units were considered fit for habitation based on the number of persons per room. Dwelling units had an average of 2 persons per room, indicating the overcrowding levels.
- The Structure Fitness index indicated that 44.1 per cent of dwelling units used durable materials for roof, wall and floor construction and were considered fit for habitation. The Water and Sanitation Fitness Index indicated that 59.7 per cent of dwelling units relied on adequate facilities for drinking water and human waste disposal while the Energy Use Fitness Index indicated that 70.1 per cent of dwelling units used unclean sources of energy for cooking and lighting.

## 5.1 Introduction

This chapter presents an analysis of the predominant construction material used for floors, roof, and walls for dwelling units. The chapter further presents sources of water, energy, methods of waste disposal and sanitation, consolidated housing quality index, transport and infrastructure, and indicators on housing environs. The construction materials were classified into durable and non-durable materials. Table 5.1 shows the type of the main construction materials for the roof, wall and floor based on their durability.

**Table 5.1: Durability based on the type of main construction materials of the roof, wall and floors.**

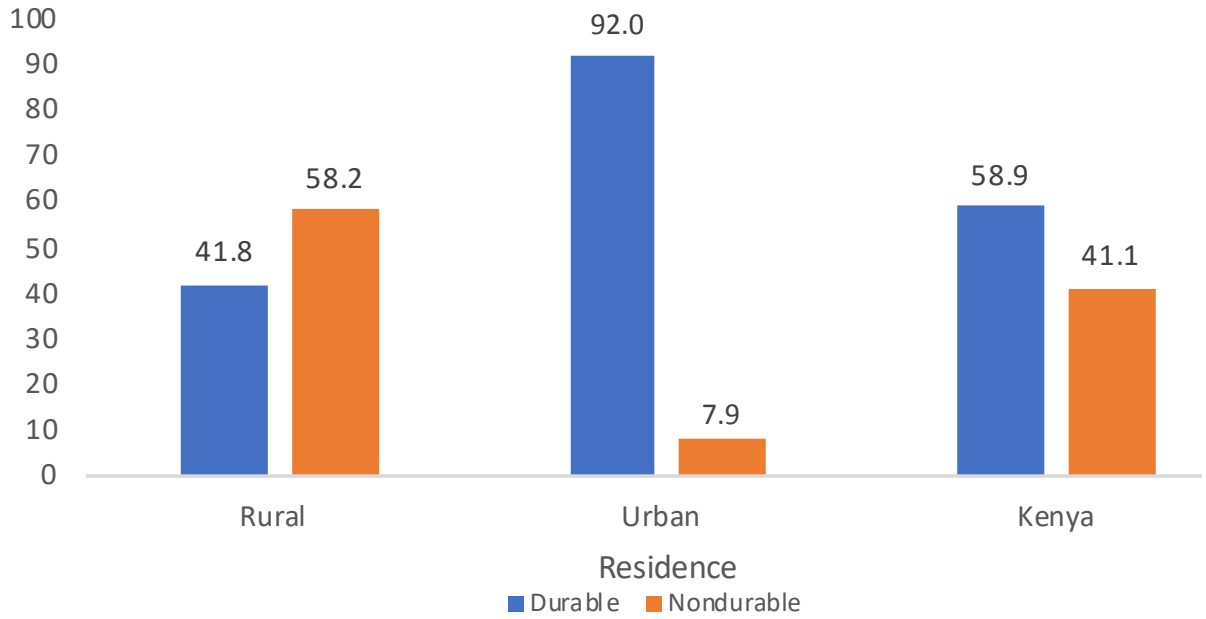
| | Construction Materials | |
|---|---|---|
| **Components** | **Durable** | **Non-Durable** |
| Floor | Parquet or polished wood<br>Vinyl or asphalt strips<br>Ceramic tiles<br>Concrete/ Cement/ Terrazo<br>Wall to wall Carpet<br>Wood planks/shingles/ timber | Earth/sand<br>Dung<br>Palm/ bamboo |
| Wall | Concrete/Cement<br>Stone with lime/cement<br>Bricks<br>Cement blocks | Cane/palm/trunks<br>Grass/reeds<br>Mud/cow dung<br>Bamboo with mud<br>Stone with mud |
| | | Uncovered adobe<br>Plywood/Cardboard<br>Reused wood<br>Iron sheets<br>Covered adobe<br>Wood planks/ shingles/timber |
| Roof | Iron sheets/Decra/ Versatile<br>Asbestos sheet<br>Concrete/Cement<br>Tiles | Grass / Makuti thatch/twigs<br>Dung / mud<br>Tin cans<br>Canvas/Nylon/ Cartons/Card board |

## 5.2 Construction Materials of Main Dwelling Units

### 5.2.1 Floor Materials

Figure 5.1 and Table 5.2 present the percentage distribution of floor materials for the main dwelling units by Residence and County. Nationally, 58.9 per cent of dwelling units were made of durable floor materials. Urban areas had the highest proportions of dwelling unit built with durable floor material at 92.0 per cent. The trend was different for rural areas with 41.8 per cent of dwelling units having durable floor material.

*Figure 5.1: Proportion of Dwelling Units by Durability of the Main Type of Floor Material and Residence*




Nairobi City, Mombasa, and Kiambu counties had the largest proportions of dwelling units with durable floor material at 94.9, 93.6 and 92.7 per cent respectively. Wajir, Mandera, Turkana, and West Pokot counties had the least proportions of dwelling with durable floor material at 28.5, 25.8, 23.9, and 20.7 per cent, respectively.

There was significant variation in the type of floor materials used in urban and rural areas. Nationally, concrete/cement/terrazzo was the dominant floor material at 44.1 per cent, followed by earth/sand and ceramic tiles at 30.5 per cent and 13.7 per cent, respectively, as shown in Table 5.2. The rural-urban differential was noted with concrete/cement/terrazzo being the dominant floor materials in urban areas at 62.3 per cent, while earth/sand was the major floor materials used in rural areas at 42.9 per cent.

**Table 5.2: Percentage Distribution of Dwelling Units by Type of Floor Material, Residence and County**

| | Non-Durable | | | | | Durable | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Earth/ sand | Dung | Wood planks/ shingles/ timber | Palm/ bamboo | Sub Total | Parquet or polished wood | Vinyl or asphalt strips | Ceramic tiles | Concrete/ Cement/ Terrazo | Wall to wall Carpet | Sub Total | Other |
| **Kenya** | **30.5** | **10.1** | **0.4** | **0.0** | **41.1** | **0.1** | **0.2** | **13.7** | **44.1** | **0.8** | **58.9** | **0.0** |
| Rural | 42.9 | 15.0 | 0.2 | 0.0 | 58.2 | 0.0 | 0.1 | 6.6 | 34.7 | 0.4 | 41.8 | 0.0 |
| Urban | 6.3 | 0.7 | 0.9 | 0.0 | 7.9 | 0.3 | 0.2 | 27.7 | 62.3 | 1.6 | 92.0 | 0.0 |
| **County** | | | | | | | | | | | | |
| Mombasa | 6.2 | 0.2 | 0.0 | 0.0 | 6.4 | 0.0 | 0.0 | 25.1 | 65.7 | 2.9 | 93.6 | 0.0 |
| Kwale | 45.0 | 0.0 | 0.2 | 0.0 | 45.2 | 0.0 | 0.0 | 8.4 | 46.2 | 0.1 | 54.8 | 0.0 |
| Kilifi | 55.3 | 0.0 | 0.0 | 0.0 | 55.3 | 0.0 | 0.0 | 6.5 | 37.9 | 0.2 | 44.7 | 0.0 |
| Tana River | 65.6 | 0.0 | 0.0 | 0.0 | 65.6 | 0.0 | 0.0 | 4.7 | 29.5 | 0.3 | 34.4 | 0.0 |
| Lamu | 37.8 | 2.2 | 0.3 | 0.0 | 40.2 | 0.0 | 0.0 | 7.7 | 52.0 | 0.0 | 59.8 | 0.0 |
| Taita-Taveta | 30.5 | 0.0 | 0.0 | 0.0 | 30.5 | 0.0 | 0.0 | 8.8 | 60.5 | 0.2 | 69.5 | 0.0 |
| Garissa | 63.3 | 0.0 | 0.0 | 0.0 | 63.3 | 0.0 | 0.0 | 8.2 | 28.2 | 0.3 | 36.7 | 0.0 |
| Wajir | 70.8 | 0.0 | 0.4 | 0.2 | 71.5 | 1.7 | 5.0 | 7.3 | 14.3 | 0.2 | 28.5 | 0.0 |

Table 5.2: Percentage Distribution of Dwelling Units by Type of Floor Material, Residence and County *(Continued)*

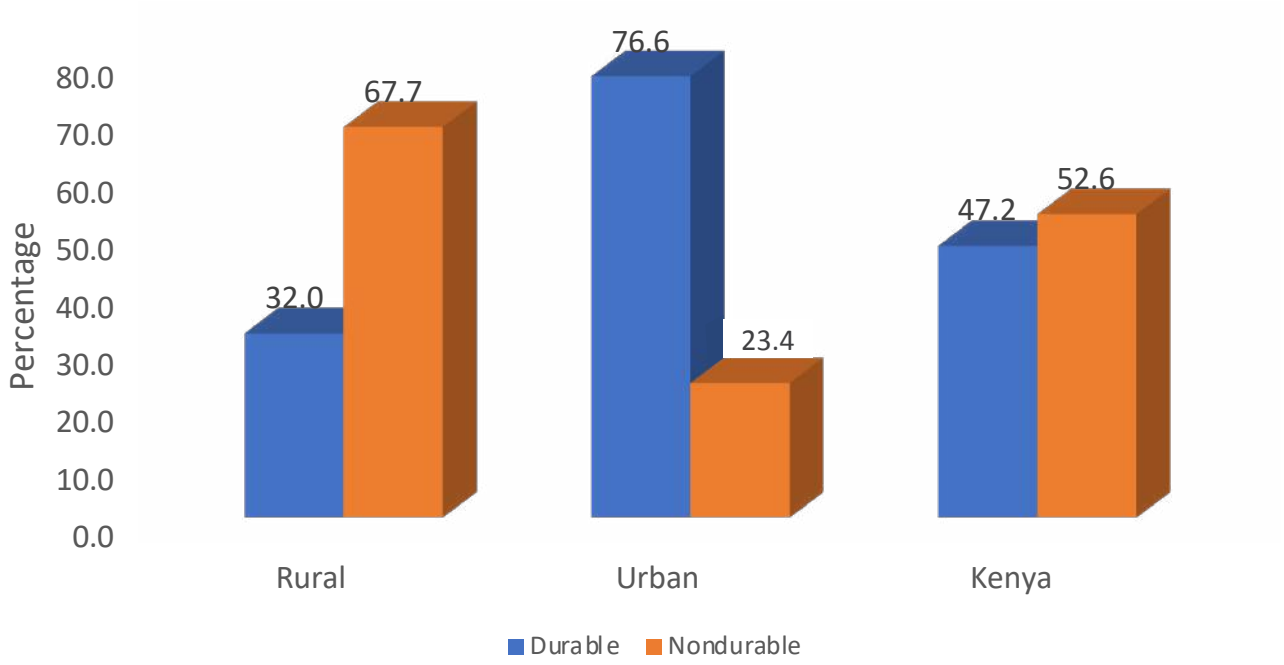
| | Non-Durable | | | | | Durable | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Earth/ sand | Dung | Wood planks/ shingles/ timber | Palm/ bamboo | Sub Total | Parquet or polished wood | Vinyl or asphalt strips | Ceramic tiles | Concrete/ Cement/ Terrazo | Wall to wall Carpet | Sub Total | Other |
| Mandera | 74.0 | 0.2 | 0.1 | 0.0 | 74.2 | 0.0 | 0.0 | 2.1 | 23.7 | 0.0 | 25.8 | 0.0 |
| Marsabit | 56.4 | 1.1 | 0.0 | 0.0 | 57.5 | 0.0 | 0.0 | 7.0 | 35.5 | 0.0 | 42.5 | 0.0 |
| Isiolo | 56.6 | 0.0 | 0.3 | 0.0 | 56.9 | 0.0 | 0.0 | 17.1 | 24.9 | 1.1 | 43.1 | 0.0 |
| Meru | 46.8 | 1.1 | 0.8 | 0.0 | 48.7 | 0.0 | 0.0 | 7.1 | 41.6 | 2.5 | 51.2 | 0.1 |
| Tharaka-Nithi | 47.4 | 0.0 | 0.1 | 0.0 | 47.4 | 0.0 | 0.2 | 10.0 | 42.4 | 0.0 | 52.6 | 0.0 |
| Embu | 40.5 | 0.0 | 0.3 | 0.0 | 40.8 | 0.0 | 0.0 | 10.6 | 48.5 | 0.1 | 59.2 | 0.0 |
| Kitui | 42.8 | 0.0 | 0.3 | 0.2 | 43.3 | 0.0 | 0.0 | 9.4 | 47.2 | 0.1 | 56.7 | 0.0 |
| Machakos | 18.2 | 0.0 | 0.1 | 0.0 | 18.3 | 0.0 | 0.0 | 14.5 | 66.4 | 0.7 | 81.7 | 0.0 |
| Makueni | 32.2 | 0.0 | 0.0 | 0.0 | 32.2 | 0.1 | 0.0 | 10.3 | 57.4 | 0.1 | 67.8 | 0.0 |
| Nyandarua | 42.0 | 0.0 | 1.0 | 0.0 | 43.1 | 0.2 | 0.0 | 11.8 | 44.9 | 0.0 | 56.9 | 0.0 |
| Nyeri | 29.4 | 0.0 | 0.5 | 0.0 | 29.9 | 0.0 | 0.0 | 8.7 | 61.1 | 0.3 | 70.1 | 0.0 |
| Kirinyaga | 32.1 | 0.0 | 0.0 | 0.0 | 32.1 | 0.0 | 0.8 | 9.8 | 56.2 | 1.2 | 67.9 | 0.0 |
| Murang'a | 46.7 | 0.0 | 0.5 | 0.0 | 47.3 | 0.2 | 0.0 | 9.6 | 42.0 | 0.9 | 52.7 | 0.0 |
| Kiambu | 7.0 | 0.1 | 0.2 | 0.0 | 7.3 | 0.0 | 0.1 | 21.8 | 68.8 | 2.0 | 92.7 | 0.0 |
| Turkana | 75.4 | 0.0 | 0.7 | 0.0 | 76.1 | 0.0 | 0.0 | 2.6 | 21.4 | 0.0 | 23.9 | 0.0 |
| West Pokot | 41.7 | 37.7 | 0.0 | 0.0 | 79.3 | 0.0 | 0.0 | 2.2 | 18.5 | 0.0 | 20.7 | 0.0 |
| Samburu | 62.1 | 0.2 | 0.0 | 0.0 | 62.3 | 0.0 | 0.0 | 6.4 | 30.2 | 1.2 | 37.7 | 0.0 |
| Trans Nzoia | 51.3 | 4.7 | 0.0 | 0.0 | 56.0 | 0.0 | 0.0 | 6.2 | 37.8 | 0.0 | 44.0 | 0.0 |
| Uasin Gishu | 17.7 | 12.2 | 0.0 | 0.0 | 29.9 | 0.0 | 0.4 | 20.4 | 49.3 | 0.0 | 70.1 | 0.0 |
| Elgeyo-Marakwet | 24.2 | 41.9 | 0.5 | 0.0 | 66.5 | 0.0 | 0.0 | 4.7 | 28.6 | 0.2 | 33.5 | 0.0 |
| Nandi | 50.4 | 0.0 | 0.0 | 0.0 | 50.5 | 0.0 | 0.0 | 10.8 | 38.7 | 0.0 | 49.5 | 0.0 |
| Baringo | 26.4 | 35.4 | 1.1 | 0.0 | 62.9 | 0.0 | 0.0 | 2.2 | 34.9 | 0.0 | 37.1 | 0.0 |
| Laikipia | 37.4 | 1.0 | 0.2 | 0.0 | 38.6 | 0.0 | 0.0 | 12.3 | 47.8 | 1.3 | 61.4 | 0.0 |
| Nakuru | 31.8 | 5.6 | 0.1 | 0.0 | 37.5 | 0.0 | 0.0 | 14.2 | 48.3 | 0.0 | 62.5 | 0.0 |
| Narok | 39.3 | 21.0 | 0.0 | 0.3 | 60.6 | 0.0 | 0.0 | 6.5 | 31.9 | 1.0 | 39.4 | 0.0 |
| Kajiado | 21.8 | 0.3 | 0.0 | 0.0 | 22.1 | 0.0 | 0.7 | 28.0 | 49.3 | 0.0 | 77.9 | 0.0 |
| Kericho | 21.0 | 36.4 | 0.2 | 0.0 | 57.7 | 0.1 | 0.0 | 7.8 | 34.2 | 0.3 | 42.3 | 0.0 |
| Bomet | 25.6 | 36.9 | 0.2 | 0.0 | 62.7 | 0.0 | 1.8 | 5.0 | 30.2 | 0.2 | 37.3 | 0.0 |
| Kakamega | 12.2 | 49.3 | 0.0 | 0.0 | 61.5 | 0.0 | 0.1 | 10.8 | 27.6 | 0.0 | 38.5 | 0.0 |
| Vihiga | 28.1 | 34.8 | 0.0 | 0.0 | 63.0 | 0.0 | 0.0 | 8.2 | 27.3 | 1.5 | 37.0 | 0.0 |
| Bungoma | 16.4 | 50.4 | 0.0 | 0.0 | 66.8 | 0.0 | 0.0 | 7.8 | 25.4 | 0.1 | 33.2 | 0.0 |
| Busia | 49.9 | 3.4 | 0.0 | 0.0 | 53.3 | 0.0 | 0.0 | 5.5 | 41.3 | 0.0 | 46.7 | 0.0 |
| Siaya | 19.3 | 27.7 | 0.0 | 0.0 | 47.0 | 0.0 | 0.0 | 11.6 | 41.0 | 0.4 | 53.0 | 0.0 |
| Kisumu | 18.5 | 17.4 | 0.0 | 0.0 | 35.9 | 0.0 | 1.4 | 25.7 | 35.8 | 0.3 | 63.1 | 1.0 |
| Homabay | 26.5 | 26.5 | 0.0 | 0.0 | 53.0 | 0.0 | 0.0 | 5.8 | 39.2 | 2.0 | 47.0 | 0.0 |
| Migori | 42.6 | 6.5 | 0.0 | 0.3 | 49.3 | 0.0 | 0.0 | 9.1 | 41.2 | 0.0 | 50.3 | 0.4 |
| Kisii | 52.7 | 7.3 | 0.0 | 0.0 | 60.0 | 0.2 | 0.4 | 7.8 | 31.4 | 0.2 | 40.0 | 0.0 |
| Nyamira | 45.1 | 18.1 | 0.0 | 0.0 | 63.2 | 0.0 | 0.0 | 9.5 | 27.0 | 0.3 | 36.8 | 0.0 |
| Nairobi City | 2.3 | 0.1 | 2.7 | 0.0 | 5.1 | 0.7 | 0.0 | 35.3 | 56.8 | 2.2 | 94.9 | 0.0 |

### 5.2.2 Type of Wall Materials

The distribution of dwelling units by the type of wall material of the main dwelling, by Residence and County is as presented in Figure 5.2 and Table 5.3. Approximately, 52.6 per cent of dwelling units were made of non-durable wall materials and 47.2 per cent had durable wall materials, in Kenya.

In addition, approximately 76.6 per cent of urban households and 32.0 per cent of rural households had dwelling units made of durable wall materials. However, 67.7 per cent of rural households and 23.4 per cent of urban households used non-durable wall materials in their dwelling units.

*Figure 5.2: Proportion of dwelling units by main type of wall material and residence*




Nationally, among dwelling units with non-durable wall materials, 24.7 per cent used mud or cow dung, while among dwelling units with durable wall materials, 20.7 per cent used stone with lime or cement, and 19.4 per cent used concrete or cement.

In rural areas, the proportion of dwelling units with non-durable wall materials made of mud or cow dung stood at 35.5 per cent, while 13.0 per cent of the dwelling units with durable wall materials used concrete or cement.

However, in urban areas, the main type of wall materials used for dwelling units were stone with lime or cement at 35.7 per cent and concrete or cement at 33.3 per cent, as shown in Table 5.3 below.

In Nairobi City, most of the dwelling units were built with durable wall materials, with the most dominant material being concrete/ cement walls at 36.6 per cent while iron sheet was the most commonly used non-durable material for walls at 19.4 per cent.

## Table 5.3: Percentage Distribution of Dwelling Units by Type of Wall Material, Residence and County

| | Non-Durable | | | | | | | | | | | | Durable | | | | | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No walls | Cane/ palm/ trunks | Grass/ reeds | Mud/ cow dung | Bamboo with mud | Stone with mud | Uncov-ered adobe | Ply-wood/ Card-board | Re-used wood | Cov-ered adobe | Wood planks/ shin-gles/ timber | Iron sheets | Con-crete/ Cement | Stone with lime/ cement | Bricks | Cement blocks | Precast wall | |
| **Kenya** | **0.1** | **1.7** | **1.0** | **24.7** | **3.5** | **1.4** | **1.1** | **0.1** | **0.6** | **1.1** | **8.9** | **8.4** | **19.4** | **20.7** | **5.5** | **1.5** | **0.1** | **0.2** |
| Rural | 0.1 | 2.4 | 1.4 | 35.5 | 4.9 | 1.9 | 1.5 | 0.2 | 0.8 | 1.4 | 12.3 | 5.4 | 12.3 | 13.0 | 6.1 | 0.6 | 0.1 | 0.2 |
| Urban | 0.0 | 0.3 | 0.3 | 3.9 | 0.8 | 0.6 | 0.3 | 0.1 | 0.3 | 0.5 | 2.1 | 14.0 | 33.3 | 35.7 | 4.2 | 3.4 | 0.0 | 0.1 |
| **County** | | | | | | | | | | | | | | | | | | |
| Mombasa | 0.0 | 0.0 | 0.0 | 3.6 | 0.2 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 54.7 | 34.2 | 2.9 | 1.5 | 0.0 | 0.0 |
| Kwale | 0.0 | 0.0 | 0.0 | 26.6 | 13.1 | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.3 | 2.1 | 54.6 | 0.5 | 0.0 | 0.0 | 0.9 |
| Kilifi | 0.0 | 0.0 | 0.3 | 37.1 | 12.7 | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 28.6 | 18.3 | 0.4 | 0.0 | 0.0 | 0.0 |
| Tana River | 0.0 | 6.0 | 9.3 | 29.0 | 15.9 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 27.0 | 5.3 | 0.0 | 6.1 | 0.0 | 0.0 |
| Lamu | 0.0 | 0.8 | 0.0 | 36.3 | 8.4 | 0.6 | 0.0 | 0.4 | 0.0 | 0.0 | 0.8 | 0.8 | 35.5 | 14.2 | 1.8 | 0.5 | 0.0 | 0.0 |
| Taita-Taveta | 0.0 | 0.0 | 0.0 | 5.5 | 8.6 | 6.6 | 8.7 | 0.0 | 0.0 | 4.9 | 0.2 | 0.0 | 33.7 | 23.7 | 7.9 | 0.3 | 0.0 | 0.0 |
| Garissa | 0.5 | 5.8 | 30.1 | 4.3 | 4.3 | 4.4 | 4.3 | 0.5 | 0.0 | 6.4 | 0.0 | 9.0 | 18.3 | 11.2 | 0.1 | 0.8 | 0.0 | 0.0 |
| Wajir | 0.9 | 19.9 | 27.7 | 1.7 | 6.8 | 2.6 | 0.4 | 1.7 | 0.1 | 0.0 | 0.0 | 8.2 | 6.8 | 20.7 | 0.0 | 2.3 | 0.0 | 0.0 |
| Mandera | 0.3 | 16.7 | 21.9 | 5.9 | 19.4 | 0.7 | 0.0 | 0.0 | 0.1 | 0.0 | 8.8 | 1.1 | 9.6 | 13.5 | 0.0 | 1.9 | 0.0 | 0.0 |
| Marsabit | 0.6 | 31.9 | 4.4 | 9.8 | 0.8 | 1.2 | 0.2 | 0.3 | 6.6 | 11.9 | 0.0 | 1.0 | 11.6 | 6.9 | 2.5 | 10.1 | 0.0 | 0.1 |
| Isiolo | 0.0 | 9.2 | 0.5 | 5.5 | 24.1 | 0.9 | 0.2 | 1.5 | 4.9 | 0.0 | 10.5 | 4.8 | 11.0 | 20.1 | 0.4 | 6.2 | 0.0 | 0.0 |
| Meru | 0.0 | 0.4 | 0.0 | 4.1 | 0.7 | 1.5 | 0.2 | 0.0 | 1.3 | 1.5 | 62.9 | 0.7 | 1.4 | 24.1 | 1.1 | 0.0 | 0.0 | 0.0 |
| Tharaka-Nithi | 0.0 | 0.0 | 0.0 | 25.8 | 0.0 | 0.2 | 5.3 | 0.0 | 0.0 | 7.0 | 25.3 | 1.0 | 5.4 | 26.0 | 2.9 | 1.1 | 0.0 | 0.0 |
| Embu | 0.0 | 0.0 | 0.0 | 20.4 | 0.0 | 1.8 | 4.8 | 0.0 | 2.5 | 5.8 | 14.9 | 2.1 | 1.2 | 36.0 | 10.7 | 0.0 | 0.0 | 0.0 |
| Kitui | 0.0 | 0.0 | 0.2 | 0.7 | 5.1 | 0.8 | 15.8 | 0.0 | 0.0 | 2.5 | 0.2 | 1.1 | 35.6 | 21.3 | 15.4 | 1.4 | 0.0 | 0.0 |
| Machakos | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.9 | 4.9 | 0.0 | 0.0 | 6.3 | 0.3 | 7.3 | 14.6 | 41.2 | 24.4 | 0.0 | 0.0 | 0.0 |
| Makueni | 0.0 | 0.0 | 0.0 | 0.5 | 0.5 | 1.7 | 7.2 | 0.0 | 0.0 | 3.2 | 0.0 | 1.0 | 64.3 | 1.8 | 19.6 | 0.2 | 0.0 | 0.0 |
| Nyandarua | 0.0 | 0.0 | 0.0 | 9.3 | 2.0 | 1.0 | 0.0 | 0.0 | 13.8 | 0.0 | 22.6 | 19.8 | 14.4 | 17.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Nyeri | 0.0 | 0.0 | 0.0 | 1.5 | 0.0 | 0.3 | 0.3 | 0.0 | 0.7 | 0.3 | 49.0 | 6.3 | 1.4 | 37.1 | 3.1 | 0.1 | 0.0 | 0.0 |
| Kirinyaga | 0.0 | 0.0 | 0.0 | 4.7 | 0.0 | 1.6 | 0.7 | 0.0 | 2.6 | 5.8 | 30.1 | 1.9 | 6.3 | 36.2 | 7.8 | 2.3 | 0.0 | 0.0 |
| Murang'a | 0.0 | 0.0 | 0.0 | 14.7 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 22.9 | 19.9 | 8.0 | 31.9 | 0.4 | 0.2 | 0.0 | 1.1 |
| Kiambu | 0.0 | 0.3 | 0.0 | 0.1 | 0.4 | 0.4 | 0.0 | 0.0 | 0.4 | 0.0 | 4.3 | 27.2 | 26.5 | 35.0 | 5.0 | 0.1 | 0.0 | 0.1 |
| Turkana | 0.9 | 50.1 | 4.6 | 9.9 | 11.7 | 0.0 | 0.2 | 3.4 | 0.0 | 0.4 | 0.0 | 9.3 | 0.9 | 2.2 | 0.9 | 4.5 | 0.0 | 1.1 |
| West Pokot | 0.0 | 0.3 | 0.4 | 38.1 | 46.6 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 | 5.8 | 6.3 | 1.1 | 0.1 | 0.0 | 0.0 |
| Samburu | 0.0 | 35.3 | 0.0 | 20.4 | 0.9 | 0.7 | 0.0 | 0.0 | 0.4 | 0.0 | 6.2 | 0.1 | 20.4 | 11.3 | 0.0 | 3.3 | 0.0 | 0.9 |

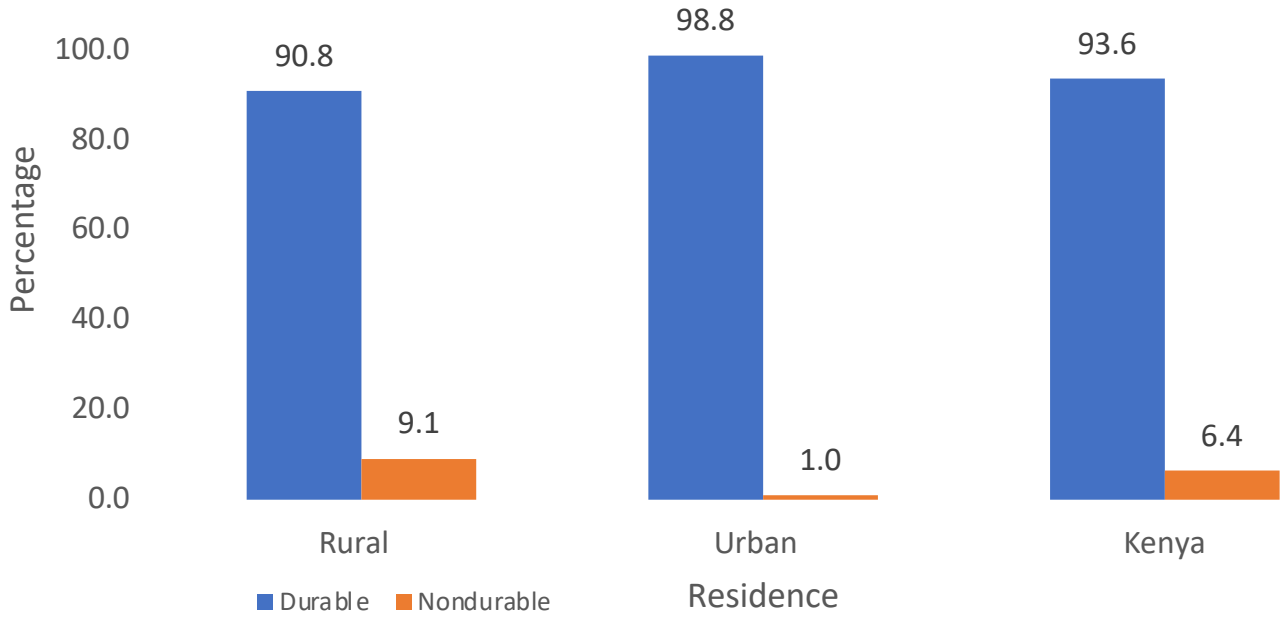
Table 5.3: Percentage Distribution of Dwelling Units by Type of Wall Material, Residence and County *(Continued)*

| | Non-Durable | | | | | | | | | | | | Durable | | | | | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No walls | Cane/ palm/ trunks | Grass/ reeds | Mud/ cow dung | Bamboo with mud | Stone with mud | Uncov-ered adobe | Ply-wood/ Card-board | Re-used wood | Cov-ered adobe | Wood planks/ shin-gles/ timber | Iron sheets | Con-crete/ Cement | Stone with lime/ cement | Bricks | Cement blocks | Precast wall | |
| Trans Nzoia | 0.0 | 0.0 | 0.0 | 60.9 | 0.0 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 1.0 | 23.7 | 3.7 | 4.9 | 2.5 | 0.0 | 0.0 |
| Uasin Gishu | 0.0 | 0.2 | 0.2 | 24.8 | 4.4 | 1.4 | 0.5 | 0.9 | 0.2 | 6.4 | 7.5 | 9.5 | 22.4 | 17.1 | 3.5 | 1.0 | 0.0 | 0.0 |
| Elgeyo-Marak-wet | 0.0 | 0.5 | 0.2 | 39.2 | 0.2 | 3.0 | 0.0 | 0.0 | 0.1 | 0.0 | 28.7 | 11.3 | 6.1 | 5.4 | 5.1 | 0.1 | 0.0 | 0.2 |
| Nandi | 0.0 | 0.0 | 0.0 | 62.0 | 0.0 | 2.2 | 0.7 | 0.0 | 0.6 | 0.0 | 0.2 | 1.3 | 8.1 | 14.0 | 10.5 | 0.5 | 0.0 | 0.0 |
| Baringo | 0.2 | 0.5 | 0.2 | 41.5 | 0.0 | 0.0 | 0.0 | 0.0 | 6.6 | 0.2 | 12.9 | 24.7 | 4.2 | 8.5 | 0.4 | 0.0 | 0.0 | 0.2 |
| Laikipia | 0.0 | 0.0 | 0.0 | 13.5 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 34.0 | 9.1 | 1.3 | 40.7 | 0.6 | 0.1 | 0.0 | 0.2 |
| Nakuru | 0.0 | 0.0 | 0.0 | 21.0 | 4.2 | 3.9 | 0.0 | 0.1 | 0.2 | 0.0 | 12.7 | 6.2 | 18.7 | 30.0 | 2.0 | 0.6 | 0.0 | 0.3 |
| Narok | 0.0 | 0.5 | 0.0 | 39.2 | 14.6 | 0.0 | 0.2 | 1.0 | 0.0 | 0.0 | 11.4 | 12.6 | 3.7 | 14.3 | 1.0 | 0.0 | 0.0 | 1.7 |
| Kajiado | 0.2 | 0.0 | 0.0 | 16.1 | 0.3 | 0.0 | 0.0 | 0.0 | 0.3 | 0.4 | 2.7 | 28.3 | 11.9 | 18.3 | 0.0 | 21.5 | 0.0 | 0.0 |
| Kericho | 0.0 | 0.2 | 0.0 | 43.1 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 24.9 | 8.3 | 3.2 | 4.9 | 14.5 | 0.1 | 0.2 | 0.0 |
| Bomet | 0.0 | 0.0 | 0.2 | 54.6 | 0.9 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 23.7 | 1.6 | 0.9 | 5.8 | 8.4 | 1.8 | 0.0 | 0.0 |
| Kakamega | 0.0 | 0.0 | 0.2 | 55.1 | 10.2 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 27.4 | 4.7 | 1.9 | 0.1 | 0.0 | 0.0 |
| Vihiga | 0.0 | 0.0 | 0.0 | 68.2 | 0.0 | 2.1 | 0.0 | 0.0 | 0.0 | 1.2 | 0.0 | 0.1 | 9.0 | 19.1 | 0.1 | 0.3 | 0.0 | 0.0 |
| Bungoma | 0.0 | 0.0 | 0.0 | 56.6 | 5.3 | 4.3 | 0.2 | 0.0 | 0.0 | 1.1 | 0.2 | 0.0 | 4.4 | 4.6 | 21.2 | 1.1 | 0.8 | 0.0 |
| Busia | 0.0 | 0.0 | 0.0 | 58.3 | 0.2 | 0.7 | 1.0 | 0.0 | 0.0 | 0.9 | 0.0 | 0.7 | 29.8 | 4.2 | 2.9 | 1.2 | 0.0 | 0.0 |
| Siaya | 0.0 | 0.0 | 0.0 | 45.5 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 43.4 | 4.6 | 2.1 | 0.9 | 0.0 | 0.0 |
| Kisumu | 0.0 | 0.0 | 0.0 | 36.9 | 1.3 | 0.8 | 3.3 | 0.0 | 0.0 | 0.9 | 0.0 | 9.0 | 30.4 | 12.0 | 3.0 | 1.5 | 0.8 | 0.1 |
| Homabay | 0.2 | 0.3 | 0.0 | 51.5 | 0.0 | 3.7 | 0.3 | 0.0 | 0.0 | 1.2 | 0.3 | 8.7 | 23.1 | 6.9 | 2.6 | 1.1 | 0.0 | 0.0 |
| Migori | 0.0 | 0.0 | 0.0 | 50.3 | 0.0 | 1.9 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 1.5 | 36.7 | 5.1 | 2.4 | 1.9 | 0.0 | 0.0 |
| Kisii | 0.2 | 0.2 | 0.0 | 64.9 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 1.6 | 15.8 | 15.9 | 0.1 | 0.0 | 0.0 |
| Nyamira | 0.0 | 0.4 | 0.0 | 55.9 | 0.0 | 6.9 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.8 | 11.1 | 7.3 | 16.7 | 0.0 | 0.0 | 0.6 |
| Nairobi City | 0.1 | 0.0 | 0.0 | 1.9 | 0.1 | 0.5 | 0.0 | 0.1 | 0.2 | 0.0 | 0.4 | 19.4 | 36.6 | 35.9 | 1.6 | 3.1 | 0.0 | 0.1 |

### 5.2.3 Roof Material

Table 5.4 and Figure 5.3 presents the proportion of the dwelling units by type of durable and non-durable roof material. The bulk of the dwellings in Kenya had durable roofing materials at 93.6 per cent.

*Figure 5.3: Proportion of dwellings by main type of roof material and residence*




Kiambu County had the highest proportion of dwelling units with durable roof material in contrast to Turkana County that had the lowest proportion at 34.9 per cent. Only three counties had majority of their dwelling units made of non-durable roofing materials. These were Turkana, West Pokot, and Wajir at 46.3, 52.4 and 64.0 per cent, respectively.

Iron sheets/decra/versatile constituted main roofing material in Kenya at 87.0 per cent with grass/makuti/thatch/twigs and concrete/cement coming in second and third at 5.8 per cent and 5.5 per cent respectively. This trend is reflected in both rural and urban areas. In Nairobi City County however, iron sheets/decra/versatile were the main roofing material at 61.6 per cent followed by concrete/cement at 36.1 per cent as shown in table 5.4.

## Table 5.4: Percentage Distribution of Dwelling Units by Type of Roof Material by Residence and County

| | Non Durable | | | | Durable | | | | | | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Grass / Makuti thatch/ twigs | Dung / mud | Tin cans | Sub total | Iron sheets/ Decra/Versatile | Asbestos sheet | Concrete/ Cement | Tiles | Canvas/ Nylon/ Cartons/ Cardboard | Sub total | |
| **Kenya** | **5.8** | **0.5** | **0.1** | **6.4** | **87.0** | **0.2** | **5.5** | **0.3** | **0.5** | **93.6** | **0.1** |
| Rural | 8.3 | 0.7 | 0.1 | 9.1 | 89.4 | 0.2 | 0.5 | 0.1 | 0.6 | 90.8 | 0.0 |
| Urban | 0.9 | 0.0 | 0.0 | 1.0 | 82.4 | 0.3 | 15.3 | 0.7 | 0.2 | 98.8 | 0.1 |
| **County** | | | | | | | | | | | |
| Mombasa | 0.2 | 0.0 | 0.0 | 0.2 | 88.9 | 0.0 | 10.6 | 0.0 | 0.3 | 99.8 | 0.0 |
| Kwale | 17.6 | 0.0 | 0.0 | 17.6 | 82.1 | 0.0 | 0.3 | 0.0 | 0.0 | 82.4 | 0.1 |
| Kilifi | 20.4 | 0.0 | 0.0 | 20.4 | 75.3 | 0.1 | 4.0 | 0.3 | 0.0 | 79.6 | 0.0 |
| Tana River | 31.7 | 0.1 | 0.0 | 31.8 | 66.7 | 0.4 | 1.0 | 0.0 | 0.0 | 68.2 | 0.0 |
| Lamu | 8.5 | 0.3 | 0.0 | 8.8 | 75.6 | 0.0 | 14.8 | 0.0 | 0.8 | 91.2 | 0.0 |
| Taita-Taveta | 0.4 | 0.0 | 0.5 | 0.9 | 97.2 | 0.2 | 1.7 | 0.0 | 0.0 | 99.1 | 0.0 |
| Garissa | 37.0 | 0.0 | 0.3 | 37.3 | 61.7 | 0.3 | 0.5 | 0.3 | 0.0 | 62.7 | 0.0 |
| Wajir | 45.6 | 0.4 | 0.3 | 46.3 | 50.8 | 0.4 | 0.0 | 0.2 | 2.4 | 53.7 | 0.0 |
| Mandera | 24.2 | 0.4 | 0.3 | 24.8 | 74.4 | 0.0 | 0.1 | 0.0 | 0.7 | 75.2 | 0.0 |
| Marsabit | 34.6 | 0.8 | 1.1 | 36.5 | 51.7 | 0.8 | 0.7 | 0.0 | 10.2 | 63.5 | 0.0 |
| Isiolo | 2.1 | 0.0 | 0.3 | 2.4 | 82.6 | 0.0 | 1.5 | 0.0 | 13.6 | 97.6 | 0.0 |
| Meru | 1.0 | 0.0 | 0.2 | 1.2 | 97.9 | 0.0 | 0.7 | 0.1 | 0.2 | 98.8 | 0.0 |
| Tharaka-Nithi | 0.0 | 0.4 | 0.0 | 0.4 | 97.3 | 0.0 | 2.3 | 0.0 | 0.0 | 99.6 | 0.0 |
| Embu | 0.5 | 0.2 | 0.0 | 0.8 | 95.4 | 0.4 | 3.1 | 0.4 | 0.0 | 99.2 | 0.0 |
| Kitui | 0.5 | 0.0 | 0.0 | 0.5 | 97.0 | 0.0 | 2.6 | 0.0 | 0.0 | 99.5 | 0.0 |
| Machakos | 0.3 | 0.0 | 0.0 | 0.3 | 94.7 | 1.1 | 2.7 | 1.1 | 0.1 | 99.7 | 0.0 |
| Makueni | 0.2 | 0.0 | 0.0 | 0.2 | 99.3 | 0.0 | 0.5 | 0.0 | 0.0 | 99.8 | 0.0 |
| Nyandarua | 0.0 | 0.2 | 0.0 | 0.2 | 98.1 | 0.0 | 1.3 | 0.4 | 0.0 | 99.8 | 0.0 |
| Nyeri | 0.8 | 0.1 | 0.0 | 0.8 | 96.2 | 0.8 | 2.2 | 0.0 | 0.0 | 99.2 | 0.0 |
| Kirinyaga | 0.3 | 0.0 | 0.0 | 0.3 | 98.1 | 0.0 | 0.9 | 0.6 | 0.0 | 99.7 | 0.0 |
| Murang'a | 0.8 | 0.1 | 0.0 | 0.9 | 97.9 | 0.0 | 1.1 | 0.1 | 0.0 | 99.1 | 0.0 |
| Kiambu | 0.0 | 0.0 | 0.0 | 0.0 | 91.6 | 0.7 | 7.5 | 0.2 | 0.0 | 100.0 | 0.0 |
| Turkana | 63.6 | 0.0 | 0.5 | 64.0 | 31.9 | 1.4 | 0.0 | 0.0 | 1.6 | 34.9 | 1.1 |
| West Pokot | 50.8 | 1.6 | 0.0 | 52.4 | 47.3 | 0.1 | 0.2 | 0.0 | 0.0 | 47.6 | 0.0 |
| Samburu | 13.8 | 9.0 | 0.0 | 22.9 | 43.9 | 0.0 | 0.9 | 0.0 | 30.5 | 75.3 | 1.8 |
| Trans Nzoia | 0.3 | 1.4 | 0.0 | 1.7 | 96.8 | 0.0 | 0.8 | 0.7 | 0.0 | 98.3 | 0.0 |
| Uasin Gishu | 0.9 | 0.0 | 0.1 | 1.0 | 97.5 | 0.0 | 1.3 | 0.0 | 0.2 | 99.0 | 0.0 |
| Elgeyo-Marakwet | 19.5 | 0.4 | 0.0 | 19.9 | 79.6 | 0.0 | 0.0 | 0.3 | 0.0 | 79.9 | 0.2 |
| Nandi | 1.0 | 0.0 | 0.0 | 1.0 | 98.3 | 0.0 | 0.7 | 0.0 | 0.0 | 99.0 | 0.0 |
| Baringo | 14.4 | 1.6 | 0.0 | 16.0 | 83.6 | 0.0 | 0.3 | 0.1 | 0.0 | 84.0 | 0.0 |
| Laikipia | 3.3 | 0.0 | 0.0 | 3.3 | 94.8 | 0.0 | 1.7 | 0.0 | 0.2 | 96.7 | 0.0 |
| Nakuru | 1.7 | 0.0 | 0.3 | 2.0 | 96.4 | 0.1 | 1.1 | 0.2 | 0.1 | 98.0 | 0.0 |
| Narok | 15.2 | 0.0 | 0.0 | 15.2 | 83.8 | 0.0 | 0.1 | 0.0 | 0.9 | 84.8 | 0.0 |
| Kajiado | 4.8 | 8.3 | 0.0 | 13.1 | 78.0 | 0.0 | 7.3 | 0.0 | 1.6 | 86.9 | 0.0 |
| Kericho | 3.0 | 0.2 | 0.0 | 3.2 | 96.4 | 0.0 | 0.0 | 0.4 | 0.0 | 96.8 | 0.0 |
| Bomet | 6.5 | 0.4 | 0.0 | 6.9 | 90.1 | 2.9 | 0.0 | 0.0 | 0.0 | 93.1 | 0.0 |
| Kakamega | 1.3 | 1.9 | 0.0 | 3.1 | 95.9 | 0.0 | 0.9 | 0.0 | 0.0 | 96.9 | 0.0 |
| Vihiga | 0.0 | 0.3 | 0.0 | 0.3 | 99.2 | 0.3 | 0.2 | 0.0 | 0.0 | 99.7 | 0.0 |
| Bungoma | 3.0 | 0.2 | 0.0 | 3.3 | 96.5 | 0.0 | 0.0 | 0.0 | 0.2 | 96.7 | 0.0 |
| Busia | 6.1 | 0.0 | 0.0 | 6.1 | 93.2 | 0.5 | 0.0 | 0.0 | 0.2 | 93.9 | 0.0 |
| Siaya | 3.2 | 0.3 | 0.0 | 3.5 | 96.0 | 0.0 | 0.3 | 0.0 | 0.2 | 96.5 | 0.0 |
| Kisumu | 0.4 | 0.5 | 0.2 | 1.1 | 96.6 | 0.0 | 2.3 | 0.0 | 0.0 | 98.9 | 0.0 |
| Homabay | 1.1 | 0.9 | 0.0 | 2.0 | 97.7 | 0.0 | 0.3 | 0.0 | 0.0 | 98.0 | 0.0 |
| Migori | 1.6 | 0.0 | 0.0 | 1.6 | 94.0 | 1.4 | 3.0 | 0.0 | 0.0 | 98.4 | 0.0 |
| Kisii | 1.3 | 0.2 | 0.0 | 1.5 | 97.9 | 0.0 | 0.7 | 0.0 | 0.0 | 98.5 | 0.0 |
| Nyamira | 0.8 | 0.0 | 0.0 | 0.8 | 99.2 | 0.0 | 0.0 | 0.0 | 0.0 | 99.2 | 0.0 |
| Nairobi City | 0.0 | 0.0 | 0.0 | 0.0 | 61.6 | 0.1 | 36.1 | 1.6 | 0.2 | 99.5 | 0.5 |

## 5.3 Dwelling Spaces

Figure 5.4 provides the average number of persons per room for various counties and types of residence. On average both rural and urban areas had an average of 2 persons per room. There are 29 counties with an average of 2 persons per room, while those with 3 persons per room are 14. Counties with 4 persons per room included Elgeyo-Marakwet and Baringo, while Mandera and Marsabit had an average of 5 persons per room. The Counties with 2 persons per room generally have a lower crowding indicator, which suggests better housing adequacy in terms of space per individual.

*Figure 5.4: Average Number of Persons per Room by Residence and County*

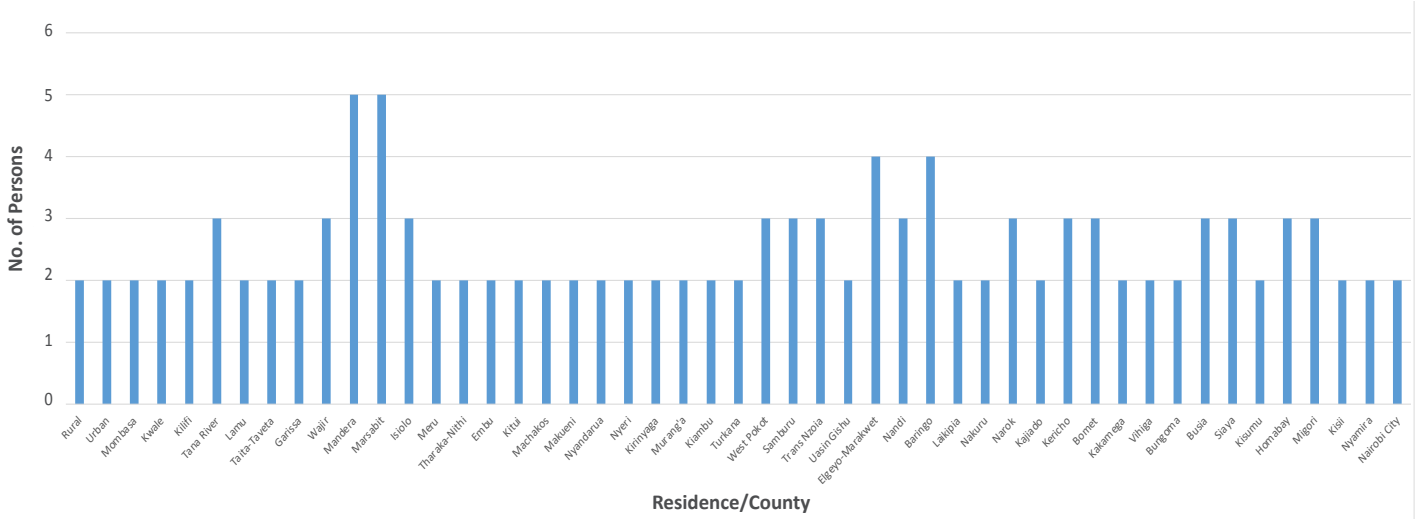



Table 5.5 presents the mean area per person by different household sizes. Households with 1-2 persons had a mean area per person of 31.0 Sq. meters, while those with 11+ persons had a mean area per person of 4.6 Sq. meters. The survey results show that mean area per person reduces with increase in household size revealing an inverse relationship.

**Table 5.5: Distribution of Households by Average Area Per Person and HH Size**

| HH size categories | Average area per person(Sq.M) | Number of Households |
|---|---|---|
| 1-2 persons | 31.0 | 4,736,065 |
| 3-4 persons | 16.9 | 4,658,381 |
| 5-6 persons | 11.5 | 3,072,520 |
| 7-8 persons | 7.8 | 1,063,422 |
| 9 -10 persons | 5.9 | 267,424 |
| 11+ persons | 4.6 | 88,315 |
| **Total** | **19.4** | **13,886,126** |

## 5.4 Energy

### 5.4.1 Cooking and Lighting

Access to clean energy for cooking and lighting is pivotal for improving rural and urban areas' quality of life, health, and economic development. In rural regions, most households relied on unclean energy sources such as biomass (firewood, wood, agriculture residue, and kerosene) for cooking due to its availability and low cost. However, this dependence has a negative impact on health and the environment:

- **Health Impacts:** Using unclean fuels produces indoor air pollution, leading to respiratory illnesses, cardiovascular diseases, and eye problems. Women and children are particularly vulnerable as they spend more time near cooking areas.
- **Environmental Impacts:** Deforestation, land degradation, and increased carbon emissions directly result from using unclean fuel for cooking.

### 5.4.2 Sources of Cooking fuel

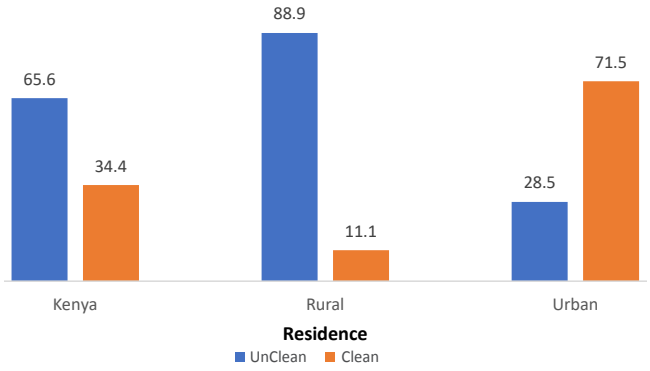
The 2023/2024 Kenya Housing Survey provided comprehensive information about the main types of cooking fuel used by households across the country. Ensuring access to clean fuel is a key target of Sustainable Development Goal indicator 7.1.2 on energy. The data is categorized into clean and unclean fuel as shown in Table 5.6 below

**Table 5.6: Categorization of the Main Type of Cooking Fuel**

| Category | Type of Fuel |
|---|---|
| Clean | Electricity<br>LPG (gas)<br>Biogas<br>Ethanol |
| Unclean (Smoky) | Firewood<br>Wood<br>Charcoal<br>Agriculture Crop Residue<br>Paraffin |

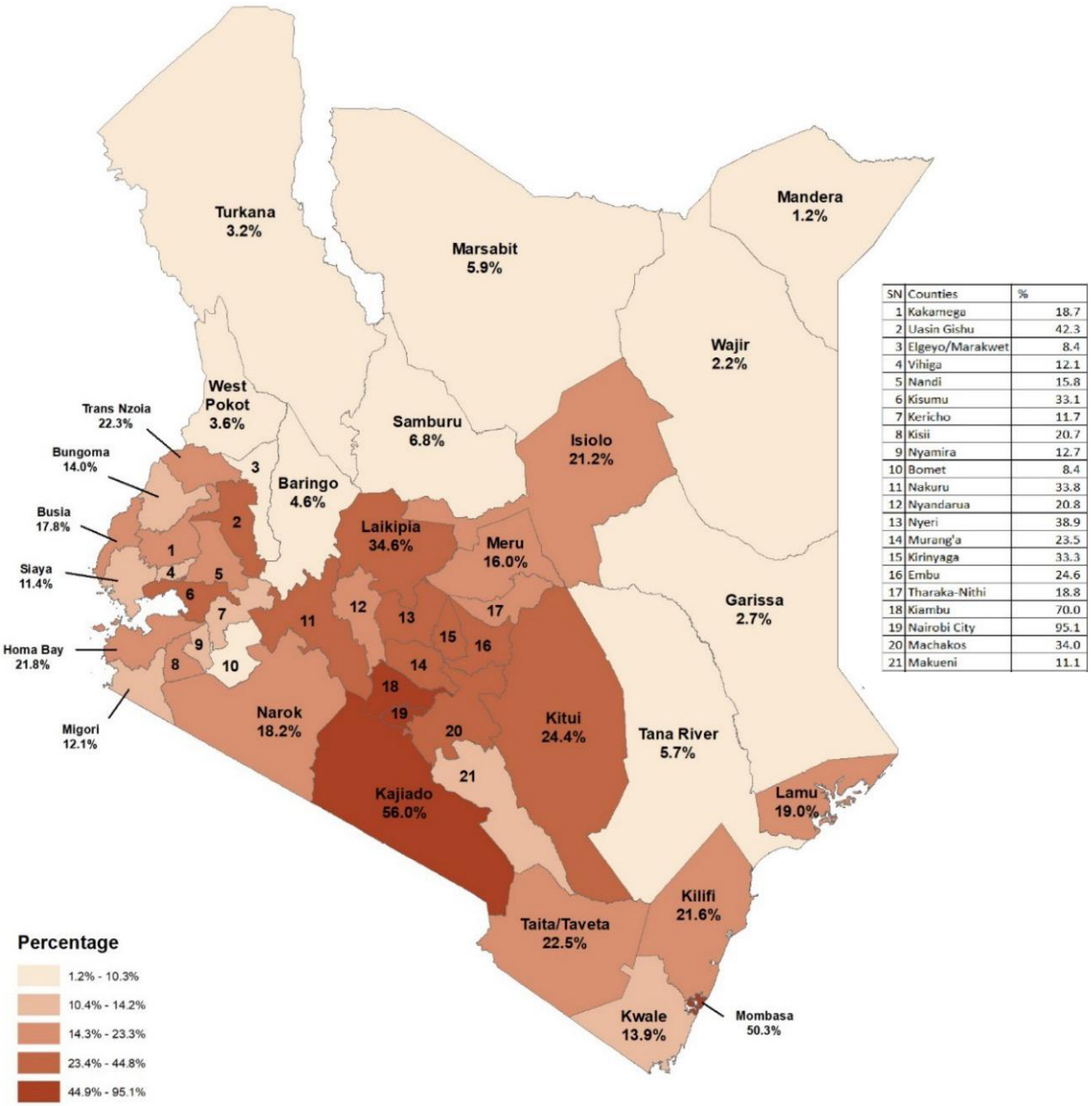
Nationally, 34.4 per cent of households used clean fuels, with LPG being the most common, while 65.6 per cent of households relied on unclean fuels, primarily firewood and charcoal. Heavy dependence on unclean energy was prevalent in rural areas, where 88.9 per cent of households relied on it, while only 11.1 per cent used clean fuel. In contrast, over half of the households in urban areas used clean energy. Specifically, 71.5 per cent of urban households relied on clean energy, while 28.5 per cent depended on unclean energy, as shown in Figure 5.5.

*Figure 5.5 Distribution of Households by Cooking Fuel Categories and Residence*




There were significant differences in the proportion of households that primarily relied on clean fuels and technologies for cooking across counties. Nairobi City led with 95.1 per cent, followed by Kiambu at 70.0 per cent, Kajiado at 56.0 per cent, Mombasa at 50.3 per cent, and Uasin Gishu at 42.3 per cent, all higher than the national average of 34.4 per cent. Mandera County had the lowest percentage, with only 1.2 per cent of the population primarily relying on clean fuels and technologies for cooking. This was followed by Wajir at 2.2 per cent, Garissa at 2.7 per cent, and Turkana at 3.2 per cent as shown in Figure 5.6.

*Figure 5.6 Percentage distribution of Households relying on clean fuels and technologies by county*




| SN | Counties | % |
|---|---|---|
| 1 | Kakamega | 18.7 |
| 2 | Uasin Gishu | 42.3 |
| 3 | Elgeyo/Marakwet | 8.4 |
| 4 | Vihiga | 12.1 |
| 5 | Nandi | 15.8 |
| 6 | Kisumu | 33.1 |
| 7 | Kericho | 11.7 |
| 8 | Kisii | 20.7 |
| 9 | Nyamira | 12.7 |
| 10 | Bomet | 8.4 |
| 11 | Nakuru | 33.8 |
| 12 | Nyandarua | 20.8 |
| 13 | Nyeri | 38.9 |
| 14 | Murang'a | 23.5 |
| 15 | Kirinyaga | 33.3 |
| 16 | Embu | 24.6 |
| 17 | Tharaka-Nithi | 18.8 |
| 18 | Kiambu | 70.0 |
| 19 | Nairobi City | 95.1 |
| 20 | Machakos | 34.0 |
| 21 | Makueni | 11.1 |

Table 5.7 Presents the distribution of households by main source of cooking fuel by residence and county. The most common types of fuel used for cooking by households were unclean sources such as firewood, charcoal, and paraffin, at 53.4 per cent, 10.8 per cent and 0.3 per cent, respectively. The use of firewood as cooking fuel by households was high in rural areas at 81.1 per cent. This often poses environmental challenges including increased deforestation and land degradation. In urban areas, 64.2 per cent of households used Liquefied Petroleum Gas (LPG) as the main cooking fuel. Other commonly used cooking fuels by urban households included charcoal and firewood at 16.9 per cent and 9.4 per cent respectively.

Across the counties, West Pokot, Bomet, Mandera, and Wajir had high proportions of households using Firewood as the main cooking fuel. Nairobi City, Kiambu, and Kajiado reported high proportions of households using LPG for cooking. High proportions of households using Charcoal were in Mombasa, Tana River, and Lamu Counties as shown in Table 5.7.

## Table 5.7: Percentage Distribution of Households by Main Source of Cooking Fuel, Residence and County

| | Clean | | | | | | | | Unclean | | | | | | | | | Number of Households |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Electricity connection from main grid (KPLC) | Electricity connection from a mini grid (private) | Electricity connection from generator | Electricity connection from a solar system/ panels | Bio-gas | LPG (gas) | Ethanol | Sub-Total | Firewood and products of wood | Processed biomass (pellets) or wood-chips | Char-coal | Agri-cultural crop residue | Animal dung/ waste | Not Applicable | Paraffin/Kerosene | SubTotal | Other | |
| **Kenya** | **1.3** | **0.0** | **0.0** | **0.2** | **0.4** | **30.7** | **1.8** | **34.4** | **53.4** | **0.1** | **10.8** | **0.1** | **0.0** | **0.7** | **0.3** | **65.4** | **0.2** | **13,886,126** |
| Rural | 0.7 | 0.0 | 0.0 | 0.3 | 0.3 | 9.6 | 0.2 | 11.1 | 81.1 | 0.1 | 6.9 | 0.1 | 0.0 | 0.6 | 0.1 | 88.9 | 0.0 | 8,519,926 |
| Urban | 2.3 | 0.0 | 0.0 | 0.1 | 0.6 | 64.2 | 4.4 | 71.5 | 9.4 | 0.0 | 16.9 | 0.0 | 0.0 | 0.9 | 0.7 | 28.0 | 0.5 | 5,366,201 |
| **County** | | | | | | | | | | | | | | | | | | |
| Mombasa | 0.4 | 0.0 | 0.0 | 0.0 | 1.4 | 45.6 | 2.9 | 50.3 | 6.3 | 0.0 | 37.6 | 0.0 | 0.0 | 2.4 | 0.0 | 46.3 | 3.5 | 405,415 |
| Kwale | 0.2 | 0.0 | 0.0 | 0.3 | 0.0 | 12.8 | 0.6 | 13.9 | 55.0 | 0.1 | 28.3 | 0.0 | 0.0 | 2.3 | 0.0 | 85.7 | 0.4 | 183,739 |
| Kilifi | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 19.6 | 0.2 | 21.6 | 62.0 | 0.0 | 13.2 | 0.0 | 0.0 | 2.5 | 0.0 | 77.7 | 0.7 | 407,221 |
| Tana River | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 | 5.7 | 56.2 | 0.0 | 37.0 | 0.0 | 0.0 | 0.4 | 0.0 | 93.7 | 0.6 | 74,962 |
| Lamu | 0.7 | 0.0 | 0.0 | 0.0 | 0.1 | 18.2 | 0.0 | 19.0 | 44.8 | 0.0 | 34.2 | 0.0 | 0.0 | 2.1 | 0.0 | 81.0 | 0.0 | 40,543 |
| Taita-Taveta | 0.0 | 0.0 | 0.0 | 0.2 | 0.7 | 20.4 | 1.2 | 22.5 | 55.3 | 0.0 | 20.1 | 0.0 | 0.0 | 0.9 | 0.5 | 76.9 | 0.6 | 108,463 |
| Garissa | 1.3 | 0.1 | 0.0 | 0.0 | 0.0 | 1.3 | 0.1 | 2.7 | 60.3 | 0.5 | 36.3 | 0.0 | 0.0 | 0.1 | 0.1 | 97.3 | 0.0 | 180,468 |
| Wajir | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 | 0.0 | 2.2 | 86.9 | 0.9 | 9.1 | 0.0 | 0.0 | 0.9 | 0.0 | 97.8 | 0.0 | 152,058 |
| Mandera | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 0.0 | 1.2 | 87.4 | 0.0 | 7.2 | 0.0 | 0.0 | 4.0 | 0.0 | 98.6 | 0.2 | 167,096 |
| Marsabit | 1.0 | 0.0 | 0.0 | 0.1 | 0.0 | 4.8 | 0.0 | 5.9 | 83.4 | 0.4 | 9.2 | 0.0 | 0.0 | 1.1 | 0.0 | 94.1 | 0.0 | 87,421 |
| Isiolo | 2.3 | 0.0 | 0.0 | 0.3 | 0.0 | 18.6 | 0.0 | 21.2 | 54.1 | 0.3 | 24.4 | 0.0 | 0.0 | 0.0 | 0.0 | 78.8 | 0.0 | 63,947 |
| Meru | 0.6 | 0.0 | 0.0 | 0.0 | 0.6 | 14.8 | 0.0 | 16.0 | 71.4 | 0.0 | 10.7 | 0.0 | 0.0 | 1.9 | 0.0 | 84.0 | 0.0 | 463,535 |
| Tharaka-Nithi | 0.7 | 0.1 | 0.0 | 0.3 | 1.6 | 16.2 | 0.1 | 18.8 | 72.9 | 0.4 | 6.7 | 0.0 | 0.0 | 1.2 | 0.0 | 81.2 | 0.0 | 120,886 |
| Embu | 0.7 | 0.0 | 0.0 | 0.0 | 0.9 | 22.9 | 0.0 | 24.6 | 71.6 | 0.0 | 3.7 | 0.0 | 0.0 | 0.1 | 0.0 | 75.4 | 0.0 | 199,046 |
| Kitui | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 23.9 | 0.3 | 24.4 | 64.1 | 0.0 | 10.9 | 0.0 | 0.0 | 0.6 | 0.0 | 75.6 | 0.0 | 275,514 |
| Machakos | 0.0 | 0.0 | 0.0 | 0.2 | 0.2 | 32.6 | 0.9 | 33.8 | 57.6 | 0.0 | 7.8 | 0.0 | 0.0 | 0.0 | 0.7 | 66.2 | 0.0 | 430,469 |
| Makueni | 0.3 | 0.0 | 0.0 | 0.4 | 0.0 | 10.3 | 0.0 | 11.1 | 79.2 | 0.0 | 8.7 | 0.0 | 0.0 | 0.9 | 0.1 | 88.9 | 0.1 | 257,105 |
| Nyandarua | 1.0 | 0.0 | 0.0 | 0.0 | 0.4 | 19.2 | 0.2 | 20.8 | 68.9 | 0.0 | 10.1 | 0.0 | 0.0 | 0.3 | 0.0 | 79.2 | 0.0 | 198,250 |
| Nyeri | 4.7 | 0.0 | 0.3 | 0.6 | 1.1 | 32.2 | 0.1 | 38.9 | 52.6 | 0.0 | 6.8 | 0.0 | 0.3 | 0.7 | 0.1 | 60.5 | 0.5 | 270,743 |
| Kirinyaga | 0.5 | 0.0 | 0.0 | 0.0 | 0.4 | 31.8 | 0.6 | 33.3 | 59.1 | 0.0 | 7.0 | 0.0 | 0.0 | 0.4 | 0.0 | 66.5 | 0.2 | 217,216 |
| Murang'a | 1.1 | 0.0 | 0.0 | 0.0 | 0.4 | 21.6 | 0.3 | 23.5 | 72.9 | 0.0 | 2.4 | 0.0 | 0.0 | 0.7 | 0.5 | 76.5 | 0.0 | 385,599 |
| Kiambu | 0.2 | 0.0 | 0.0 | 0.0 | 0.5 | 66.4 | 3.0 | 70.0 | 25.0 | 0.2 | 3.1 | 0.0 | 0.0 | 0.7 | 1.1 | 30.0 | 0.0 | 997,101 |

Table 5.7: Percentage Distribution of Households by Main Source of Cooking Fuel, Residence and County (Continued)

| | Clean | | | | | | | | Unclean | | | | | | | | | Number of Households |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Electricity connection from main grid (KPLC) | Electricity connection from a mini grid (private) | Electricity connection from generator | Electricity connection from a solar system/ panels | Biogas | LPG (gas) | Ethanol | Sub-Total | Firewood and products of wood | Processed biomass (pellets) or woodchips | Charcoal | Agricultural crop residue | Animal dung/ waste | Not Applicable | Paraffin/Kerosene | SubTotal | Other | |
| Turkana | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.2 | 0.0 | 3.2 | 78.6 | 0.0 | 18.0 | 0.0 | 0.0 | 0.1 | 0.0 | 96.8 | 0.0 | 219,588 |
| West Pokot | 0.1 | 0.0 | 0.0 | 0.3 | 0.0 | 3.2 | 0.0 | 3.6 | 89.0 | 0.5 | 6.1 | 0.1 | 0.7 | 0.0 | 0.0 | 96.4 | 0.0 | 183,115 |
| Samburu | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 6.4 | 0.0 | 6.8 | 62.2 | 0.0 | 30.9 | 0.0 | 0.0 | 0.1 | 0.0 | 93.2 | 0.0 | 95,708 |
| Trans Nzoia | 2.5 | 0.0 | 0.0 | 0.0 | 3.2 | 16.4 | 0.1 | 22.2 | 63.3 | 0.5 | 13.3 | 0.0 | 0.0 | 0.6 | 0.0 | 77.8 | 0.0 | 266,538 |
| Uasin Gishu | 2.5 | 0.0 | 0.0 | 0.2 | 0.2 | 38.5 | 0.9 | 42.3 | 45.9 | 0.0 | 11.2 | 0.3 | 0.0 | 0.3 | 0.0 | 57.7 | 0.0 | 351,899 |
| Elgeyo-Marakwet | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 6.9 | 0.0 | 8.3 | 84.9 | 0.0 | 6.3 | 0.0 | 0.0 | 0.4 | 0.0 | 91.6 | 0.0 | 110,356 |
| Nandi | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 | 12.4 | 1.0 | 15.8 | 78.7 | 0.0 | 5.1 | 0.0 | 0.0 | 0.4 | 0.0 | 84.2 | 0.0 | 226,515 |
| Baringo | 0.1 | 0.0 | 0.0 | 0.5 | 0.0 | 3.9 | 0.0 | 4.6 | 84.6 | 0.0 | 10.3 | 0.0 | 0.0 | 0.4 | 0.0 | 95.4 | 0.0 | 157,303 |
| Laikipia | 2.1 | 0.0 | 0.0 | 0.3 | 0.4 | 31.0 | 0.8 | 34.6 | 51.5 | 0.0 | 13.5 | 0.2 | 0.0 | 0.3 | 0.0 | 65.4 | 0.0 | 154,631 |
| Nakuru | 1.2 | 0.0 | 0.0 | 0.0 | 0.8 | 32.9 | 0.8 | 35.7 | 41.0 | 0.0 | 21.5 | 0.4 | 0.0 | 1.2 | 0.1 | 64.3 | 0.0 | 673,026 |
| Narok | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 17.5 | 0.0 | 18.2 | 61.4 | 0.0 | 20.3 | 0.0 | 0.0 | 0.1 | 0.0 | 81.8 | 0.0 | 263,863 |
| Kajiado | 3.0 | 0.0 | 0.0 | 0.2 | 0.0 | 51.8 | 1.0 | 56.0 | 24.6 | 0.0 | 18.9 | 0.0 | 0.0 | 0.5 | 0.0 | 44.0 | 0.0 | 371,234 |
| Kericho | 0.1 | 0.0 | 0.0 | 0.0 | 0.4 | 10.8 | 0.3 | 11.7 | 80.6 | 0.3 | 5.9 | 0.0 | 0.0 | 1.2 | 0.0 | 88.0 | 0.4 | 233,615 |
| Bomet | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 6.3 | 0.0 | 8.4 | 88.2 | 0.3 | 3.1 | 0.0 | 0.0 | 0.0 | 0.0 | 91.6 | 0.0 | 219,222 |
| Kakamega | 0.4 | 0.0 | 0.0 | 0.2 | 0.0 | 17.8 | 0.3 | 18.7 | 75.3 | 0.0 | 5.3 | 0.0 | 0.0 | 0.6 | 0.1 | 81.3 | 0.0 | 484,205 |
| Vihiga | 0.4 | 0.0 | 0.0 | 0.6 | 0.0 | 11.0 | 0.0 | 12.0 | 85.2 | 0.0 | 2.7 | 0.0 | 0.0 | 0.1 | 0.0 | 88.0 | 0.0 | 160,520 |
| Bungoma | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 13.3 | 0.2 | 14.0 | 77.1 | 0.1 | 8.8 | 0.0 | 0.0 | 0.0 | 0.0 | 86.0 | 0.0 | 470,168 |
| Busia | 1.3 | 0.0 | 0.0 | 4.1 | 0.0 | 12.3 | 0.1 | 17.8 | 67.5 | 0.0 | 12.5 | 0.0 | 0.0 | 2.1 | 0.0 | 82.1 | 0.1 | 216,855 |
| Siaya | 0.1 | 0.0 | 0.0 | 0.4 | 0.0 | 10.3 | 0.6 | 11.4 | 74.1 | 0.0 | 14.2 | 0.0 | 0.0 | 0.3 | 0.0 | 88.6 | 0.0 | 247,647 |
| Kisumu | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 | 29.0 | 3.0 | 33.1 | 48.9 | 0.0 | 16.0 | 1.2 | 0.0 | 0.5 | 0.0 | 66.6 | 0.2 | 338,619 |
| Homabay | 1.5 | 0.0 | 0.0 | 2.5 | 1.1 | 16.7 | 0.0 | 21.8 | 68.6 | 0.4 | 7.8 | 0.3 | 0.1 | 1.0 | 0.0 | 78.2 | 0.0 | 270,043 |
| Migori | 1.6 | 0.0 | 0.0 | 0.3 | 0.0 | 9.1 | 1.0 | 12.1 | 67.0 | 0.3 | 20.2 | 0.0 | 0.0 | 0.4 | 0.0 | 87.9 | 0.0 | 267,547 |
| Kisii | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 18.5 | 0.4 | 20.7 | 78.0 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 79.3 | 0.0 | 371,985 |
| Nyamira | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 11.7 | 0.0 | 12.7 | 84.7 | 0.0 | 2.3 | 0.0 | 0.0 | 0.0 | 0.3 | 87.3 | 0.0 | 183,594 |
| Nairobi City | 3.3 | 0.1 | 0.0 | 0.1 | 0.7 | 81.0 | 10.0 | 95.1 | 0.2 | 0.1 | 2.7 | 0.0 | 0.0 | 0.2 | 1.3 | 4.5 | 0.3 | 1,661,533 |

### 5.4.3 Cooking Appliances and Technologies

Table 5.8 shows the percentage distribution of households based on the primary type of cooking appliance by residence and county. Nationally, 33.3 per cent of households used appliances powered by clean fuels. This included LPG at 31.6 per cent and ethanol stoves at 1.7 per cent. The three-stone stove/open fire which uses unclean energy was used as the primary cooking appliance by 49.7 per cent of households.

In urban areas, LPG was more commonly used at 65.6 per cent. In rural areas, only 10.6 per cent of households used clean fuels, while 89.4 per cent relied on unclean fuels. The predominant unclean fuels used were the three stone stove/open fire at 75.3 per cent, followed by improved fire wood jiko at 6.4 per cent. Across the counties, Bomet, Mandera, Marsabit, and Nyamira had high proportions of households using three stone stoves/open fire as the main cooking appliance. Nairobi City, Kiambu, and Mombasa reported high proportions of households using electric, LPG, or biogas cookers as the main cooking appliance. High proportions of households using “ordinary charcoal jiko” as the cooking appliance were found in Mombasa, Tana River, and Garissa Counties.

Table 5.8: Percentage Distribution of Households by Primary type of Cooking Appliance, Residence and County

| | Clean | | | | | Unclean | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Electric/ LPG/Bio-gas Cooker | Electric pressure Cooker | Air fryer | Jiko Koko (Ethanol) | Subtotal | Kero-sene Stove | Ordinary Charcoal Jiko | Improved Charcoal Jiko | Improved Firewood Jiko | Moveable Firepan | Three stone stove/open fire | Other | Subtotal |
| **Kenya** | **31.6** | **0.0** | **0.0** | **1.7** | **33.3** | **0.9** | **9.7** | **1.9** | **4.3** | **0.1** | **49.7** | **0.1** | **66.7** |
| Rural | 10.3 | 0.0 | 0.0 | 0.2 | 10.6 | 0.1 | 6.4 | 1.2 | 6.4 | 0.1 | 75.3 | 0.0 | 89.4 |
| Urban | 65.6 | 0.0 | 0.0 | 3.9 | 69.5 | 2.3 | 14.9 | 3.1 | 0.8 | 0.3 | 8.9 | 0.1 | 30.5 |
| **County** | | | | | | | | | | | | | |
| Mombasa | 48.9 | 0.0 | 0.0 | 2.0 | 50.9 | 4.1 | 37.3 | 1.2 | 0.5 | 0.0 | 5.7 | 0.2 | 49.1 |
| Kwale | 13.1 | 0.0 | 0.0 | 0.6 | 13.7 | 0.4 | 26.4 | 2.6 | 3.5 | 0.0 | 53.4 | 0.0 | 86.3 |
| Kilifi | 21.8 | 0.0 | 0.0 | 0.0 | 21.8 | 0.5 | 12.3 | 1.0 | 0.5 | 0.4 | 62.5 | 1.0 | 78.2 |
| Tana River | 3.9 | 0.0 | 0.0 | 0.0 | 3.9 | 0.0 | 37.8 | 2.4 | 1.0 | 0.0 | 54.4 | 0.6 | 96.1 |
| Lamu | 19.2 | 0.0 | 0.0 | 0.0 | 19.2 | 0.0 | 31.4 | 3.0 | 12.5 | 0.0 | 34.0 | 0.0 | 80.8 |
| Taita-Taveta | 21.3 | 0.0 | 0.0 | 0.5 | 21.8 | 1.9 | 14.3 | 5.6 | 9.1 | 0.0 | 47.2 | 0.0 | 78.2 |
| Garissa | 1.6 | 0.0 | 0.0 | 0.1 | 1.7 | 0.0 | 36.4 | 1.6 | 0.5 | 0.8 | 58.9 | 0.0 | 98.3 |
| Wajir | 1.7 | 0.0 | 0.0 | 0.0 | 1.7 | 0.0 | 4.5 | 5.8 | 18.5 | 0.3 | 69.0 | 0.0 | 98.3 |
| Mandera | 0.8 | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 5.4 | 1.8 | 0.6 | 0.0 | 91.3 | 0.2 | 99.2 |
| Marsabit | 4.9 | 0.0 | 0.0 | 0.3 | 5.2 | 0.0 | 9.3 | 0.4 | 0.0 | 0.0 | 84.3 | 0.8 | 94.8 |
| Isiolo | 18.6 | 0.0 | 0.0 | 0.0 | 18.6 | 0.0 | 13.6 | 9.9 | 5.7 | 0.0 | 52.1 | 0.0 | 81.4 |
| Meru | 16.3 | 0.0 | 0.0 | 0.0 | 16.3 | 0.0 | 9.6 | 0.7 | 6.6 | 0.0 | 66.8 | 0.0 | 83.7 |
| Tharaka-Nithi | 19.3 | 0.0 | 0.0 | 0.0 | 19.3 | 0.1 | 4.8 | 1.9 | 7.9 | 0.0 | 65.9 | 0.0 | 80.7 |
| Embu | 24.9 | 0.0 | 0.0 | 0.0 | 24.9 | 0.0 | 3.4 | 0.6 | 6.8 | 0.0 | 64.3 | 0.0 | 75.1 |
| Kitui | 24.2 | 0.0 | 0.0 | 0.0 | 24.2 | 0.4 | 7.9 | 3.1 | 12.9 | 0.0 | 51.4 | 0.0 | 75.8 |
| Machakos | 32.5 | 0.0 | 0.0 | 1.4 | 33.9 | 0.7 | 3.6 | 4.1 | 10.6 | 0.0 | 47.1 | 0.0 | 66.1 |
| Makueni | 9.8 | 0.0 | 0.0 | 0.0 | 9.8 | 0.3 | 9.7 | 1.1 | 14.8 | 0.0 | 64.2 | 0.1 | 90.2 |
| Nyandarua | 20.3 | 0.0 | 0.0 | 0.2 | 20.5 | 0.0 | 8.9 | 1.1 | 4.8 | 0.0 | 64.7 | 0.0 | 79.5 |
| Nyeri | 36.1 | 0.0 | 0.0 | 0.1 | 36.3 | 0.1 | 4.6 | 1.9 | 2.5 | 0.0 | 54.2 | 0.5 | 63.7 |
| Kirinyaga | 32.9 | 0.0 | 0.0 | 0.7 | 33.6 | 0.2 | 5.9 | 0.7 | 4.4 | 0.0 | 55.2 | 0.0 | 66.4 |
| Murang'a | 23.2 | 0.0 | 0.0 | 0.3 | 23.5 | 0.5 | 2.5 | 0.4 | 10.1 | 0.0 | 63.0 | 0.0 | 76.5 |
| Kiambu | 66.9 | 0.0 | 0.0 | 3.0 | 69.9 | 1.1 | 2.5 | 1.0 | 2.9 | 0.0 | 22.6 | 0.0 | 30.1 |
| Turkana | 3.2 | 0.0 | 0.0 | 0.0 | 3.2 | 0.0 | 15.0 | 3.0 | 0.7 | 0.0 | 78.1 | 0.0 | 96.8 |
| West Pokot | 3.0 | 0.9 | 0.9 | 0.0 | 3.9 | 0.0 | 6.2 | 1.6 | 34.0 | 0.0 | 54.2 | 0.0 | 96.1 |
| Samburu | 6.5 | 0.0 | 0.0 | 0.0 | 6.5 | 0.0 | 20.7 | 9.3 | 1.0 | 0.0 | 62.4 | 0.0 | 93.5 |
| Trans Nzoia | 21.5 | 0.0 | 0.0 | 0.1 | 21.6 | 0.0 | 11.9 | 2.7 | 1.5 | 0.0 | 62.3 | 0.0 | 78.4 |

Table 5.8: Percentage Distribution of Households by Primary type of Cooking Appliance, Residence and County (Continued)

| | Clean | | | | | Unclean | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Electric/ LPG/Bio-gas Cooker | Electric pressure Cooker | Air fryer | Jiko Koko (Ethanol) | Subtotal | Kero-sene Stove | Ordinary Charcoal Jiko | Improved Charcoal Jiko | Improved Firewood Jiko | Moveable Firepan | Three stone stove/open fire | Other | Subtotal |
| Uasin Gishu | 40.9 | 0.0 | 0.0 | 0.9 | 41.8 | 0.0 | 8.6 | 2.9 | 7.7 | 0.2 | 38.8 | 0.0 | 58.2 |
| Elgeyo-Marakwet | 10.0 | 0.0 | 0.0 | 0.0 | 10.0 | 0.1 | 14.2 | 3.9 | 5.3 | 0.0 | 66.5 | 0.0 | 90.0 |
| Nandi | 11.7 | 0.0 | 0.0 | 1.3 | 13.0 | 0.3 | 4.7 | 0.7 | 13.3 | 0.0 | 67.9 | 0.0 | 87.0 |
| Baringo | 4.1 | 0.0 | 0.0 | 0.0 | 4.1 | 0.0 | 5.7 | 4.2 | 1.6 | 0.0 | 84.5 | 0.0 | 95.9 |
| Laikipia | 32.9 | 0.0 | 0.0 | 0.5 | 33.4 | 0.2 | 13.6 | 0.4 | 2.1 | 0.0 | 50.3 | 0.0 | 66.6 |
| Nakuru | 32.9 | 0.0 | 0.0 | 0.8 | 33.7 | 0.1 | 19.3 | 3.1 | 2.1 | 2.2 | 39.4 | 0.0 | 66.3 |
| Narok | 18.2 | 0.0 | 0.0 | 0.0 | 18.2 | 0.0 | 18.5 | 1.7 | 10.2 | 0.0 | 51.2 | 0.2 | 81.8 |
| Kajiado | 36.2 | 0.8 | 0.0 | 5.8 | 42.8 | 0.2 | 22.6 | 9.9 | 0.3 | 0.0 | 24.1 | 0.0 | 57.2 |
| Kericho | 11.6 | 0.0 | 0.0 | 0.3 | 11.9 | 0.0 | 5.5 | 0.3 | 0.3 | 0.0 | 81.5 | 0.4 | 88.1 |
| Bomet | 6.4 | 0.0 | 0.0 | 0.0 | 6.4 | 0.0 | 2.3 | 0.8 | 1.0 | 0.0 | 89.5 | 0.0 | 93.6 |
| Kakamega | 18.4 | 0.0 | 0.0 | 0.3 | 18.8 | 0.1 | 4.7 | 0.7 | 3.4 | 0.0 | 72.3 | 0.0 | 81.2 |
| Vihiga | 11.1 | 0.0 | 0.0 | 0.0 | 11.1 | 0.0 | 1.2 | 1.5 | 3.8 | 0.0 | 82.4 | 0.0 | 88.9 |
| Bungoma | 13.3 | 0.0 | 0.0 | 0.0 | 13.3 | 0.2 | 8.2 | 1.0 | 4.1 | 0.0 | 73.2 | 0.0 | 86.7 |
| Busia | 13.3 | 0.3 | 0.0 | 0.0 | 13.6 | 0.1 | 12.8 | 0.9 | 0.0 | 0.0 | 72.5 | 0.1 | 86.4 |
| Siaya | 10.4 | 0.0 | 0.0 | 0.6 | 11.0 | 0.0 | 12.4 | 1.9 | 1.8 | 0.0 | 72.9 | 0.0 | 89.0 |
| Kisumu | 28.0 | 0.0 | 0.0 | 6.0 | 34.0 | 0.5 | 13.1 | 1.7 | 1.2 | 0.0 | 49.2 | 0.2 | 66.0 |
| Homabay | 18.6 | 0.0 | 0.0 | 0.0 | 18.6 | 0.0 | 5.3 | 2.3 | 5.8 | 0.0 | 67.9 | 0.0 | 81.4 |
| Migori | 10.8 | 0.0 | 0.0 | 0.5 | 11.3 | 0.1 | 18.4 | 2.8 | 2.0 | 0.0 | 65.5 | 0.0 | 88.7 |
| Kisii | 24.2 | 0.0 | 0.0 | 0.4 | 24.6 | 0.0 | 2.4 | 0.4 | 3.0 | 0.3 | 69.2 | 0.0 | 75.4 |
| Nyamira | 11.6 | 0.0 | 0.0 | 0.0 | 11.6 | 0.6 | 2.1 | 0.2 | 0.0 | 0.0 | 85.5 | 0.0 | 88.4 |
| Nairobi City | 84.6 | 0.0 | 0.0 | 7.2 | 91.8 | 5.0 | 2.3 | 0.6 | 0.0 | 0.0 | 0.4 | 0.0 | 8.2 |

### 5.4.4 Sources of Energy for Lighting

Transitioning to clean energy for lighting is a crucial and impactful measure in the fight against climate change. By adopting clean energy solutions, like solar lights, we can effectively reduce our dependency on fossil fuels and minimize our carbon footprints. Clean energy for lighting reduces indoor air pollution, which is often caused by the use of kerosene lamps and other polluting light sources. Reducing air pollution lowers the risk of respiratory illnesses and other health issues, thus improving overall health and well-being. The data is categorised into clean and unclean energy sources for lighting as shown in Table 5.9. The table also presents data in line with SDG indicator 7.1.1 on proportion of population with access to electricity (Grid Only).

**Table 5.9: Categorization of the Main Type of Lighting Fuel**

| Category | Type of Fuel |
|---|---|
| Clean | Electricity<br>Solar Battery<br>Biogas<br>Ethanol |
| Unclean (Smoky) | Kerosene<br>Charcoal<br>Wood<br>Candle |

### 5.4.5 Main Source of Lighting

Nationally, 95.4 per cent of households used clean energy sources for lighting. In urban and rural areas, clean lighting sources were reported at 97.5 per cent and 94.0 per cent respectively. The most common source of household lighting by residence is Electricity from the main grid (KPLC), Solar charged batteries, and Electricity from solar systems/panels, at 57.7 per cent, 29.4 per cent, and 7.8 per cent, respectively. The use of the solar charged battery was higher in rural areas at 44.8 per cent followed by electricity from the main grid (KPLC) at 36.9 per cent as shown in Table 5.10. The percentage of rural households relying on unclean fuel such as paraffin lamps, wood, and candle as a source of lighting was 6.0 per cent compared to 2.5 per cent in urban areas.

Counties that registered high proportions of households using electricity for lighting from the main grid were Nairobi City, Kiambu, Mombasa, and Muranga. Most households in West Pokot, Mandera, Turkana, and Mandera reported battery lamps/torches.

Usage of paraffin as a source of lighting was common in, Vihiga, Nyamira, and Kisii Counties, while wood fuel was predominant among households in Turkana, West Pokot, and Marsabit counties.

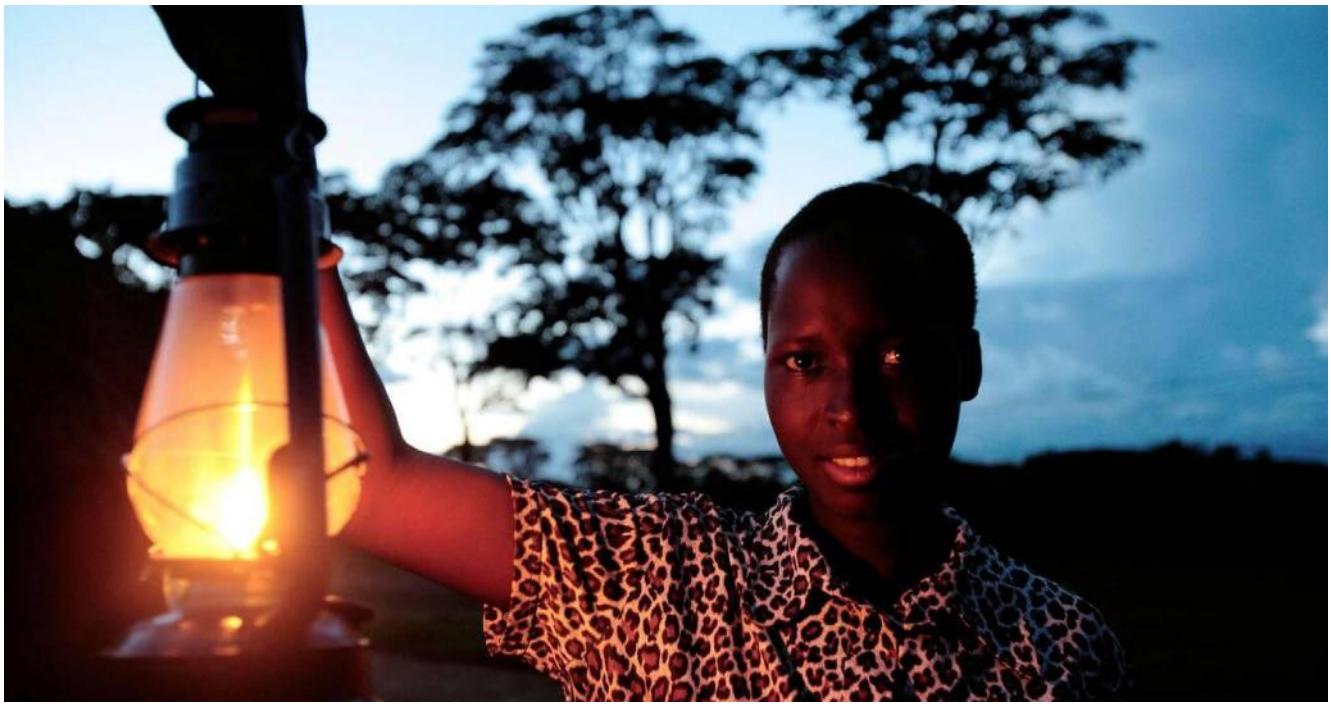


Table 5.10: Percentage Distribution of Households by Main Source of Lighting and Residence/ County

| | Clean | | | | | | | | Unclean | | | | | | | Number of household |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Electricity connection from main grid (KPLC) | Electricity connection from a mini grid (private) | Electricity connection from generator | Electricity connection from a solar system/ panels | Solar Charged Battery/ Torch/ Spotlight/ lamp | Electricity connection from wind | Biogas | Subtotal | Kerosene or Paraffin | Charcoal | Wood | Candle | None | Other | Subtotal | |
| **Kenya** | **57.7** | **0.4** | **0.1** | **7.8** | **29.4** | **0.1** | **0.0** | **95.4** | **2.8** | **0.1** | **0.4** | **0.9** | **0.2** | **0.2** | **4.6** | **13,886,126** |
| Rural | 36.9 | 0.1 | 0.1 | 12.0 | 44.8 | 0.1 | 0.0 | 94.0 | 3.9 | 0.1 | 0.7 | 0.8 | 0.3 | 0.2 | 6.0 | 8,519,926 |
| Urban | 90.7 | 0.9 | 0.0 | 1.1 | 4.8 | 0.0 | 0.0 | 97.5 | 1.0 | 0.1 | 0.0 | 1.2 | 0.1 | 0.1 | 2.5 | 5,366,201 |
| **County** | | | | | | | | | | | | | | | | |
| Mombasa | 83.4 | 0.0 | 0.2 | 2.1 | 6.9 | 0.0 | 0.0 | 92.7 | 4.1 | 0.2 | 0.0 | 3.0 | 0.0 | 0.0 | 7.3 | 405,415 |
| Kwale | 55.0 | 0.0 | 0.0 | 27.8 | 10.8 | 0.0 | 0.0 | 93.5 | 4.4 | 0.0 | 0.0 | 1.7 | 0.3 | 0.0 | 6.5 | 183,739 |
| Kilifi | 43.0 | 0.0 | 0.0 | 9.2 | 37.2 | 0.0 | 0.0 | 89.4 | 5.9 | 0.6 | 0.5 | 2.1 | 0.0 | 1.5 | 10.6 | 407,221 |
| Tana River | 43.0 | 0.0 | 0.0 | 0.6 | 49.5 | 0.0 | 0.3 | 93.5 | 5.7 | 0.4 | 0.1 | 0 | 0.2 | 0.0 | 6.5 | 74,962 |
| Lamu | 52.3 | 0.0 | 0.0 | 8.8 | 34.6 | 0.0 | 0.0 | 95.7 | 0.7 | 0.3 | 0.7 | 2.6 | 0.0 | 0.0 | 4.3 | 40,543 |
| Taita-Taveta | 61.6 | 0.0 | 0.0 | 4.4 | 28.9 | 0.3 | 0.0 | 95.2 | 4.2 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 4.8 | 108,463 |
| Garissa | 34.1 | 1.5 | 2.2 | 4.1 | 56.1 | 0.0 | 0.0 | 98.0 | 0.0 | 0.6 | 0.0 | 0.2 | 1.1 | 0.1 | 2.0 | 180,468 |
| Wajir | 24.3 | 0.2 | 0.0 | 4.5 | 70.4 | 0.0 | 0.0 | 99.4 | 0.0 | 0.1 | 0.3 | 0 | 0.2 | 0.0 | 0.6 | 152,058 |
| Mandera | 23.9 | 0.1 | 0.0 | 0.0 | 75.9 | 0.0 | 0.0 | 99.8 | 0.0 | 0.0 | 0.0 | 0 | 0.2 | 0.0 | 0.2 | 167,096 |
| Marsabit | 34.2 | 0.0 | 0.0 | 0.1 | 56.4 | 0.4 | 0.3 | 91.4 | 0.0 | 0.1 | 3.4 | 0.3 | 4.8 | 0.0 | 8.6 | 87,421 |
| Isiolo | 50.1 | 0.0 | 0.0 | 8.0 | 40.8 | 0.0 | 0.0 | 98.9 | 0.2 | 0.0 | 0.2 | 0.7 | 0 | 0.0 | 1.1 | 63,947 |
| Meru | 52.2 | 0.0 | 0.0 | 14.6 | 22.3 | 0.0 | 0.0 | 89.1 | 7.4 | 0.0 | 0.8 | 2.1 | 0.7 | 0.0 | 10.9 | 463,535 |
| Tharaka-Nithi | 52.3 | 0.1 | 0.0 | 23.1 | 20.1 | 0.0 | 0.0 | 95.6 | 3.6 | 0.0 | 0.3 | 0.5 | 0.0 | 0.0 | 4.4 | 120,886 |
| Embu | 53.4 | 0.0 | 0.0 | 10.2 | 26.4 | 0.0 | 0.0 | 90.0 | 6.4 | 0.0 | 2.1 | 1.5 | 0.0 | 0.0 | 10.0 | 199,046 |
| Kitui | 36.3 | 0.0 | 0.0 | 9.9 | 51.9 | 0.2 | 0.0 | 98.2 | 1.4 | 0.0 | 0.2 | 0 | 0.0 | 0.2 | 1.8 | 275,514 |
| Machakos | 45.4 | 0.0 | 0.2 | 27.3 | 23.2 | 0.0 | 0.0 | 96.1 | 3.4 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 3.9 | 430,469 |
| Makueni | 25.2 | 0.0 | 0.0 | 40.4 | 28.8 | 0.0 | 0.0 | 94.4 | 5.4 | 0.0 | 0.0 | 0 | 0.0 | 0.3 | 5.6 | 257,105 |
| Nyandarua | 64.4 | 0.0 | 0.0 | 3.5 | 25.6 | 0.0 | 0.0 | 93.4 | 4.7 | 0.1 | 0.0 | 1.7 | 0.0 | 0.0 | 6.6 | 198,250 |
| Nyeri | 83.3 | 0.1 | 0.0 | 1.8 | 5.8 | 0.0 | 0.0 | 91.1 | 6.1 | 0.3 | 0.3 | 1.8 | 0.0 | 0.5 | 8.9 | 270,743 |
| Kirinyaga | 79.2 | 0.0 | 0.0 | 3.1 | 7.8 | 0.1 | 0.0 | 90.3 | 7.5 | 0.2 | 0.0 | 2.0 | 0.0 | 0.0 | 9.7 | 217,216 |
| Murang'a | 84.2 | 0.0 | 0.0 | 3.4 | 5.6 | 0.0 | 0.0 | 93.3 | 4.4 | 0.4 | 0.0 | 2.0 | 0.0 | 0.0 | 6.7 | 385,599 |
| Kiambu | 93.6 | 0.7 | 0.0 | 0.0 | 2.8 | 0.0 | 0.0 | 97.0 | 1.1 | 0.0 | 0.0 | 1.0 | 0.2 | 0.8 | 3.0 | 997,101 |
| Turkana | 9.8 | 0.0 | 0.0 | 1.4 | 71.1 | 0.0 | 0.0 | 82.3 | 0.1 | 0.0 | 12.0 | 0.2 | 4.7 | 0.6 | 17.7 | 219,588 |
| West Pokot | 15.7 | 0.0 | 0.0 | 1.2 | 77.4 | 0.7 | 0.0 | 95.0 | 0.3 | 0.0 | 4.3 | 0.4 | 0.0 | 0.0 | 5.0 | 183,115 |

Table 5.10: Percentage Distribution of Households by Main Source of Lighting and Residence/ County *(Continued)*

| | Clean | | | | | | | | Unclean | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Electricity connection from main grid (KPLC) | Electricity connection from a mini grid (private) | Electricity connection from generator | Electricity connection from a solar system/ panels | Solar Charged Battery/ Torch/ Spotlight/ lamp | Electricity connection from wind | Biogas | Subtotal | Kerosene or Paraffin | Charcoal | Wood | Candle | None | Other | Subtotal | Number of household |
| Samburu | 28.3 | 0.2 | 0.3 | 0.4 | 67.6 | 0.0 | 0.0 | 96.8 | 0.1 | 0.3 | 2.2 | 0.4 | 0.1 | 0.1 | 3.2 | 95,708 |
| Trans Nzoia | 47.6 | 0.1 | 0.0 | 6.0 | 41.1 | 0.0 | 0.0 | 94.8 | 2.9 | 0 | 0.1 | 0.8 | 1.3 | 0.0 | 5.2 | 266,538 |
| Uasin Gishu | 72.0 | 0.2 | 0.0 | 6.4 | 20.0 | 0.0 | 0.0 | 98.7 | 0.6 | 0 | 0 | 0.7 | 0.0 | 0.0 | 1.3 | 351,899 |
| Elgeyo-Marakwet | 37.8 | 0.4 | 0.0 | 9.3 | 52.1 | 0.0 | 0.0 | 99.5 | 0 | 0.1 | 0.3 | 0.1 | 0.0 | 0.0 | 0.5 | 110,356 |
| Nandi | 50.5 | 0.0 | 0.0 | 6.2 | 41.2 | 0.0 | 0.0 | 97.8 | 1.8 | 0 | 0 | 0.4 | 0.0 | 0.0 | 2.2 | 226,515 |
| Baringo | 36.5 | 0.1 | 0.0 | 9.6 | 48.4 | 0.0 | 0.0 | 94.6 | 0.3 | 0 | 2.1 | 0.5 | 0.1 | 2.3 | 5.4 | 157,303 |
| Laikipia | 53.8 | 0.2 | 0.0 | 13.9 | 27.4 | 0.0 | 0.0 | 95.3 | 2.7 | 0.4 | 0.5 | 0.9 | 0.3 | 0.0 | 4.7 | 154,631 |
| Nakuru | 68.0 | 0.1 | 0.0 | 8.2 | 21.4 | 0.0 | 0.0 | 97.8 | 1.1 | 0 | 0.1 | 1.1 | 0.0 | 0.0 | 2.2 | 673,026 |
| Narok | 27.9 | 0.0 | 0.3 | 36.8 | 32.6 | 0.3 | 0.0 | 97.9 | 0.9 | 0 | 0.2 | 0.9 | 0.0 | 0.0 | 2.1 | 263,863 |
| Kajiado | 73.4 | 0.0 | 0.0 | 3.4 | 22.3 | 0.0 | 0.0 | 99.1 | 0 | 0.5 | 0 | 0.1 | 0.4 | 0 | 0.9 | 371,234 |
| Kericho | 46.3 | 0.7 | 0.0 | 10.5 | 41.3 | 0.3 | 0.0 | 99.0 | 0.9 | 0 | 0 | 0.1 | 0 | 0 | 1.0 | 233,615 |
| Bomet | 37.0 | 0.0 | 0.0 | 3.4 | 59.2 | 0.3 | 0.0 | 99.9 | 0 | 0.0 | 0 | 0.0 | 0 | 0 | 0.1 | 219,222 |
| Kakamega | 39.8 | 0.3 | 0.0 | 10.1 | 45.5 | 0.3 | 0.0 | 96.0 | 3.4 | 0.2 | 0 | 0.3 | 0 | 0 | 4.0 | 484,205 |
| Vihiga | 43.4 | 0.0 | 0.0 | 12.6 | 30.9 | 0 | 0.0 | 86.8 | 13.2 | 0 | 0 | 0 | 0 | 0 | 13.2 | 160,520 |
| Bungoma | 32.7 | 0.0 | 0.0 | 11.3 | 51.9 | 0.3 | 0.0 | 96.3 | 3.4 | 0 | 0.3 | 0 | 0 | 0 | 3.7 | 470,168 |
| Busia | 30.9 | 0.0 | 0.0 | 1.9 | 63.1 | 0.0 | 0.0 | 95.9 | 2.9 | 0 | 0 | 0.9 | 0.3 | 0 | 4.1 | 216,855 |
| Siaya | 27.4 | 0.0 | 0.0 | 4.2 | 66.5 | 0.0 | 0.0 | 98.1 | 1.8 | 0.1 | 0 | 0.1 | 0 | 0 | 1.9 | 247,647 |
| Kisumu | 57.2 | 0.0 | 0.0 | 7.6 | 30.8 | 0.0 | 0.0 | 95.6 | 3.1 | 0 | 0 | 0.9 | 0.4 | 0 | 4.4 | 338,619 |
| Homabay | 20.3 | 0.1 | 0.4 | 13.3 | 64.9 | 0.0 | 0.0 | 98.9 | 0.6 | 0.1 | 0 | 0.3 | 0.1 | 0 | 1.1 | 270,043 |
| Migori | 32.2 | 0.1 | 0.0 | 19.1 | 43.1 | 0.0 | 0.0 | 94.5 | 3.4 | 0 | 0 | 2.2 | 0 | 0 | 5.5 | 267,547 |
| Kisii | 55.0 | 0.5 | 0.0 | 0.3 | 34.5 | 0.0 | 0.0 | 90.2 | 8.9 | 0 | 0 | 0.6 | 0.2 | 0 | 9.8 | 371,985 |
| Nyamira | 54.5 | 0.0 | 0.0 | 1.8 | 29.4 | 0.0 | 0.0 | 85.7 | 13.0 | 0 | 0 | 0.9 | 0.4 | 0 | 14.3 | 183,594 |
| Nairobi City | 95.2 | 2.4 | 0.0 | 0.3 | 0.6 | 0.0 | 0.0 | 98.5 | 0.4 | 0 | 0 | 1.1 | 0.1 | 0 | 1.5 | 1,661,533 |

The proportion of the households with access to electricity from the main grid was 91.0 per cent in urban areas compared to 37.3 per cent in rural areas. The percentage of rural households not connected to electricity from the main grid was 62.7 per cent compared to 9.0 per cent in urban areas as shown in Table 5.11.

The counties that had the highest proportion of households using electricity for lighting from the main grid were Nairobi City, Kiambu, Mombasa, Muranga, and Nyeri. On the other hand, the majority of the population not connected to electricity from the main grid were in West Pokot, Homabay, and Turkana as illustrated in Table 5.11.

**Table 5.11: Percentage Distribution of Households Connected to Electricity from the Main Grid by Residence and County**

| Region | Connected to Electricity | Not connected to Electricity | Number of Households |
|---|---|---|---|
| **Kenya** | **58.1** | **41.9** | **13,886,126** |
| Rural | 37.3 | 62.7 | 8,519,926 |
| Urban | 91.0 | 9.0 | 5,366,201 |
| **County** | | | |
| Mombasa | 82.9 | 17.1 | 405,415 |
| Kwale | 49.5 | 50.5 | 183,739 |
| Kilifi | 35.7 | 64.3 | 407,221 |
| Tana River | 40.1 | 59.9 | 74,962 |
| Lamu | 46.4 | 53.6 | 40,543 |
| Taita-Taveta | 59.3 | 40.7 | 108,463 |
| Garissa | 33.6 | 66.4 | 180,468 |
| Wajir | 21.7 | 78.3 | 152,058 |
| Mandera | 24.8 | 75.2 | 167,096 |
| Marsabit | 37.1 | 62.9 | 87,421 |
| Isiolo | 47.0 | 53.0 | 63,947 |
| Meru | 48.8 | 51.2 | 463,535 |
| Tharaka-Nithi | 53.0 | 47.0 | 120,886 |
| Embu | 49.4 | 50.6 | 199,046 |
| Kitui | 22.1 | 77.9 | 275,514 |
| Machakos | 42.2 | 57.8 | 430,469 |
| Makueni | 23.4 | 76.6 | 257,105 |
| Nyandarua | 64.6 | 35.4 | 198,250 |
| Nyeri | 87.1 | 12.9 | 270,743 |
| Kirinyaga | 79.5 | 20.5 | 217,216 |
| Murang'a | 87.3 | 12.7 | 385,599 |
| Kiambu | 95.1 | 4.9 | 997,101 |
| Turkana | 9.0 | 91.0 | 219,588 |
| West Pokot | 14.8 | 85.2 | 183,115 |
| Samburu | 22.9 | 77.1 | 95,708 |
| Trans Nzoia | 43.5 | 56.5 | 266,538 |
| Uasin Gishu | 66.1 | 33.9 | 351,899 |
| Elgeyo-Marakwet | 37.1 | 62.9 | 110,356 |
| Nandi | 48.7 | 51.3 | 226,515 |
| Baringo | 34.0 | 66.0 | 157,303 |
| Laikipia | 47.0 | 53.0 | 154,631 |
| Nakuru | 65.4 | 34.6 | 673,026 |
| Narok | 23.6 | 76.4 | 263,863 |
| Kajiado | 63.9 | 36.1 | 371,234 |
| Kericho | 45.3 | 54.7 | 233,615 |
| Bomet | 34.3 | 65.7 | 219,222 |
| Kakamega | 38.7 | 61.3 | 484,205 |
| Vihiga | 45.1 | 54.9 | 160,520 |
| Bungoma | 30.6 | 69.4 | 470,168 |
| Busia | 29.5 | 70.5 | 216,855 |
| Siaya | 24.0 | 76.0 | 247,647 |
| Kisumu | 56.7 | 43.3 | 338,619 |
| Homabay | 20.1 | 79.9 | 270,043 |
| Migori | 30.8 | 69.2 | 267,547 |
| Kisii | 54.3 | 45.7 | 371,985 |
| Nyamira | 58.2 | 41.8 | 183,594 |
| Nairobi City | 95.2 | 4.8 | 1,661,533 |

Figure 5.7 presents reasons why households are not connected to electricity from the main grid. The majority of households (47%) reported that the absence of electricity connections in their area is the reason they are not connected to the main grid. This indicates a significant gap in the infrastructure and distribution of the main grid electricity network. Approximately one-third of the households cited financial constraints as the main barrier to obtaining a connection, suggesting that the initial costs associated with setting up a connection are prohibitively high for many households.

*Figure 5.7: Reasons why Households are not Connected to Electricity from the Main Grid*

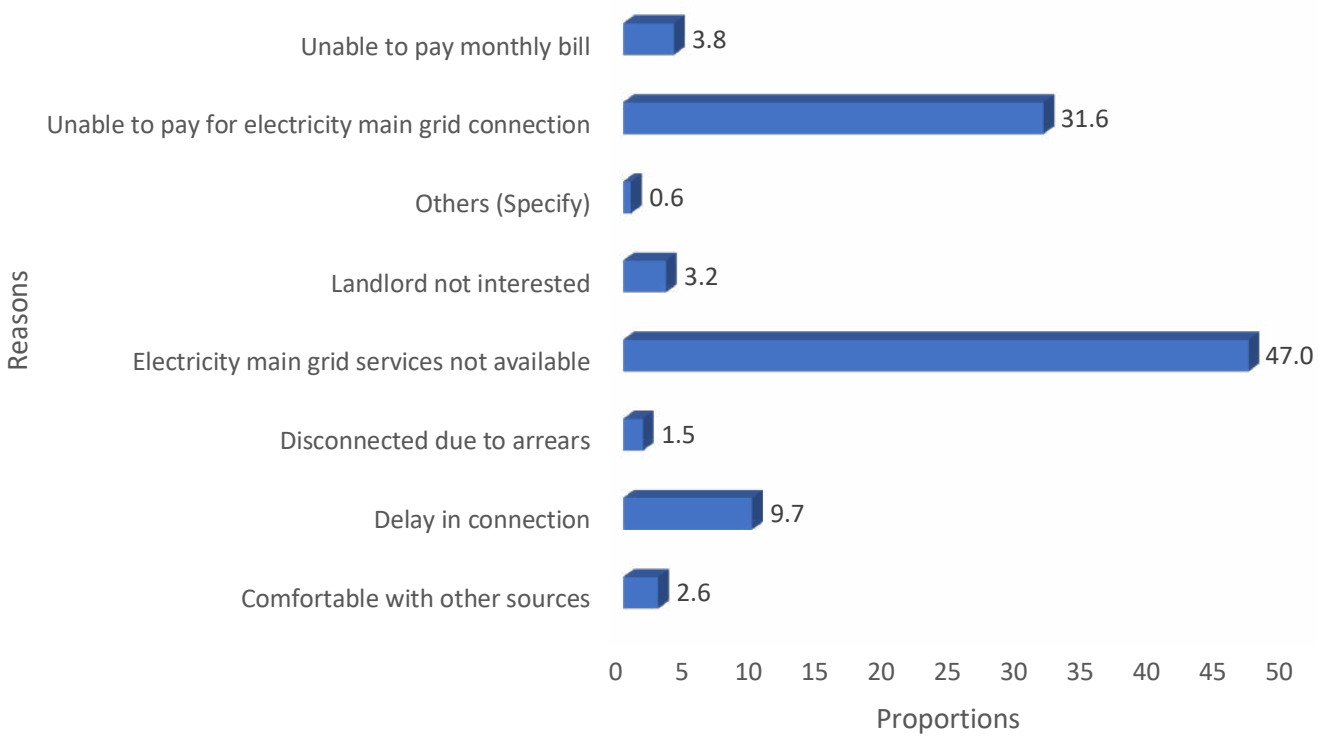
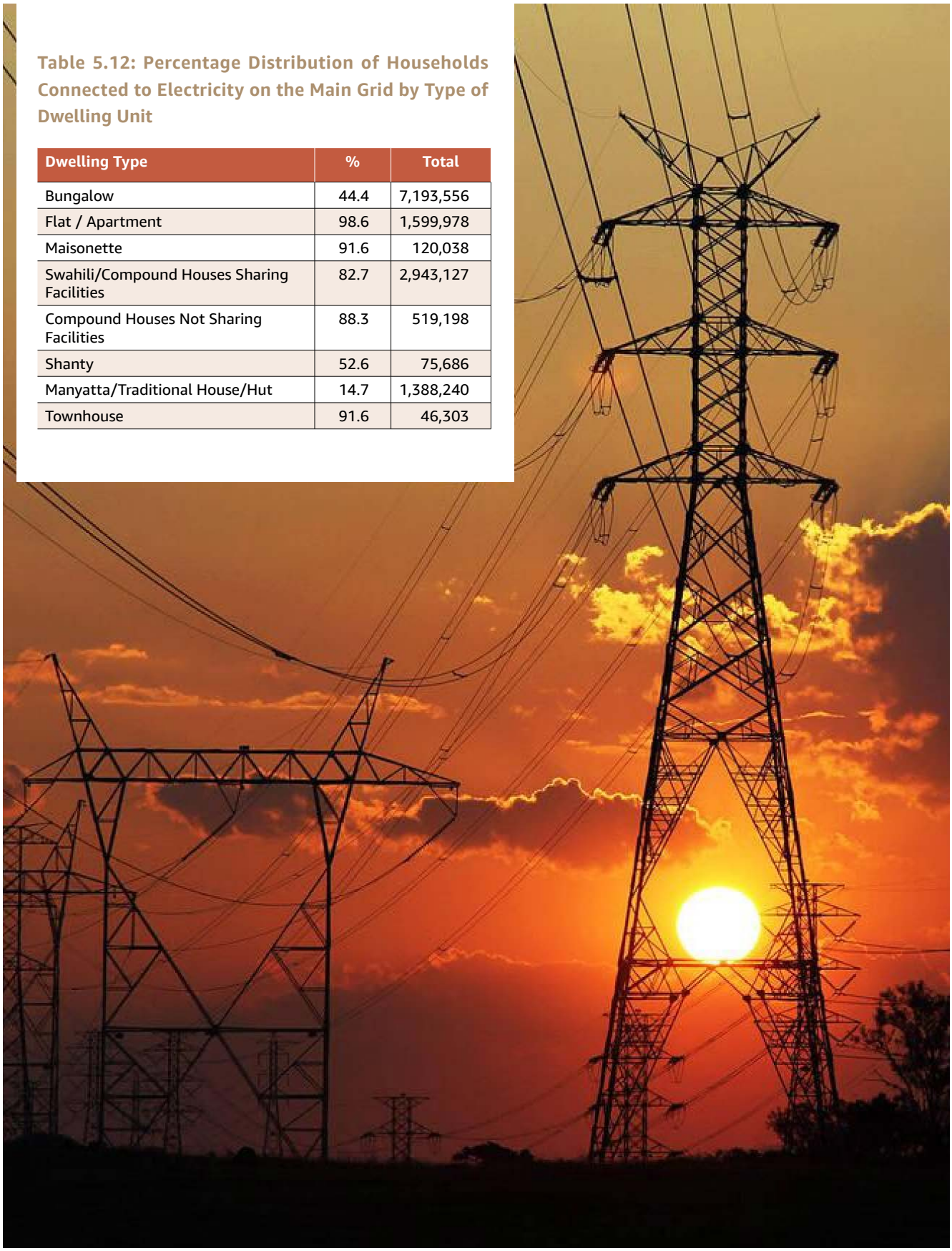



Table 5.12 presents overall statistics on connection to electricity for different types of dwelling units. Flats/ Apartments had the highest rate of connection to the main grid, with 98.6 per cent of units connected. Maisonettes and town houses also had high electricity connection, with 91.6 per cent of units connected. A majority of bungalows lacked electricity with 55.6 per cent of units not connected, while 44.4 per cent had electricity. The proportion of Swahili/compound houses sharing facilities that reported being connected to the main grid was 83.5 per cent. Compound houses that do not share facilities had relatively high connection to the main grid at 88.3 per cent. 47.4 per cent of shanties were not connected to the main grid. Traditional houses or huts had the least connection to the main grid, with 85.3 per cent of dwelling units not connected.

**More than half of the households reported that the primary reason for not being connected to the main grid was the unavailability of electricity services in their area at 47.0 per cent.**

### Table 5.12: Percentage Distribution of Households Connected to Electricity on the Main Grid by Type of Dwelling Unit

| Dwelling Type | % | Total |
|---|---|---|
| Bungalow | 44.4 | 7,193,556 |
| Flat / Apartment | 98.6 | 1,599,978 |
| Maisonette | 91.6 | 120,038 |
| Swahili/Compound Houses Sharing Facilities | 82.7 | 2,943,127 |
| Compound Houses Not Sharing Facilities | 88.3 | 519,198 |
| Shanty | 52.6 | 75,686 |
| Manyatta/Traditional House/Hut | 14.7 | 1,388,240 |
| Townhouse | 91.6 | 46,303 |



## 5.5 Access and Sources of Water

Water is an essential commodity for life and plays a critical role in many aspects of human existence. Access to clean and sufficient water is crucial for maintaining a high-quality life and supporting the efficient functioning of modern households. For this survey, the categories for the main sources of water was classified into improved and unimproved sources as shown in Table 5.13 below:

**Table 5.13: Categories of Main Sources of Water**

| Category | Main Sources of Water |
|---|---|
| Improved | Public Water Companies |
| | Private Water Companies |
| | Tubewell/Borehole(Owned) |
| | Tube well/Borehole(Community) |
| | Dug well(protected) |
| | Water from Spring) |
| | Rainwater |
| | Packaged Bottled Water |
| Unimproved | Dug Well(Unprotected) |
| | Water from Spring(Unprotected) |
| | Surface Water(River,Lake,Dam,etc) |

### 5.5.1 Distribution of Households by Access to Main Source of Drinking Water

Universal access to safe drinking water is a fundamental human right and a bedrock of public health. It is crucial to choose clean and safe drinking water sources to avoid contaminants and ensure wellbeing in general. The objective of SDG target 6.1 is to ensure that everyone has universal and fair access to safe and affordable drinking water. Table 5.14 presents the distribution of households by their main source of drinking water, residence, and county. Nationally, 73.5 per cent of households had access to improved sources of drinking water with 66.4 per cent in rural areas and 96.7 per cent in urban areas. County level analysis shows all households in Mombasa county had access to improved sources of drinking water, while West-Pokot and Elgeyo-Marakwet had the lowest percentages of households with access to drinking water from improved sources at 25.8 per cent and 34.1 per cent respectively.

## Table 5.14: Percentage Distribution of Households by Access to Main Source of Drinking Water

| | | Improved | | | | | | | | | Unimproved | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number of Households | Public Water Compa-nies | Private Water Compa-nies | Tube Well/ Borehole (Owned) | Tube Well/ Borehole (Commu-nity) | Dug Well (Pro-tected) | Water from Spring (Protect-ed) | Rain/ Harvest-ed Water | Pack-aged Bottled Water | Sub- to-tal | Water from-Spring (Unpro-tected) | Dug Well (Un-pro-tected) | Surface Water (River/ Dam/Lake/ Pond/ Stream/Ca-nal/Irrigation Channel) | Sub-total | Other |
| Residence | | per cent | per cent | per cent | per cent | per cent | per cent | per cent | per cent | per cent | per cent | per cent | per cent | per cent | per cent |
| **Kenya** | **13,886,126** | **27.2** | **8.0** | **7.2** | **10.7** | **4.6** | **6.7** | **9.2** | **4.6** | **78.1** | **3.2** | **1.7** | **16.7** | **21.6** | **0.4** |
| Rural | 8,519,926 | 12.9 | 3.9 | 7.6 | 12.8 | 6.0 | 10.1 | 12.5 | 0.6 | 66.4 | 4.8 | 2.7 | 25.9 | 33.3 | 0.3 |
| Urban | 5,366,201 | 49.9 | 14.5 | 6.6 | 7.3 | 2.2 | 1.3 | 3.9 | 11.0 | 96.7 | 0.6 | 0.2 | 2.2 | 2.9 | 0.4 |
| **County** | | | | | | | | | | | | | | | |
| Mombasa | 405,415 | 6.4 | 80.8 | 4.0 | 1.9 | 1.7 | 0.2 | 0.6 | 4.4 | **100.0** | 0.0 | 0.0 | 0.0 | **0.0** | 0.0 |
| Kwale | 183,739 | 19.3 | 11.3 | 7.2 | 21.0 | 7.7 | 0.9 | 2.4 | 3.6 | **73.4** | 2.5 | 6.9 | 17.2 | **26.6** | 0.0 |
| Kilifi | 407,221 | 53.2 | 18.7 | 2.0 | 2.8 | 0.3 | 0.0 | 0.5 | 3.1 | **80.5** | 3.5 | 3.8 | 12.1 | **19.5** | 0.0 |
| Tana River | 74,962 | 10.1 | 5.1 | 10.4 | 26.9 | 0.2 | 0.6 | 0.0 | 0.6 | **54.0** | 0.7 | 0.0 | 45.3 | **46.0** | 0.0 |
| Lamu | 40,543 | 19.7 | 22.1 | 13.6 | 20.0 | 3.9 | 0.0 | 4.6 | 7.8 | **91.7** | 0.0 | 7.8 | 0.0 | **7.8** | 0.5 |
| Taita-Taveta | 108,463 | 56.3 | 2.7 | 5.8 | 7.2 | 1.0 | 11.1 | 4.3 | 0.4 | **88.7** | 1.2 | 0.5 | 8.4 | **10.1** | 1.3 |
| Garissa | 180,468 | 29.4 | 9.3 | 0.0 | 36.3 | 0.7 | 0.0 | 0.0 | 0.1 | **75.8** | 0.0 | 11.4 | 12.6 | **24.0** | 0.1 |
| Wajir | 152,058 | 7.7 | 0.1 | 2.1 | 55.0 | 19.5 | 0.0 | 1.0 | 0.1 | **85.4** | 0.0 | 0.1 | 10.3 | **10.3** | 4.3 |
| Mandera | 167,096 | 2.5 | 5.1 | 4.9 | 32.7 | 4.4 | 0.0 | 0.0 | 0.0 | **49.7** | 0.4 | 0.0 | 49.1 | **49.5** | 0.8 |
| Marsabit | 87,421 | 0.2 | 1.7 | 8.1 | 28.6 | 2.0 | 1.7 | 23.6 | 0.0 | **66.0** | 2.4 | 1.9 | 29.7 | **34.0** | 0.0 |
| Isiolo | 63,947 | 41.0 | 0.0 | 1.6 | 28.5 | 3.8 | 0.0 | 0.3 | 2.8 | **78.1** | 0.0 | 4.5 | 16.7 | **21.2** | 0.7 |
| Meru | 463,535 | 13.1 | 8.1 | 3.1 | 17.3 | 0.6 | 2.5 | 5.6 | 1.8 | **52.0** | 1.7 | 0.6 | 45.1 | **47.4** | 0.6 |
| Tharaka-Nithi | 120,886 | 39.4 | 17.5 | 0.0 | 0.0 | 0.4 | 0.2 | 1.0 | 0.9 | **59.3** | 0.8 | 2.7 | 37.1 | **40.7** | 0.0 |
| Embu | 199,046 | 59.2 | 0.2 | 3.6 | 3.0 | 4.4 | 0.0 | 7.4 | 0.0 | **77.9** | 0.0 | 1.2 | 20.8 | **22.1** | 0.0 |
| Kitui | 275,514 | 20.2 | 11.8 | 2.8 | 8.6 | 1.8 | 0.0 | 7.1 | 5.5 | **57.7** | 0.8 | 1.6 | 39.7 | **42.1** | 0.2 |
| Machakos | 431,218 | 4.8 | 16.6 | 13.4 | 11.0 | 0.8 | 3.2 | 22.5 | 7.4 | **79.7** | 3.3 | 1.0 | 16.0 | **20.3** | 0.0 |
| Makueni | 257,105 | 17.1 | 6.3 | 3.9 | 6.0 | 2.0 | 1.4 | 18.7 | 1.8 | **57.3** | 11.8 | 4.0 | 25.4 | **41.2** | 1.5 |
| Nyandarua | 198,250 | 31.2 | 3.4 | 6.7 | 12.4 | 22.1 | 0.3 | 18.2 | 0.7 | **95.0** | 0.6 | 0.0 | 4.5 | **5.0** | 0.0 |
| Nyeri | 270,743 | 59.5 | 2.2 | 2.1 | 0.8 | 4.2 | 1.1 | 20.4 | 0.1 | **90.3** | 3.9 | 0.4 | 5.4 | **9.7** | 0.0 |
| Kirinyaga | 217,216 | 43.4 | 17.1 | 6.5 | 3.0 | 3.6 | 0.3 | 1.1 | 1.2 | **76.1** | 0.0 | 0.1 | 23.4 | **23.6** | 0.3 |
| Murang'a | 385,599 | 48.8 | 1.1 | 3.7 | 1.8 | 1.7 | 2.9 | 20.6 | 1.3 | **81.8** | 0.0 | 0.2 | 17.2 | **17.4** | 0.8 |

Table 5.14: Percentage Distribution of Households by Access to Main Source of Drinking Water *(Continued)*

| | | Improved | | | | | | | | | Unimproved | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number of Households | Public Water Compa-nies | Private Water Compa-nies | Tube Well/ Borehole (Owned) | Tube Well/ Borehole (Commu-nity) | Dug Well (Pro-tected) | Water from Spring (Protect-ed) | Rain/ Harvest-ed Water | Pack-aged Bottled Water | Sub- to-tal | Water from-Spring (Unpro-tected) | Dug Well (Un-pro-tected) | Surface Water (River/ Dam/Lake/ Pond/ Stream/Ca-nal/Irrigation Channel) | Sub-total | Other |
| Kiambu | 997,101 | 53.5 | 8.2 | 9.9 | 5.5 | 4.7 | 0.1 | 7.0 | 6.4 | **95.1** | 0.7 | 0.0 | 4.0 | **4.7** | 0.1 |
| Turkana | 219,588 | 13.6 | 1.2 | 0.5 | 38.8 | 0.4 | 0.0 | 0.0 | 0.1 | **54.6** | 0.4 | 19.7 | 24.7 | **44.8** | 0.6 |
| West Pokot | 183,115 | 1.9 | 1.9 | 2.8 | 12.3 | 1.2 | 5.5 | 0.0 | 0.2 | **25.8** | 43.3 | 0.6 | 29.9 | **73.8** | 0.4 |
| Samburu | 95,708 | 4.2 | 2.4 | 12.6 | 30.8 | 0.4 | 0.6 | 2.8 | 4.0 | **57.8** | 0.2 | 0.8 | 39.8 | **40.9** | 1.3 |
| Trans Nzoia | 266,538 | 17.5 | 1.2 | 40.8 | 7.7 | 0.6 | 16.0 | 0.6 | 0.1 | **84.7** | 5.2 | 0.0 | 10.1 | **15.3** | 0.0 |
| Uasin Gishu | 351,899 | 47.5 | 0.7 | 18.4 | 7.0 | 9.4 | 1.6 | 2.2 | 0.8 | **87.6** | 3.6 | 4.1 | 4.6 | **12.4** | 0.0 |
| Elgeyo-Marakwet | 110,356 | 10.0 | 3.9 | 2.4 | 0.7 | 11.1 | 4.3 | 1.1 | 0.5 | **34.1** | 3.2 | 10.3 | 50.7 | **64.2** | 1.7 |
| Nandi | 226,515 | 9.4 | 6.3 | 7.8 | 3.8 | 15.7 | 4.9 | 3.6 | 0.1 | **51.7** | 3.4 | 7.1 | 37.8 | **48.2** | 0.1 |
| Baringo | 157,303 | 13.3 | 1.0 | 3.0 | 25.0 | 4.1 | 0.3 | 8.4 | 0.3 | **55.5** | 2.2 | 1.4 | 40.4 | **44.1** | 0.5 |
| Laikipia | 154,631 | 39.6 | 3.0 | 18.8 | 5.9 | 0.5 | 0.0 | 10.4 | 0.0 | **78.2** | 1.4 | 0.2 | 18.1 | **19.7** | 2.1 |
| Nakuru | 673,026 | 23.5 | 4.0 | 15.0 | 6.6 | 5.0 | 0.7 | 22.1 | 12.2 | **89.2** | 2.0 | 0.1 | 8.7 | **10.8** | 0.0 |
| Narok | 263,863 | 7.4 | 2.4 | 5.8 | 8.3 | 0.7 | 0.0 | 41.9 | 3.6 | **70.0** | 1.5 | 0.4 | 28.1 | **30.0** | 0.0 |
| Kajiado | 371,234 | 21.6 | 9.9 | 9.2 | 35.0 | 1.0 | 0.4 | 4.8 | 4.6 | **86.5** | 0.4 | 0.0 | 12.0 | **12.4** | 1.2 |
| Kericho | 233,615 | 14.8 | 0.8 | 4.5 | 8.6 | 6.2 | 4.3 | 7.2 | 0.4 | **46.8** | 4.7 | 2.3 | 46.2 | **53.2** | 0.0 |
| Bomet | 219,222 | 2.1 | 5.8 | 1.6 | 3.8 | 1.8 | 0.6 | 37.4 | 0.5 | **53.6** | 1.8 | 1.9 | 42.6 | **46.4** | 0.0 |
| Kakamega | 484,205 | 11.4 | 0.7 | 14.3 | 7.2 | 6.6 | 52.8 | 1.3 | 0.4 | **94.7** | 4.5 | 0.3 | 0.0 | **4.8** | 0.6 |
| Vihiga | 160,520 | 4.8 | 0.1 | 2.2 | 4.8 | 4.2 | 60.4 | 7.4 | 0.1 | **84.1** | 8.2 | 0.3 | 7.4 | **15.9** | 0.0 |
| Bungoma | 470,168 | 16.0 | 0.1 | 8.6 | 12.1 | 12.8 | 19.7 | 0.4 | 0.2 | **69.8** | 18.6 | 3.8 | 7.8 | **30.2** | 0.0 |
| Busia | 216,855 | 2.6 | 3.9 | 10.0 | 33.7 | 21.7 | 5.9 | 1.7 | 2.1 | **81.6** | 5.3 | 1.5 | 11.3 | **18.1** | 0.3 |
| Siaya | 247,647 | 11.6 | 4.6 | 4.7 | 8.4 | 7.1 | 2.1 | 35.0 | 0.2 | **73.7** | 0.1 | 1.4 | 24.9 | **26.3** | 0.0 |
| Kisumu | 338,619 | 41.8 | 1.5 | 5.4 | 3.9 | 17.8 | 0.5 | 13.8 | 0.0 | **84.8** | 0.0 | 2.7 | 12.3 | **15.0** | 0.2 |
| Homabay | 270,043 | 6.4 | 6.6 | 2.6 | 9.5 | 4.2 | 12.0 | 20.8 | 0.6 | **62.8** | 3.2 | 0.3 | 33.7 | **37.2** | 0.1 |
| Migori | 267,547 | 3.6 | 1.0 | 1.7 | 6.2 | 6.8 | 2.8 | 30.5 | 1.2 | **53.7** | 7.6 | 3.7 | 35.0 | **46.3** | 0.0 |
| Kisii | 371,985 | 2.3 | 1.8 | 0.9 | 1.5 | 3.6 | 44.6 | 8.5 | 1.0 | **64.2** | 2.2 | 0.0 | 32.7 | **34.9** | 0.9 |
| Nyamira | 183,594 | 0.8 | 0.0 | 0.1 | 2.3 | 0.7 | 54.8 | 15.9 | 0.7 | **75.4** | 3.8 | 0.0 | 20.8 | **24.6** | 0.0 |
| Nairobi City | 1,661,533 | 55.5 | 8.9 | 5.6 | 9.0 | 0.3 | 0.0 | 0.4 | 19.7 | **99.4** | 0.2 | 0.0 | 0.0 | **0.2** | 0.4 |

### 5.5.2 Distribution of Households by Access to Main Source of Water for Other Uses

Table 5.15 presents findings on the main source of water used by households for other uses such as cooking and washing. About three quarters of households in Kenya have access to water for other uses from improved sources. Regarding residence, 62.6 per cent of households in the rural areas access water for other uses from improved sources compared to 95.7 per cent of their urban counterparts. In West Pokot, Elgeyo-Marakwet, Bomet, and Migori counties, less than half of the households have access to water for other uses from improved sources at 25.2, 31.3, 33.8, and 37.8 per cent, respectively.

## Table 5.15: Percentage Distribution of Households by Access to Main Source of Water for Other Uses

| | | Improved | | | | | | | | | Unimproved | | | | Others | Don't Know/ Unsure |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number of Households | Public Water Companies | Private Water Companies | Tube Well/ Borehole (Owned) | Tube Well/ Borehole (Community) | Dug Well (Protected) | Water from Spring (Protected) | Rain/ Harvested Water | Packaged Bottled Water | Sub-total | Water from Spring (Unprotected) | Dug Well (Unprotected) | Surface Water (River/ Dam/Lake/ Pond/ Stream/Canal/Irrigation Channel) | Sub-total | | |
| **Kenya** | **13,886,126** | **27.3** | **5.6** | **11.2** | **12.6** | **6.9** | **4.8** | **6.9** | **0.1** | **75.4** | **2.9** | **2.3** | **18.6** | **23.8** | **0.5** | **0.3** |
| Rural | 8,519,926 | 12.4 | 3.6 | 9.2 | 12.6 | 8.3 | 7.2 | 9.3 | 0.0 | 62.6 | 4.5 | 3.5 | 28.8 | 36.8 | 0.5 | 0.0 |
| Urban | 5,366,201 | 51.0 | 8.6 | 14.4 | 12.7 | 4.5 | 1.0 | 3.2 | 0.3 | 95.7 | 0.3 | 0.4 | 2.5 | 3.2 | 0.4 | 0.8 |
| **County** | | | | | | | | | | | | | | | | |
| Mombasa | 405,415 | 5.9 | 30.1 | 31.5 | 20.2 | 11.1 | 0.2 | 0.6 | 0.2 | **99.8** | 0.0 | 0.0 | 0.0 | **0.0** | 0.0 | 0.2 |
| Kwale | 183,739 | 18.5 | 9.3 | 8.7 | 24.1 | 9.3 | 0.6 | 1.5 | 0.0 | **72.0** | 2.7 | 6.5 | 18.3 | **27.5** | 0.5 | 0.0 |
| Kilifi | 407,221 | 49.2 | 16.0 | 2.1 | 6.9 | 0.0 | 0.0 | 0.3 | 0.2 | **74.7** | 3.3 | 5.1 | 13.4 | **21.8** | 3.5 | 0.0 |
| Tana River | 74,962 | 9.6 | 4.0 | 11.1 | 24.8 | 1.2 | 0.5 | 0.0 | 0.0 | **51.1** | 0.1 | 0.4 | 48.4 | **48.9** | 0.0 | 0.0 |
| Lamu | 40,543 | 18.7 | 15.3 | 18.4 | 25.4 | 4.0 | 0.0 | 0.8 | 5.6 | **88.2** | 0.1 | 9.0 | 0.0 | **9.1** | 2.7 | 0.0 |
| Taita-Taveta | 108,463 | 54.2 | 1.6 | 6.1 | 11.0 | 1.2 | 10.9 | 4.1 | 0.0 | **89.0** | 0.7 | 0.2 | 8.6 | **9.5** | 1.5 | 0.0 |
| Garissa | 180,468 | 28.9 | 9.6 | 0.3 | 37.1 | 0.8 | 0.0 | 0.0 | 0.0 | **76.6** | 0.0 | 10.7 | 12.5 | **23.3** | 0.1 | 0.0 |
| Wajir | 152,058 | 7.6 | 0.2 | 2.9 | 53.9 | 19.1 | 0.0 | 1.0 | 0.1 | **84.9** | 0.0 | 0.6 | 10.3 | **10.8** | 4.3 | 0.0 |
| Mandera | 167,096 | 2.8 | 5.1 | 5.0 | 31.2 | 4.9 | 0.0 | 0.0 | 0.0 | **49.0** | 0.0 | 0.3 | 49.5 | **49.8** | 1.0 | 0.2 |
| Marsabit | 87,421 | 0.0 | 1.7 | 8.1 | 30.2 | 1.9 | 1.7 | 23.3 | 0.3 | **67.1** | 0.9 | 2.0 | 29.9 | **32.9** | 0.0 | 0.0 |
| Isiolo | 63,947 | 42.6 | 0.1 | 3.0 | 28.6 | 3.8 | 0.0 | 0.0 | 0.0 | **78.2** | 0.0 | 4.5 | 16.7 | **21.2** | 0.6 | 0.0 |
| Meru | 463,535 | 13.6 | 8.4 | 3.4 | 16.4 | 0.6 | 2.4 | 4.3 | 0.0 | **49.1** | 1.8 | 1.0 | 47.5 | **50.3** | 0.6 | 0.0 |
| Tharaka-Nithi | 120,886 | 39.0 | 17.6 | 0.3 | 1.2 | 1.6 | 0.2 | 0.5 | 0.0 | **60.5** | 0.3 | 2.3 | 36.9 | **39.5** | 0.0 | 0.0 |
| Embu | 199,046 | 59.5 | 0.0 | 3.0 | 4.1 | 3.9 | 0.0 | 5.8 | 0.0 | **76.2** | 0.0 | 2.1 | 21.7 | **23.8** | 0.0 | 0.0 |
| Kitui | 275,514 | 17.6 | 11.5 | 4.4 | 10.5 | 3.7 | 0.0 | 3.8 | 0.0 | **51.5** | 1.0 | 1.6 | 45.7 | **48.3** | 0.2 | 0.0 |
| Machakos | 430,469 | 6.5 | 13.9 | 19.9 | 11.3 | 0.9 | 2.7 | 17.5 | 0.0 | **72.8** | 2.5 | 1.4 | 23.1 | **27.0** | 0.2 | 0.0 |
| Makueni | 257,105 | 17.1 | 3.7 | 4.6 | 10.6 | 3.0 | 2.2 | 11.8 | 0.1 | **53.1** | 11.2 | 3.9 | 29.9 | **45.0** | 1.4 | 0.5 |
| Nyandarua | 198,250 | 32.4 | 3.5 | 6.4 | 11.2 | 23.9 | 0.0 | 17.1 | 0.1 | **94.6** | 0.6 | 0.0 | 4.9 | **5.4** | 0.0 | 0.0 |
| Nyeri | 270,743 | 62.1 | 2.2 | 2.5 | 0.8 | 4.2 | 1.4 | 16.6 | 0.0 | **89.7** | 4.0 | 0.0 | 6.3 | **10.3** | 0.0 | 0.0 |
| Kirinyaga | 217,216 | 41.0 | 17.7 | 6.3 | 3.1 | 4.6 | 0.4 | 1.2 | 0.0 | **74.3** | 0.0 | 0.4 | 25.1 | **25.6** | 0.0 | 0.1 |
| Murang'a | 385,599 | 46.9 | 1.4 | 7.2 | 3.2 | 2.9 | 2.9 | 16.6 | 0.0 | **81.0** | 0.0 | 0.2 | 18.0 | **18.2** | 0.4 | 0.5 |
| Kiambu | 997,101 | 54.0 | 8.6 | 13.3 | 5.2 | 4.4 | 0.0 | 4.2 | 0.3 | **90.0** | 1.0 | 0.0 | 5.4 | **6.4** | 0.3 | 3.4 |

Table 5.15: Percentage Distribution of Households by Access to Main Source of Water for Other Uses *(Continued)*

| | | Improved | | | | | | | | | Unimproved | | | | Others | Don't Know/ Unsure |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number of Households | Public Water Companies | Private Water Companies | Tube Well/ Borehole (Owned) | Tube Well/ Borehole (Community) | Dug Well (Protected) | Water from Spring (Protected) | Rain/ Harvested Water | Packaged Bottled Water | Sub-total | Water from-Spring (Unprotected) | Dug Well (Unprotected) | Surface Water (River/ Dam/Lake/ Pond/ Stream/Canal/Irrigation Channel) | Sub-total | | |
| Turkana | 219,588 | 13.7 | 1.2 | 0.5 | 40.1 | 0.3 | 0.0 | 0.0 | 0.0 | **55.8** | 0.0 | 18.4 | 25.8 | **44.2** | 0.0 | 0.0 |
| West Pokot | 183,115 | 1.6 | 1.4 | 2.9 | 10.8 | 1.2 | 7.2 | 0.0 | 0.0 | **25.2** | 42.2 | 0.6 | 31.7 | **74.5** | 0.4 | 0.0 |
| Samburu | 95,708 | 5.7 | 1.3 | 13.9 | 30.2 | 0.6 | 0.4 | 2.6 | 0.6 | **55.3** | 0.0 | 1.2 | 41.6 | **42.8** | 1.9 | 0.0 |
| Trans Nzoia | 266,538 | 18.1 | 1.5 | 40.6 | 7.5 | 0.6 | 17.6 | 0.3 | 0.0 | **86.2** | 4.1 | 0.0 | 9.7 | **13.8** | 0.0 | 0.0 |
| Uasin Gishu | 351,899 | 30.5 | 0.0 | 26.2 | 12.9 | 16.2 | 1.2 | 0.8 | 0.0 | **87.9** | 2.7 | 5.2 | 4.2 | **12.1** | 0.0 | 0.0 |
| Elgeyo-Marakwet | 110,356 | 7.2 | 2.8 | 2.4 | 1.3 | 15.5 | 1.5 | 0.5 | 0.0 | **31.3** | 3.0 | 9.6 | 54.0 | **66.7** | 2.1 | 0.0 |
| Nandi | 226,515 | 9.9 | 5.0 | 10.0 | 3.7 | 16.3 | 4.6 | 3.3 | 0.0 | **52.8** | 2.9 | 7.4 | 36.9 | **47.2** | 0.0 | 0.0 |
| Baringo | 157,303 | 13.0 | 0.7 | 3.2 | 24.5 | 5.3 | 0.3 | 6.6 | 0.0 | **53.6** | 1.5 | 1.4 | 42.7 | **45.6** | 0.8 | 0.0 |
| Laikipia | 154,631 | 40.0 | 3.6 | 20.2 | 7.1 | 0.5 | 0.0 | 7.0 | 0.0 | **78.3** | 1.3 | 0.0 | 18.3 | **19.6** | 2.1 | 0.0 |
| Nakuru | 673,026 | 31.3 | 3.2 | 20.6 | 6.8 | 7.4 | 0.7 | 15.8 | 1.3 | **87.1** | 2.3 | 0.1 | 10.3 | **12.8** | 0.2 | 0.0 |
| Narok | 263,863 | 10.4 | 2.3 | 5.9 | 9.7 | 0.7 | 0.0 | 34.9 | 0.0 | **63.9** | 1.5 | 0.4 | 34.2 | **36.1** | 0.0 | 0.0 |
| Kajiado | 371,234 | 21.8 | 7.8 | 11.2 | 37.3 | 2.0 | 0.4 | 5.5 | 0.0 | **86.1** | 0.0 | 0.0 | 12.2 | **12.2** | 0.8 | 0.9 |
| Kericho | 233,615 | 14.3 | 1.2 | 5.1 | 9.0 | 10.0 | 3.8 | 8.1 | 0.0 | **51.5** | 2.8 | 5.1 | 40.6 | **48.5** | 0.0 | 0.0 |
| Bomet | 219,222 | 2.2 | 5.9 | 9.3 | 5.3 | 3.0 | 1.3 | 6.8 | 0.0 | **33.8** | 1.6 | 11.1 | 53.6 | **66.2** | 0.0 | 0.0 |
| Kakamega | 484,205 | 8.6 | 0.6 | 19.9 | 5.2 | 5.2 | 37.5 | 16.7 | 0.0 | **93.6** | 5.1 | 0.6 | 0.2 | **6.0** | 0.3 | 0.0 |
| Vihiga | 160,520 | 4.0 | 0.0 | 1.8 | 4.1 | 4.0 | 51.2 | 19.2 | 0.0 | **84.4** | 7.9 | 0.7 | 7.1 | **15.6** | 0.0 | 0.0 |
| Bungoma | 470,168 | 14.7 | 0.1 | 11.1 | 12.4 | 21.3 | 4.6 | 0.4 | 0.0 | **64.7** | 17.6 | 8.8 | 8.9 | **35.3** | 0.0 | 0.0 |
| Busia | 216,855 | 2.4 | 0.8 | 12.4 | 24.5 | 29.6 | 2.8 | 1.3 | 0.0 | **73.8** | 3.4 | 2.3 | 20.6 | **26.2** | 0.0 | 0.0 |
| Siaya | 247,647 | 10.8 | 2.5 | 6.2 | 7.8 | 8.2 | 2.0 | 23.0 | 0.1 | **60.5** | 0.7 | 2.0 | 36.8 | **39.5** | 0.0 | 0.0 |
| Kisumu | 338,619 | 39.8 | 2.0 | 6.5 | 5.9 | 19.8 | 0.7 | 5.8 | 0.0 | **80.5** | 0.2 | 2.9 | 15.9 | **19.0** | 0.2 | 0.2 |
| Homabay | 270,043 | 6.1 | 6.9 | 5.2 | 7.7 | 6.6 | 9.3 | 6.7 | 0.3 | **48.8** | 4.7 | 2.2 | 44.0 | **50.9** | 0.0 | 0.3 |
| Migori | 267,547 | 1.5 | 0.8 | 4.8 | 5.6 | 17.2 | 1.9 | 5.3 | 0.1 | **37.2** | 5.8 | 6.4 | 50.6 | **62.8** | 0.0 | 0.0 |
| Kisii | 371,985 | 1.6 | 1.9 | 0.6 | 0.9 | 21.4 | 29.8 | 12.1 | 0.0 | **68.2** | 0.7 | 1.3 | 29.4 | **31.4** | 0.4 | 0.0 |
| Nyamira | 183,594 | 1.6 | 0.0 | 5.0 | 2.5 | 19.5 | 36.9 | 17.4 | 0.0 | **82.9** | 3.0 | 0.9 | 13.1 | **17.0** | 0.1 | 0.0 |
| Nairobi City | 1,661,533 | 60.0 | 4.5 | 16.2 | 17.8 | 0.5 | 0.0 | 0.2 | 0.0 | **99.4** | 0.0 | 0.0 | 0.0 | **0.0** | 0.5 | 0.1 |

### 5.5.3 Average Time Taken to Fetch Water

As illustrated in figure 5.7, for households without piped water in the dwelling, the national average time taken to fetch water for drinking was 26 minutes. The distribution for this population was half an hour for rural areas and 13 minutes for urban areas. More information for county level analysis is presented in appendix 1.1.

*Figure 5.8: Average Time Taken to Fetch Drinking Water*

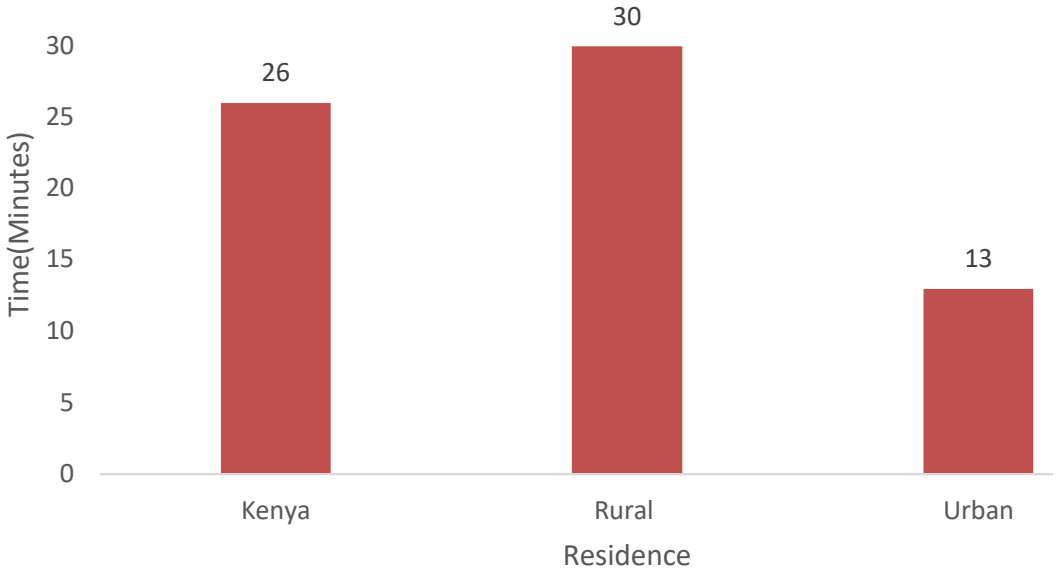



Figure 5.8 shows that the nationally the average time taken to fetch water for other uses was 25 minutes. While the average time taken in rural areas was 29 minutes and 13 minutes for urban areas. Distribution by counties is shown in Appendix 1.2

*Figure 5.9: Average time taken to fetch water for other uses*

### 5.5.4 Distribution of Persons Fetching Water by Residence, Counties, and Sex

Table 5.16 and Table 5.17 provide details of the distribution of persons fetching drinking water and water for other uses, respectively, based on their residence, sex, and counties. According to the survey, there was a relatively equal proportion of males and females who fetched water for drinking and other purposes, at both the national level and across all counties. This proportion remains consistent for both rural and urban areas.

**Table 5.16: Distribution of Persons Fetching Drinking Water by Residence, Counties, and Sex**

| Residence | Male | | Female | |
|---|---|---|---|---|
| | Number | Per cent | Number | Per cent |
| **Kenya** | **14,815,218** | **49.6** | **15,082,017** | **50.4** |
| Rural | 11,991,010 | 49.5 | 12,234,184 | 50.5 |
| Urban | 2,824,209 | 49.8 | 2,847,833 | 50.2 |
| **County** | | | | |
| Mombasa | 484,711 | 50.0 | 484,948 | 50.0 |
| Kwale | 316,688 | 48.6 | 334,297 | 51.4 |
| Kilifi | 567,080 | 51.3 | 539,191 | 48.7 |
| Tana River | 140,621 | 51.8 | 130,698 | 48.2 |
| Lamu | 39,052 | 51.5 | 36,782 | 48.5 |
| Taita-Taveta | 91,929 | 51.9 | 85,177 | 48.1 |
| Garissa | 176,935 | 52.3 | 161,583 | 47.7 |
| Wajir | 276,776 | 50.1 | 275,961 | 49.9 |
| Mandera | 167,336 | 53.6 | 144,939 | 46.4 |
| Marsabit | 169,043 | 51.2 | 161,320 | 48.8 |
| Isiolo | 80,263 | 51.9 | 74,387 | 48.1 |
| Meru | 349,706 | 47.6 | 384,708 | 52.4 |
| Tharaka-Nithi | 97,599 | 49.9 | 97,845 | 50.1 |
| Embu | 109,158 | 50.2 | 108,436 | 49.8 |
| Kitui | 471,363 | 47.5 | 520,192 | 52.5 |
| Machakos | 493,690 | 50.3 | 488,282 | 49.7 |
| Makueni | 350,383 | 48.4 | 373,251 | 51.6 |
| Nyandarua | 121,467 | 48.2 | 130,595 | 51.8 |
| Nyeri | 37,521 | 48.7 | 39,482 | 51.3 |
| Kirinyaga | 82,998 | 49.3 | 85,269 | 50.7 |
| Murang'a | 130,374 | 50.3 | 128,796 | 49.7 |

| Residence | Male | | Female | |
|---|---|---|---|---|
| | Number | Per cent | Number | Per cent |
| Kiambu | 210,149 | 52.5 | 190,429 | 47.5 |
| Turkana | 432,508 | 47.3 | 482,665 | 52.7 |
| West Pokot | 301,177 | 51.6 | 282,786 | 48.4 |
| Samburu | 147,360 | 50.6 | 143,627 | 49.4 |
| Trans Nzoia | 447,025 | 49.9 | 449,137 | 50.1 |
| Uasin Gishu | 347,475 | 47.2 | 389,207 | 52.8 |
| Elgeyo-Marakwet | 118,597 | 48.1 | 128,123 | 51.9 |
| Nandi | 337,594 | 49.9 | 338,611 | 50.1 |
| Baringo | 268,511 | 51.5 | 253,164 | 48.5 |
| Laikipia | 138,026 | 52.6 | 124,140 | 47.4 |
| Nakuru | 519,909 | 49.4 | 532,368 | 50.6 |
| Narok | 352,692 | 51.4 | 333,455 | 48.6 |
| Kajiado | 302,287 | 50.2 | 299,438 | 49.8 |
| Kericho | 343,728 | 50.3 | 339,357 | 49.7 |
| Bomet | 269,283 | 48.9 | 281,157 | 51.1 |
| Kakamega | 891,196 | 49.8 | 897,136 | 50.2 |
| Vihiga | 266,892 | 49.9 | 267,923 | 50.1 |
| Bungoma | 743,549 | 48.1 | 801,033 | 51.9 |
| Busia | 423,886 | 48.7 | 445,710 | 51.3 |
| Siaya | 294,087 | 49.2 | 303,299 | 50.8 |
| Kisumu | 359,457 | 48.6 | 380,728 | 51.4 |
| Homabay | 427,909 | 48.0 | 463,234 | 52.0 |
| Migori | 418,582 | 49.2 | 432,419 | 50.8 |
| Kisii | 588,563 | 49.9 | 590,139 | 50.1 |
| Nyamira | 282,128 | 48.8 | 295,800 | 51.2 |
| Nairobi City | 827,956 | 49.3 | 850,794 | 50.7 |

Table 5.17: Distribution of Persons Fetching Water for Other Uses by Residence, Counties and Sex

| Residence | Sex | | | |
|---|---|---|---|---|
| | Male | | Female | |
| | Number | Per cent | Number | Per cent |
| **Kenya** | **14,784,383** | **49.4** | **15,137,808** | **50.6** |
| Rural | 12,335,434 | 49.2 | 12,719,409 | 50.8 |
| Urban | 2,448,949 | 50.3 | 2,418,400 | 49.7 |
| **County** | | | | |
| Mombasa | 349,921 | 52.6 | 315,107 | 47.4 |
| Kwale | 325,547 | 48.6 | 344,044 | 51.4 |
| Kilifi | 567,549 | 51.5 | 534,767 | 48.5 |
| Tana River | 142,111 | 51.6 | 133,139 | 48.4 |
| Lamu | 41,124 | 50.9 | 39,744 | 49.1 |
| Taita-Taveta | 85,645 | 51.2 | 81,750 | 48.8 |
| Garissa | 181,836 | 52.4 | 165,299 | 47.6 |
| Wajir | 275,428 | 50.0 | 274,914 | 50.0 |
| Mandera | 168,333 | 53.6 | 145,559 | 46.4 |
| Marsabit | 171,489 | 51.4 | 162,037 | 48.6 |
| Isiolo | 80,334 | 52.1 | 73,774 | 47.9 |
| Meru | 346,650 | 47.8 | 378,868 | 52.2 |
| Tharaka-Nithi | 96,140 | 50.3 | 95,072 | 49.7 |
| Embu | 115,969 | 49.9 | 116,649 | 50.1 |
| Kitui | 481,999 | 47.2 | 538,644 | 52.8 |
| Machakos | 486,592 | 51.5 | 457,914 | 48.5 |
| Makueni | 376,520 | 48.4 | 400,972 | 51.6 |
| Nyandarua | 126,114 | 48.5 | 133,726 | 51.5 |
| Nyeri | 44,713 | 47.9 | 48,611 | 52.1 |
| Kirinyaga | 90,496 | 48.4 | 96,594 | 51.6 |
| Murang'a | 150,564 | 50.3 | 148,842 | 49.7 |
| Kiambu | 216,205 | 53.0 | 191,874 | 47.0 |
| Turkana | 439,669 | 47.6 | 483,905 | 52.4 |
| West Pokot | 297,256 | 51.6 | 279,300 | 48.4 |
| Samburu | 147,985 | 50.5 | 144,883 | 49.5 |
| Trans Nzoia | 449,475 | 49.9 | 451,296 | 50.1 |
| Uasin Gishu | 382,826 | 46.9 | 433,281 | 53.1 |
| Elgeyo-Marakwet | 129,456 | 48.3 | 138,531 | 51.7 |
| Nandi | 331,222 | 49.6 | 336,086 | 50.4 |
| Baringo | 267,759 | 51.4 | 253,639 | 48.6 |
| Laikipia | 143,067 | 52.4 | 130,046 | 47.6 |
| Nakuru | 500,853 | 48.7 | 527,466 | 51.3 |
| Narok | 384,526 | 49.0 | 401,008 | 51.0 |
| Kajiado | 299,982 | 49.3 | 308,532 | 50.7 |
| Kericho | 336,917 | 49.9 | 337,754 | 50.1 |
| Bomet | 409,649 | 48.8 | 428,961 | 51.2 |
| Kakamega | 772,251 | 49.5 | 788,763 | 50.5 |
| Vihiga | 240,488 | 50.2 | 238,130 | 49.8 |
| Bungoma | 735,876 | 47.8 | 805,120 | 52.2 |
| Busia | 424,280 | 48.4 | 452,034 | 51.6 |
| Siaya | 355,330 | 49.5 | 362,916 | 50.5 |
| Kisumu | 385,657 | 48.0 | 417,809 | 52.0 |
| Homabay | 483,023 | 47.6 | 532,158 | 52.4 |
| Migori | 504,642 | 48.6 | 534,409 | 51.4 |
| Kisii | 544,695 | 49.3 | 560,335 | 50.7 |
| Nyamira | 281,745 | 48.3 | 301,582 | 51.7 |
| Nairobi City | 614,474 | 50.1 | 611,962 | 49.9 |

### 5.5.5 Proportion of Households with Piped water

As illustrated in Table 5.18, the national proportion of households with piped water was 44.9 per cent. In rural areas the proportion was 26.6 per cent, while in urban areas it was 73.8 per cent. Counties such as Marsabit and Nyamira had the lowest percentage of households with access to piped water, with only 4.8 per cent and 7.1 per cent, respectively.

Table 5.18: Proportion of Households with Piped Water by County

| | Without Piped Water | With Piped Water | Number of Households |
|---|---|---|---|
| **Kenya** | **55.1** | **44.9** | **13,886,126** |
| Rural | 73.4 | 26.6 | 8,519,926 |
| Urban | 26.2 | 73.8 | 5,366,201 |
| **County** | | | |
| Mombasa | 39.5 | 60.5 | 405,415 |
| Kwale | 66.1 | 33.9 | 183,739 |
| Kilifi | 29.2 | 70.8 | 407,221 |
| Tana River | 65.3 | 34.7 | 74,962 |
| Lamu | 69.1 | 30.9 | 40,543 |
| Taita-Taveta | 27.1 | 72.9 | 108,463 |
| Garissa | 53.6 | 46.4 | 180,468 |
| Wajir | 58.6 | 41.4 | 152,058 |
| Mandera | 88.1 | 11.9 | 167,096 |
| Marsabit | 95.2 | 4.8 | 87,421 |
| Isiolo | 25.5 | 74.5 | 63,947 |
| Meru | 40.8 | 59.2 | 463,535 |
| Tharaka-Nithi | 37.4 | 62.6 | 120,886 |
| Embu | 39.8 | 60.2 | 199,046 |
| Kitui | 86.3 | 13.7 | 275,514 |
| Machakos | 83.0 | 17.0 | 430,469 |
| Makueni | 85.6 | 14.4 | 257,105 |
| Nyandarua | 41.8 | 58.2 | 198,250 |
| Nyeri | 26.8 | 73.2 | 270,743 |
| Kirinyaga | 24.4 | 75.6 | 217,216 |
| Murang'a | 34.5 | 65.5 | 385,599 |
| Kiambu | 19.0 | 81.0 | 997,101 |
| Turkana | 77.5 | 22.5 | 219,588 |
| West Pokot | 77.4 | 22.6 | 183,115 |
| Samburu | 91.3 | 8.7 | 95,708 |
| Trans Nzoia | 78.0 | 22.0 | 266,538 |
| Uasin Gishu | 47.5 | 52.5 | 351,899 |
| Elgeyo-Marakwet | 42.6 | 57.4 | 110,356 |
| Nandi | 64.5 | 35.5 | 226,515 |
| Baringo | 67.0 | 33.0 | 157,303 |
| Laikipia | 42.4 | 57.6 | 154,631 |
| Nakuru | 60.1 | 39.9 | 673,026 |
| Narok | 87.9 | 12.1 | 263,863 |
| Kajiado | 48.0 | 52.0 | 371,234 |
| Kericho | 68.1 | 31.9 | 233,615 |
| Bomet | 91.5 | 8.5 | 219,222 |
| Kakamega | 84.4 | 15.6 | 484,205 |
| Vihiga | 89.8 | 10.2 | 160,520 |
| Bungoma | 78.4 | 21.6 | 470,168 |
| Busia | 85.7 | 14.3 | 216,855 |
| Siaya | 77.7 | 22.3 | 247,647 |
| Kisumu | 55.7 | 44.3 | 338,619 |
| Homabay | 82.7 | 17.3 | 270,043 |
| Migori | 86.7 | 13.3 | 267,547 |
| Kisii | 91.8 | 8.2 | 371,985 |
| Nyamira | 92.9 | 7.1 | 183,594 |
| Nairobi City | 17.4 | 82.6 | 1,661,533 |

### 5.5.6 Sustainable Development Goals Ladder for Drinking Water Services

**Definition**

**Safely Managed**

Drinking water from an improved source that is accessible on premises, available when needed and free from faecal and priority chemical contamination.

**Basic**

Drinking water from an improved source, provided collection time is not more than 30 minutes for a round trip, including queuing.

**Limited**

Drinking water from an improved source, for which collection time exceeds 30 minutes for a round trip, including queuing.

**Unimproved**

Drinking water from an unprotected dug well or unprotected spring.

**Surface Water**

Drinking water directly from a river, dam, lake, pond, stream, canal or irrigation canal.

Table 5.19 shows the drinking water service ladder by residence and county. Nationally the highest percentage of drinking water falls under At Least Basic Service at 69.5 per cent. Urban areas had the highest proportion of the population using at least basic service at 94.3 per cent. Data on safely managed was not reported as the water was not tested.

## Table 5.19: Drinking Water Service Ladder by Residence and County

| | At least Basic Service | Limited Service | Unimproved | Surface Water | Number of Persons |
|---|---|---|---|---|---|
| **Kenya** | **69.5** | **5.1** | **5.4** | **19.9** | **51,525,585** |
| Rural | 58.0 | 6.7 | 7.5 | 27.8 | 35,150,632 |
| Urban | 94.3 | 1.7 | 0.9 | 3.0 | 16,374,954 |
| **County** | | | | | |
| Mombasa | 98.2 | 1.5 | 0.3 | 0.0 | 1,311,860 |
| Kwale | 67.1 | 2.9 | 9.4 | 20.6 | 944,464 |
| Kilifi | 74.1 | 3.6 | 9.7 | 12.6 | 1,577,335 |
| Tana River | 47.5 | 6.0 | 1.0 | 45.6 | 352,549 |
| Lamu | 89.8 | 5.3 | 4.4 | 0.4 | 167,332 |
| Taita-Taveta | 74.4 | 14.5 | 1.8 | 9.3 | 363,990 |
| Garissa | 78.0 | 0.7 | 12.0 | 9.3 | 927,031 |
| Wajir | 79.8 | 7.0 | 0.0 | 13.2 | 870,636 |
| Mandera | 47.6 | 2.7 | 0.5 | 49.2 | 959,236 |
| Marsabit | 42.5 | 22.3 | 4.6 | 30.6 | 515,292 |
| Isiolo | 72.2 | 3.8 | 4.9 | 19.2 | 315,937 |
| Meru | 49.7 | 3.8 | 2.4 | 44.1 | 1,625,982 |
| Tharaka-Nithi | 55.3 | 0.2 | 3.8 | 40.8 | 416,383 |
| Embu | 75.6 | 1.7 | 1.0 | 21.8 | 648,425 |
| Kitui | 34.0 | 11.4 | 3.6 | 51.0 | 1,229,790 |
| Machakos | 69.9 | 8.9 | 4.5 | 16.7 | 1,487,758 |
| Makueni | 46.3 | 10.1 | 16.4 | 27.2 | 1,042,300 |
| Nyandarua | 90.6 | 3.8 | 0.8 | 4.8 | 695,531 |
| Nyeri | 88.4 | 0.0 | 5.2 | 6.4 | 835,408 |
| Kirinyaga | 73.2 | 0.4 | 0.1 | 26.3 | 653,112 |
| Murang'a | 84.1 | 0.7 | 0.2 | 15.1 | 1,112,288 |
| Kiambu | 93.9 | 0.9 | 0.8 | 4.3 | 2,652,880 |
| Turkana | 41.5 | 14.2 | 22.3 | 22.0 | 1,022,773 |
| West Pokot | 19.9 | 6.4 | 42.8 | 30.9 | 676,326 |
| Samburu | 35.2 | 19.6 | 1.3 | 43.9 | 348,298 |
| Trans Nzoia | 76.4 | 5.6 | 5.4 | 12.6 | 1,069,039 |
| Uasin Gishu | 83.7 | 1.8 | 8.7 | 5.8 | 1,257,330 |
| Elgeyo-Marakwet | 31.9 | 1.2 | 12.1 | 54.8 | 495,239 |
| Nandi | 48.9 | 1.0 | 9.8 | 40.3 | 951,460 |
| Baringo | 43.5 | 9.4 | 2.7 | 44.4 | 733,333 |
| Laikipia | 69.1 | 1.0 | 2.4 | 27.5 | 561,223 |
| Nakuru | 84.4 | 3.0 | 2.5 | 10.1 | 2,347,849 |
| Narok | 60.4 | 5.3 | 1.8 | 32.5 | 1,284,204 |
| Kajiado | 71.2 | 8.9 | 0.3 | 19.7 | 1,268,261 |
| Kericho | 43.2 | 0.6 | 9.7 | 46.6 | 954,896 |
| Bomet | 47.8 | 2.0 | 4.5 | 45.7 | 939,761 |
| Kakamega | 88.5 | 6.5 | 4.4 | 0.6 | 2,002,435 |
| Vihiga | 79.4 | 2.7 | 9.7 | 8.2 | 625,765 |
| Bungoma | 67.3 | 4.1 | 20.3 | 8.3 | 1,786,973 |
| Busia | 69.1 | 12.4 | 5.8 | 12.6 | 968,763 |
| Siaya | 67.5 | 1.9 | 1.2 | 29.3 | 1,059,458 |
| Kisumu | 79.5 | 2.9 | 2.7 | 14.9 | 1,248,474 |
| Homabay | 50.7 | 11.4 | 3.2 | 34.7 | 1,231,659 |
| Migori | 49.1 | 1.9 | 11.8 | 37.2 | 1,234,082 |
| Kisii | 46.4 | 15.0 | 2.4 | 36.2 | 1,344,907 |
| Nyamira | 52.1 | 23.8 | 4.7 | 19.4 | 657,502 |
| Nairobi City | 97.7 | 1.6 | 0.2 | 0.5 | 4,750,056 |

## 5.6 Human Waste Disposal

Proper disposal of human waste is essential for human health and well-being, as it helps prevent the spread of disease-causing germs and protect the environment. It is a critical aspect of infrastructure in both urban and rural settings across the globe. The survey provides insight on the main modes of human waste disposal, categorized into Improved and Unimproved methods as shown in the analysis below;

**Table 5.20: Categories of Main Modes of Human Waste Disposal**

| Category | Mode |
|---|---|
| **Improved** | Flush to Main sewer |
| | Flush to Septic tank |
| | Flush to Cess pool |
| | Flush to pit latrine |
| | Ventilated Improved Pit(VIP) latrine |
| | Flush to Don't Know where |
| | Pit latrine covered |
| | Biodigester |
| | Composting toilet |
| **Unimproved** | Pit Latrine without slab/ Open pit |
| | Bucket Toilet |
| | Hanging toilet/ Hanging latrine |
| | No facility/Bush/Field |

### 5.6.1 Main Mode of Human Waste Disposal

Table 5.21 presents the percentage distribution of households by category of toilet facility mainly used. Survey results show that 93.4 per cent of the urban household have access to an improved toilet facility. However, some counties like Turkana, Mandera, Marsabit, and Wajir registered high numbers of households using unimproved toilet facilities, with percentages of 72.6, 72.5, 67.9 and 63.6 respectively.

As shown in the Table 5.21 below, majority of the households (39.1%) reported to using pit latrine with slab as the main mode of human waste disposal. The proportion of households that reported having no toilet was 5.6 per cent. Turkana, Wajir, Tana River, Marsabit and Samburu counties reported the highest proportion of households that lacked toilets at 65.6, 50.2, 49.8, 44.5, 41.8 per cent, respectively.

**93.4%**

Survey results show that 93.4 per cent of the urban households have access to an improved toilet facility. However, some counties like Wajir, Mandera, Marsabit, and Turkana registered high numbers of households using unimproved toilet facilities

## Table 5.21: Percentage Distribution of Households by Category of Toilet Facility

| | Improved | | | | | | | | | | Unimproved | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Flush to Piped Sewer System | Flush to Septic tank | Flush to PitLatrine | Flush to Cess pool | Flush to Don't know where | Ventilated Improved Pit (VIP) Pit Latrine | Pit latrine with slab | Composting toilet | Biodigester | SubTotal | Pit Latrine without slab/ Open pit | Bucket Toilet | Hanging toilet/ Hanging latrine | No facility/ Bush/Field | Sub Total | Others |
| **Kenya** | **8.9** | **8.3** | **3.8** | **0.2** | **0.6** | **10.5** | **39.1** | **0.2** | **0.0** | **71.7** | **22.4** | **0.2** | **0.1** | **5.6** | **28.2** | **0.1** |
| Rural | 0.4 | 2.5 | 2.5 | 0.1 | 0.1 | 10.7 | 43.9 | 0.3 | 0.0 | 60.5 | 31.2 | 0.0 | 0.1 | 8.1 | 39.4 | 0.1 |
| Urban | 25.5 | 19.6 | 6.4 | 0.4 | 1.7 | 10.0 | 29.8 | 0.1 | 0.1 | 93.4 | 5.3 | 0.5 | 0.0 | 0.7 | 6.4 | 0.1 |
| **County** | | | | | | | | | | | | | | | | |
| Mombasa | 11.2 | 41.6 | 25.6 | 0.4 | 0.0 | 0.0 | 17.2 | 0.0 | 0.0 | 96.0 | 3.4 | 0.6 | 0.0 | 0.0 | 4.0 | 0.0 |
| Kwale | 4.4 | 11.7 | 17.1 | 0.0 | 0.1 | 0.5 | 34.2 | 0.0 | 0.1 | 68.1 | 21.0 | 0.4 | 0.0 | 9.5 | 30.9 | 0.9 |
| Kilifi | 1.3 | 21.9 | 9.2 | 0.3 | 0.4 | 2.8 | 34.6 | 0.0 | 0.0 | 70.5 | 15.1 | 0.0 | 0.0 | 14.4 | 29.5 | 0.0 |
| Tana River | 0.6 | 1.8 | 6.3 | 0.3 | 0.2 | 8.4 | 22.5 | 0.0 | 0.0 | 40.1 | 9.7 | 0.0 | 0.4 | 49.8 | 59.9 | 0.0 |
| Lamu | 0.0 | 0.6 | 28.2 | 0.0 | 0.0 | 8.3 | 30.4 | 0.0 | 0.0 | 67.5 | 26.8 | 0.0 | 0.7 | 5.1 | 32.5 | 0.0 |
| Taita-Taveta | 5.3 | 9.6 | 4.2 | 0.0 | 0.0 | 7.8 | 66.1 | 0.0 | 0.0 | 93.0 | 6.7 | 0.0 | 0.0 | 0.2 | 7.0 | 0.0 |
| Garissa | 0.9 | 2.1 | 31.1 | 0.0 | 0.0 | 0.0 | 38.2 | 0.0 | 0.0 | 72.4 | 5.5 | 0.0 | 0.0 | 22.1 | 27.6 | 0.0 |
| Wajir | 0.1 | 3.8 | 1.4 | 0.6 | 0.1 | 0.2 | 29.5 | 0.4 | 0.2 | 36.4 | 4.5 | 9.0 | 0.0 | 50.2 | 63.6 | 0.0 |
| Mandera | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 | 7.6 | 17.2 | 0.0 | 0.0 | 25.2 | 48.9 | 0.0 | 0.0 | 23.6 | 72.5 | 2.3 |
| Marsabit | 0.0 | 0.1 | 1.3 | 0.0 | 0.0 | 0.0 | 30.7 | 0.0 | 0.0 | 32.1 | 23.1 | 0.0 | 0.3 | 44.5 | 67.9 | 0.0 |
| Isiolo | 3.4 | 10.8 | 2.1 | 0.3 | 0.0 | 11.5 | 36.6 | 0.0 | 0.0 | 64.7 | 4.9 | 0.0 | 0.0 | 29.7 | 34.6 | 0.7 |
| Meru | 0.4 | 5.4 | 0.1 | 0.0 | 0.0 | 14.3 | 44.4 | 0.0 | 0.0 | 64.6 | 34.8 | 0.0 | 0.0 | 0.6 | 35.4 | 0.0 |
| Tharaka-Nithi | 0.7 | 4.5 | 4.8 | 0.0 | 0.9 | 12.3 | 64.2 | 0.0 | 0.1 | 87.4 | 11.4 | 0.0 | 0.0 | 1.2 | 12.6 | 0.0 |
| Embu | 3.5 | 5.5 | 4.7 | 0.0 | 1.0 | 3.4 | 75.4 | 0.0 | 0.0 | 93.4 | 6.0 | 0.0 | 0.0 | 0.6 | 6.6 | 0.0 |
| Kitui | 0.2 | 3.5 | 0.7 | 0.0 | 0.1 | 14.7 | 55.8 | 0.0 | 0.0 | 75.1 | 19.9 | 0.0 | 0.0 | 4.9 | 24.8 | 0.1 |
| Machakos | 4.5 | 8.2 | 2.4 | 0.5 | 0.1 | 18.8 | 52.9 | 0.0 | 0.1 | 87.5 | 10.1 | 0.0 | 0.3 | 2.1 | 12.5 | 0.0 |
| Makueni | 0.2 | 2.0 | 0.0 | 0.1 | 0.0 | 1.4 | 66.7 | 0.3 | 0.0 | 70.6 | 27.6 | 0.0 | 0.0 | 1.8 | 29.4 | 0.0 |
| Nyandarua | 1.7 | 8.2 | 2.8 | 0.0 | 0.0 | 11.4 | 23.9 | 0.0 | 0.0 | 48.0 | 51.7 | 0.0 | 0.0 | 0.2 | 52.0 | 0.0 |
| Nyeri | 0.6 | 14.9 | 7.4 | 0.0 | 0.1 | 10.5 | 39.4 | 0.0 | 0.5 | 73.4 | 26.0 | 0.0 | 0.0 | 0.6 | 26.6 | 0.0 |
| Kirinyaga | 0.6 | 6.8 | 5.9 | 0.0 | 0.0 | 13.0 | 43.1 | 0.0 | 0.0 | 69.5 | 30.5 | 0.0 | 0.0 | 0.0 | 30.5 | 0.0 |
| Murang'a | 0.2 | 5.5 | 4.3 | 0.4 | 0.1 | 6.7 | 72.3 | 0.0 | 0.2 | 89.7 | 9.7 | 0.0 | 0.0 | 0.5 | 10.3 | 0.0 |
| Kiambu | 8.4 | 21.5 | 3.8 | 0.0 | 1.8 | 20.0 | 43.3 | 0.1 | 0.0 | 99.0 | 1.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Turkana | 0.0 | 0.9 | 0.0 | 0.0 | 0.1 | 10.6 | 15.2 | 0.0 | 0.0 | 26.8 | 7.0 | 0.0 | 0.0 | 65.6 | 72.6 | 0.6 |
| West Pokot | 0.0 | 1.7 | 1.5 | 0.0 | 0.0 | 5.4 | 60.0 | 0.0 | 0.0 | 68.5 | 18.5 | 0.0 | 0.0 | 13.0 | 31.5 | 0.0 |

## Table 5.21: Percentage Distribution of Households by Category of Toilet Facility *(Continued)*

| | Improved | | | | | | | | | | Unimproved | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Flush to Piped Sewer System | Flush to Septic tank | Flush to PitLatrine | Flush to Cess pool | Flush to Don't know where | Ventilated Improved Pit (VIP) Pit Latrine | Pit latrine with slab | Composting toilet | Biodigester | SubTotal | Pit Latrine without slab/ Open pit | Bucket Toilet | Hanging toilet/ Hanging latrine | No facility/ Bush/Field | Sub Total | Others |
| Samburu | 0.1 | 0.9 | 0.4 | 0.0 | 0.0 | 17.4 | 24.7 | 0.0 | 0.0 | 43.4 | 14.8 | 0.0 | 0.0 | 41.8 | 56.6 | 0.0 |
| Trans Nzoia | 1.5 | 6.1 | 2.2 | 0.0 | 0.6 | 0.7 | 45.7 | 0.0 | 0.0 | 56.8 | 43.2 | 0.0 | 0.0 | 0.0 | 43.2 | 0.0 |
| Uasin Gishu | 9.1 | 13.4 | 1.4 | 0.0 | 0.5 | 20.6 | 31.9 | 0.0 | 0.0 | 76.9 | 22.8 | 0.0 | 0.0 | 0.3 | 23.1 | 0.0 |
| Elgeyo-Marakwet | 0.1 | 1.0 | 0.1 | 0.0 | 0.0 | 5.6 | 37.4 | 0.0 | 0.0 | 44.1 | 55.4 | 0.0 | 0.0 | 0.5 | 55.9 | 0.0 |
| Nandi | 1.0 | 3.7 | 0.7 | 0.0 | 0.0 | 26.9 | 18.1 | 0.0 | 0.0 | 50.4 | 49.6 | 0.0 | 0.0 | 0.0 | 49.6 | 0.0 |
| Baringo | 0.2 | 2.4 | 0.4 | 0.1 | 0.0 | 28.7 | 34.8 | 0.0 | 0.0 | 66.6 | 10.7 | 0.0 | 0.4 | 21.5 | 32.5 | 0.9 |
| Laikipia | 6.0 | 11.4 | 1.1 | 0.7 | 0.0 | 6.0 | 60.5 | 0.0 | 0.3 | 85.9 | 10.3 | 0.0 | 0.0 | 3.8 | 14.1 | 0.0 |
| Nakuru | 7.0 | 10.7 | 6.6 | 0.0 | 0.3 | 11.7 | 31.1 | 0.1 | 0.0 | 67.5 | 32.1 | 0.0 | 0.0 | 0.4 | 32.5 | 0.0 |
| Narok | 0.0 | 1.9 | 1.4 | 0.0 | 0.3 | 0.2 | 43.1 | 0.1 | 0.0 | 47.0 | 36.5 | 0.0 | 0.2 | 16.3 | 53.0 | 0.0 |
| Kajiado | 0.3 | 12.4 | 1.7 | 1.9 | 8.0 | 0.9 | 56.6 | 0.0 | 0.0 | 81.8 | 0.2 | 0.0 | 0.9 | 16.7 | 17.8 | 0.4 |
| Kericho | 1.2 | 1.1 | 1.4 | 0.4 | 0.3 | 0.0 | 46.2 | 0.0 | 0.0 | 50.6 | 48.5 | 0.0 | 0.0 | 0.9 | 49.4 | 0.0 |
| Bomet | 0.6 | 0.5 | 0.1 | 0.6 | 0.0 | 19.0 | 19.4 | 0.0 | 0.0 | 40.2 | 59.0 | 0.0 | 0.0 | 0.9 | 59.8 | 0.0 |
| Kakamega | 1.1 | 5.9 | 0.9 | 0.0 | 0.0 | 34.1 | 20.3 | 3.7 | 0.0 | 66.0 | 34.0 | 0.0 | 0.0 | 0.0 | 34.0 | 0.0 |
| Vihiga | 2.0 | 0.4 | 0.4 | 0.0 | 0.0 | 30.6 | 51.5 | 0.0 | 0.0 | 84.9 | 15.1 | 0.0 | 0.0 | 0.0 | 15.1 | 0.0 |
| Bungoma | 0.4 | 5.2 | 2.3 | 0.2 | 0.0 | 1.0 | 50.2 | 0.0 | 0.0 | 59.3 | 40.0 | 0.0 | 0.0 | 0.7 | 40.7 | 0.0 |
| Busia | 1.0 | 0.3 | 2.9 | 1.8 | 0.2 | 0.0 | 73.4 | 0.0 | 0.0 | 79.6 | 20.0 | 0.0 | 0.0 | 0.4 | 20.4 | 0.0 |
| Siaya | 2.1 | 1.6 | 1.0 | 0.0 | 0.0 | 18.5 | 54.0 | 0.0 | 0.0 | 77.3 | 15.7 | 0.0 | 0.0 | 7.0 | 22.7 | 0.0 |
| Kisumu | 8.3 | 5.9 | 3.3 | 0.0 | 0.0 | 6.6 | 55.6 | 0.0 | 0.3 | 79.9 | 16.6 | 0.0 | 0.0 | 2.1 | 18.8 | 1.3 |
| Homabay | 0.5 | 0.9 | 1.0 | 0.3 | 0.0 | 8.6 | 29.6 | 0.0 | 0.0 | 40.8 | 53.1 | 0.1 | 0.0 | 5.2 | 58.4 | 0.8 |
| Migori | 1.5 | 4.3 | 0.5 | 0.0 | 0.0 | 10.2 | 18.6 | 0.2 | 0.0 | 35.4 | 51.1 | 0.0 | 0.7 | 12.6 | 64.4 | 0.2 |
| Kisii | 0.0 | 4.9 | 0.5 | 0.0 | 0.0 | 17.7 | 40.4 | 0.0 | 0.0 | 63.4 | 36.2 | 0.0 | 0.0 | 0.4 | 36.6 | 0.0 |
| Nyamira | 0.9 | 0.3 | 3.0 | 0.0 | 0.2 | 2.8 | 52.2 | 6.2 | 0.1 | 65.5 | 34.3 | 0.0 | 0.0 | 0.3 | 34.5 | 0.0 |
| Nairobi City | 63.8 | 10.2 | 3.7 | 0.3 | 2.1 | 5.2 | 12.0 | 0.1 | 0.0 | 97.5 | 1.9 | 0.6 | 0.0 | 0.0 | 2.5 | 0.1 |

### 5.6.2 Shared Human Waste Disposal Facilities

Sharing of human waste disposal facilities increases the risk of spreading infections or illnesses if hygiene practices are not strictly followed. Table 5.22 shows the proportion of households that reported sharing toilet facilities. The findings indicate that 36.5 per cent of households that had access to a toilet facility shared it with other households. There is a higher percentage of sharing in urban areas, with a rate of 58.1 per cent, compared to rural areas, where the percentage stands at 24.5 per cent.

**Table 5.22: Proportion of Households Sharing Toilet Facilities by Residence and County**

| | Not sharing | Sharing |
|---|---|---|
| **Kenya** | **63.5** | **36.5** |
| Rural | 75.5 | 24.5 |
| Urban | 41.9 | 58.1 |
| **County** | | |
| Mombasa | 37.5 | 62.5 |
| Kwale | 67.5 | 32.5 |
| Kilifi | 57.8 | 42.2 |
| Tana River | 32.6 | 67.4 |
| Lamu | 78.6 | 21.4 |
| Taita-Taveta | 62.9 | 37.1 |
| Garissa | 66.7 | 33.3 |
| Wajir | 75.1 | 24.9 |
| Mandera | 51.1 | 48.9 |
| Marsabit | 48.3 | 51.7 |
| Isiolo | 46.5 | 53.5 |
| Meru | 75.7 | 24.3 |
| Tharaka-Nithi | 79.1 | 20.9 |
| Embu | 79.5 | 20.5 |
| Kitui | 65.5 | 34.5 |
| Machakos | 67.2 | 32.8 |
| Makueni | 81.5 | 18.5 |
| Nyandarua | 80.7 | 19.3 |
| Nyeri | 63.0 | 37.0 |
| Kirinyaga | 67.1 | 32.9 |
| Murang'a | 69.7 | 30.3 |
| Kiambu | 37.7 | 62.3 |
| Turkana | 40.2 | 59.8 |
| West Pokot | 71.4 | 28.6 |
| Samburu | 32.1 | 67.9 |
| Trans Nzoia | 75.8 | 24.2 |
| Uasin Gishu | 73.3 | 26.7 |
| Elgeyo-Marakwet | 81.3 | 18.7 |
| Nandi | 80.5 | 19.5 |
| Baringo | 76.2 | 23.8 |
| Laikipia | 68.3 | 31.7 |
| Nakuru | 63.0 | 37.0 |
| Narok | 61.2 | 38.8 |
| Kajiado | 47.7 | 52.3 |
| Kericho | 86.0 | 14.0 |
| Bomet | 85.7 | 14.3 |
| Kakamega | 78.1 | 21.9 |
| Vihiga | 74.3 | 25.7 |
| Bungoma | 71.9 | 28.1 |
| Busia | 71.0 | 29.0 |
| Siaya | 65.6 | 34.4 |
| Kisumu | 63.7 | 36.3 |
| Homabay | 71.5 | 28.5 |
| Migori | 52.7 | 47.3 |
| Kisii | 76.7 | 23.3 |
| Nyamira | 82.5 | 17.5 |
| Nairobi City | 39.0 | 61.0 |

### 5.6.3 Distribution of Households with Handwashing Facility

Handwashing is a crucial practice for maintaining personal hygiene and preventing the spread of infectious diseases. It requires thorough washing of hands with soap and water. As illustrated in Table 5.23, 50.8 per cent of households did not have a handwashing facility. Further, 23.8 per cent of households had a proper and hygienic facility with both soap and water. Counties such as Kwale, Narok, and Kajiado, had more than 80 per cent of households lacking a handwashing facility. The proportion of households with hand washing facilities with both soap and water is 28.8 per cent in urban areas and 20.7 per cent in rural areas.

### Table 5.23: Percentage Distribution of Households with a Handwashing Facility

| | Total | Yes, Soap/ detergent and Water | Yes, Soap/ detergent Only | Yes, Water Only | No | Others |
|---|---|---|---|---|---|---|
| **Kenya** | **13,886,126** | **23.8** | **2.5** | **22.9** | **50.8** | **0.0** |
| Rural | 8,519,926 | 20.7 | 1.7 | 25.5 | 52.1 | 0.0 |
| Urban | 5,366,201 | 28.8 | 3.8 | 18.7 | 48.6 | 0.1 |
| **County** | | | | | | |
| Mombasa | 405,415 | 25.8 | 8.3 | 13.0 | 52.9 | 0.0 |
| Kwale | 183,739 | 11.0 | 1.1 | 3.2 | 84.8 | 0.0 |
| Kilifi | 407,221 | 11.3 | 0.3 | 26.9 | 61.5 | 0.0 |
| Tana River | 74,962 | 11.2 | 1.3 | 29.9 | 57.6 | 0.0 |
| Lamu | 40,543 | 3.0 | 4.3 | 34.8 | 58.0 | 0.0 |
| Taita-Taveta | 108,463 | 87.2 | 0.3 | 4.1 | 8.4 | 0.0 |
| Garissa | 180,468 | 5.6 | 1.8 | 67.4 | 25.2 | 0.0 |
| Wajir | 152,058 | 7.9 | 4.7 | 52.4 | 35.0 | 0.0 |
| Mandera | 167,096 | 0.0 | 0.9 | 33.3 | 65.7 | 0.0 |
| Marsabit | 87,421 | 0.2 | 0.7 | 35.5 | 63.6 | 0.0 |
| Isiolo | 63,947 | 14.4 | 3.7 | 7.6 | 74.4 | 0.0 |
| Meru | 463,535 | 39.2 | 1.1 | 36.9 | 22.8 | 0.0 |
| Tharaka-Nithi | 120,886 | 20.1 | 1.4 | 18.8 | 59.7 | 0.0 |
| Embu | 199,046 | 21.6 | 1.3 | 21.7 | 55.4 | 0.0 |
| Kitui | 275,514 | 18.8 | 0.3 | 3.0 | 77.9 | 0.0 |
| Machakos | 430,469 | 9.7 | 1.5 | 9.6 | 79.2 | 0.0 |
| Makueni | 257,105 | 33.2 | 1.6 | 22.8 | 42.3 | 0.1 |
| Nyandarua | 198,250 | 39.3 | 4.5 | 49.2 | 7.0 | 0.0 |
| Nyeri | 270,743 | 22.7 | 2.0 | 42.4 | 32.9 | 0.0 |
| Kirinyaga | 217,216 | 39.1 | 1.7 | 26.9 | 32.3 | 0.0 |
| Murang'a | 385,599 | 34.6 | 1.2 | 43.6 | 20.5 | 0.0 |
| Kiambu | 997,101 | 18.0 | 3.7 | 36.6 | 41.7 | 0.0 |
| Turkana | 219,588 | 7.8 | 0.6 | 9.8 | 81.7 | 0.0 |
| West Pokot | 183,115 | 6.6 | 4.3 | 44.3 | 44.8 | 0.0 |
| Samburu | 95,708 | 47.5 | 0.3 | 13.8 | 38.4 | 0.0 |
| Trans Nzoia | 266,538 | 8.1 | 1.0 | 27.3 | 63.6 | 0.0 |
| Uasin Gishu | 351,899 | 26.5 | 0.2 | 20.4 | 52.8 | 0.0 |
| Elgeyo-Marakwet | 110,356 | 37.0 | 9.9 | 14.8 | 38.4 | 0.0 |
| Nandi | 226,515 | 77.1 | 3.9 | 17.6 | 1.4 | 0.0 |
| Baringo | 157,303 | 4.8 | 1.2 | 16.3 | 77.6 | 0.0 |
| Laikipia | 154,631 | 28.4 | 18.7 | 38.1 | 14.7 | 0.0 |
| Nakuru | 673,026 | 23.6 | 1.2 | 11.5 | 63.6 | 0.0 |
| Narok | 263,863 | 6.8 | 0.9 | 3.8 | 88.4 | 0.1 |
| Kajiado | 371,234 | 10.6 | 1.3 | 7.9 | 80.2 | 0.0 |
| Kericho | 233,615 | 19.1 | 1.1 | 7.7 | 72.1 | 0.0 |
| Bomet | 219,222 | 12.0 | 1.6 | 34.4 | 52.1 | 0.0 |
| Kakamega | 484,205 | 51.8 | 0.6 | 17.3 | 30.3 | 0.0 |
| Vihiga | 160,520 | 27.3 | 0.3 | 18.8 | 53.5 | 0.0 |
| Bungoma | 470,168 | 4.8 | 3.5 | 45.9 | 45.8 | 0.0 |
| Busia | 216,855 | 77.0 | 1.9 | 16.5 | 4.6 | 0.0 |
| Siaya | 247,647 | 23.8 | 0.6 | 8.3 | 67.4 | 0.0 |
| Kisumu | 338,619 | 14.6 | 3.0 | 42.6 | 38.7 | 1.1 |
| Homabay | 270,043 | 6.0 | 3.1 | 21.3 | 69.6 | 0.0 |
| Migori | 267,547 | 25.2 | 0.5 | 14.0 | 60.3 | 0.0 |
| Kisii | 371,985 | 4.0 | 2.3 | 25.4 | 68.4 | 0.0 |
| Nyamira | 183,594 | 27.4 | 2.3 | 26.5 | 43.8 | 0.0 |
| Nairobi City | 1,661,533 | 33.0 | 4.2 | 8.8 | 54.0 | 0.0 |

## 5.7 Adequacy of Housing Index

Adequate housing is defined as the one that at a minimum, meet the following criteria:

1. Legal security of tenure, which guarantees legal protection against forced evictions, harassment and other threats.
2. Availability of services, materials, facilities and infrastructure: including safe drinking water, adequate sanitation, energy for cooking, heating, lighting, food storage or refuse disposal;
3. Affordability: housing is not adequate if its cost threatens or compromises the occupants' enjoyment of other human rights;
4. Habitability: housing is not adequate if it does not guarantee physical safety or provide adequate space, as well as protection against the cold, damp, heat, rain, wind, other threats to health and structural hazards;
5. Accessibility: housing is not adequate if the specific needs of disadvantaged and marginalized groups are not taken into account (such as the poor, people facing discrimination; persons with disabilities, victims of natural disasters);
6. Location: housing is not adequate if it is cut off from employment opportunities, health-care services, schools, childcare centers and other social facilities, or if located in dangerous or polluted sites or in immediate proximity to pollution sources; and
7. Cultural adequacy: housing is not adequate if it does not respect and take into account the expression of cultural identity and ways of life.

### 5.7.1 Consolidated Housing Quality Index (CHQI)

The survey used four standalone indices: Crowding Index, Fitness of Structure Index, Water and Sanitation Fitness Index and, Energy Use Fitness Index; to compute a Consolidated Housing Quality Index.

These indicators are defined as follows:

1. **Crowding:** A dwelling is considered crowded if the number of person per habitable room is greater than two.
2. **Fitness of Structure:** A dwelling is considered fit for habitation if all three of the building's envelopes (roof, wall, floor) are made of durable materials.
3. **Water and Sanitation Fitness:** A dwelling is considered fit for habitation if it uses improved sources of water supply and improved means of human waste disposal.
4. **Energy Use Fitness:** A dwelling is considered fit for habitation if occupants use clean fuel for both lighting and cooking.
5. **Consolidated Housing Quality:** This is computed using dwelling fitness each of the above measures.

Table 5.24 presents the re-codes used in generating the Consolidated Housing Quality Index for this survey.

### Table 5.24: Scorecard for Dwelling Fitness

| Variable Name | Variable Code | Code 1 for "Fit" if: | Option Code | Else, Code 0 for "Unfit" if: | Option Code |
|---|---|---|---|---|---|
| **Number of Persons per room (NPPR)** | | | | | |
| | | if NPPR <=2 | | if NPPR >2 | |
| **Floor** | | **Durable** | | **Non-Durable** | |
| | | Parquet or polished wood | 05 | Earth/sand | 01 |
| | | Vinyl or asphalt strips | 06 | Dung | 02 |
| | | Ceramic tiles | 07 | Palm/ bamboo | 04 |
| | | Concrete/ Cement/Terrazo | 08 | | |
| | | Wall to wall Carpet | 09 | | |
| | | Wood planks/shingles/timber | 03 | | |
| **Wall** | | **Durable** | | **Non-Durable** | |
| | | Concrete/Cement | 11 | No walls | 01 |
| | | Stone with lime/cement | 12 | Cane/palm/trunks | 02 |
| | | Bricks | 13 | Grass/reeds | 03 |
| | | Cement blocks | 14 | Mud/cow dung | 04 |
| | | | | Bamboo with mud | 05 |
| | | | | Stone with mud | 06 |
| | | | | Uncovered adobe | 07 |
| | | | | Plywood/Cardboard | 08 |
| | | | | Reused wood | 09 |
| | | | | Iron sheets | 10 |
| | | | | Covered adobe | 15 |
| | | | | Wood planks/shingles/ timber | 16 |
| **Roof** | | **Durable** | | **Non-Durable** | |
| | | Iron sheets/Decra/Versatile | 03 | Grass / Makuti thatch/ twigs | 01 |
| | | Asbestos sheet | 05 | Dung / mud | 02 |
| | | Concrete/Cement | 06 | Tin cans | 04 |
| | | Tiles | 07 | Canvas/Nylon/Cartons/ Card board | 08 |
| **Cooking Fuel** | | **Clean** | **Code** | **Unclean (Smoky)** | |
| | | Electricity | 1,2,3,4 | Firewood | 9 |
| | | LPG (gas) | 7 | Wood | 10 |
| | | Biogas | 6 | Charcoal | 11 |
| | | Ethanol | 8 | Agriculture Crop Residue | 12 |
| | | | | Paraffin | 13 |
| **Type of Toilet Facility** | | **Improved** | | **Unimproved** | |
| | | Flush to Main sewer | 1 | Pit Latrine without slab/ Open pit | 8 |
| | | Flush to Septic tank | 2 | Bucket Toilet | 11 |
| | | Flush to Cess pool | 3 | Hanging toilet/ Hanging latrine | 12 |
| | | Flush to pit latrine | 4 | No facility/Bush/Field | 13 |

| Variable Name | Variable Code | Code 1 for "Fit" if: | Option Code | Else, Code 0 for "Unfit" if: | Option Code |
|---|---|---|---|---|---|
| | | Ventilated Improved Pit(VIP) latrine | 5 | | |
| | | Flush to Don't Know where | 6 | | |
| | | Pit latrine covered | 7 | | |
| | | Biodigester | 9 | | |
| | | Composting toilet | 10 | | |
| **Main Source of Water** | | **Improved** | | **Unimproved** | |
| | | Public Water Companies | 1 | Dug Well(Unprotected) | 6 |
| | | Private Water Companies | 2 | Water from Spring(unprotected) | 8 |
| | | Tube well/Borehole(Owned) | 3 | Surface water(River, Dam,Lake,Pond,stream,-canal,irrigation channel | 10 |
| | | Tube well/Borehole(Community) | 4 | | |
| | | Dug well (Protected) | 5 | | |
| | | Water from Spring(Protected) | 7 | | |
| | | Rainwater | 9 | | |
| | | Packaged Bottled water | 11 | | |
| **Type ofType of Lighting** | | **Clean** | | **Unclean** | |
| | | Electricity | 1,2,3,4,6 | Paraffin | 8 |
| | | Solar cahrged Battery/Torch/ Spotlight Lamp | 5 | Charcoal | 9 |
| | | Biogas | 7 | Wood | 10 |
| | | | | Candle | 11 |
| **Number of Persons per room (NPPR)** | | if NPPR <=2 | | if NPPR >2 | |

### 5.7.2 Dwelling Fitness Results

Figure 5.9 and Table 5.25 shows the distribution of persons per habitable room by residence and county. Nationally, 68.1 per cent of dwelling units were considered fit for habitation in terms of the number of persons per room whereas 31.9 per cent were unfit for habitation. This trend is replicated in both rural and urban areas, as shown in the figure below with fit dwelling units in rural areas at 65.7 per cent compared to 71.9 per cent in urban areas.

At county level, more than 80 per cent of the residents of Vihiga, Kirinyaga, Nyeri, Kakamega, Embu, Laikipia, Taita-Taveta, and Nyandarua live in dwelling units that are considered fit for habitation (not crowded). On the other hand, West Pokot (72.0%), Marsabit (78.7%), Wajir (80.2%), Mandera (79.9%) live in crowded conditions with proportions of more than 70 per cent of dwelling units considered unfit for habitation.

*Figure 5.10: Number of Persons per Habitable Room*

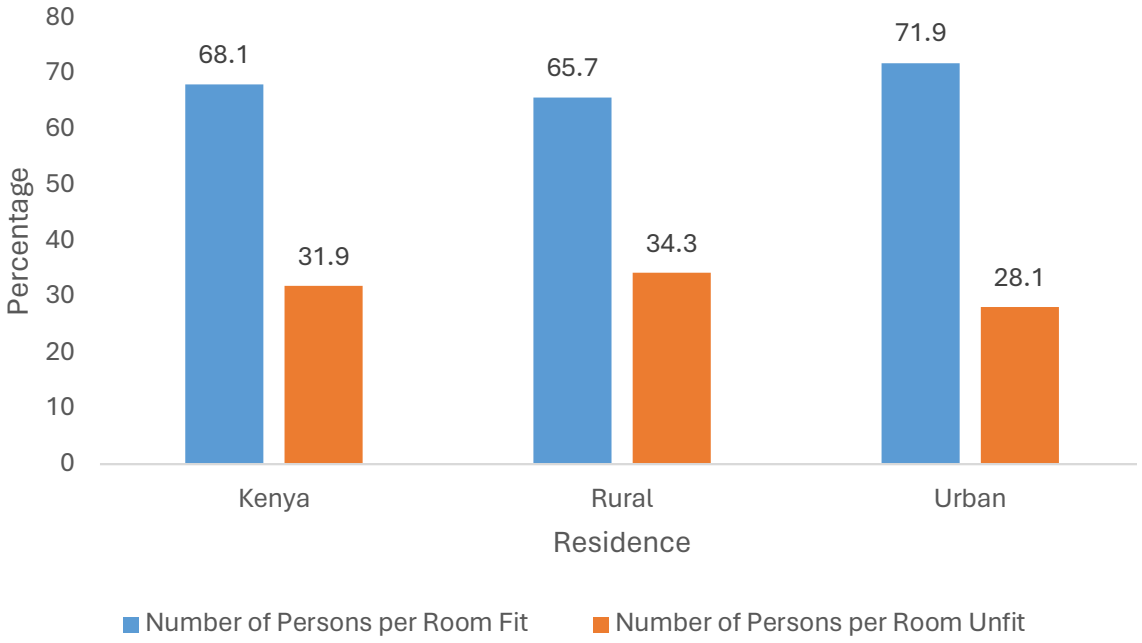



**Table 5.25: Distribution of Persons per Habitable Room by Residence and County (Fit and Unfit)**

| | Fit | Unfit |
|---|---|---|
| **Kenya** | **68.1** | **31.9** |
| Rural | 65.7 | 34.3 |
| Urban | 71.9 | 28.1 |
| **County** | | |
| Mombasa | 69.3 | 30.7 |
| Kwale | 65.5 | 34.5 |
| Kilifi | 74.4 | 25.6 |
| Tana River | 41.8 | 58.2 |
| Lamu | 78.2 | 21.8 |
| Taita-Taveta | 83.5 | 16.5 |
| Garissa | 44.0 | 56.0 |
| Wajir | 19.8 | 80.2 |
| Mandera | 20.1 | 79.9 |
| Marsabit | 21.3 | 78.7 |
| Isiolo | 45.7 | 54.3 |
| Meru | 58.1 | 41.9 |
| Tharaka-Nithi | 76.2 | 23.8 |
| Embu | 86.5 | 13.5 |
| Kitui | 66.2 | 33.8 |
| Machakos | 81.4 | 18.6 |
| Makueni | 77.5 | 22.5 |
| Nyandarua | 83.8 | 16.2 |
| Nyeri | 85.2 | 14.8 |
| Kirinyaga | 89.6 | 10.4 |
| Murang'a | 78.8 | 21.2 |
| Kiambu | 80.4 | 19.6 |

| | Fit | Unfit |
|---|---|---|
| Turkana | 22.4 | 77.6 |
| West Pokot | 28.0 | 72.0 |
| Samburu | 50.2 | 49.8 |
| Trans Nzoia | 61.9 | 38.1 |
| Uasin Gishu | 71.2 | 28.8 |
| Elgeyo-Marakwet | 51.2 | 48.8 |
| Nandi | 73.0 | 27.0 |
| Baringo | 37.6 | 62.4 |
| Laikipia | 83.8 | 16.2 |
| Nakuru | 72.5 | 27.5 |
| Narok | 54.5 | 45.5 |
| Kajiado | 75.3 | 24.7 |
| Kericho | 56.0 | 44.0 |
| Bomet | 54.5 | 45.5 |
| Kakamega | 87.3 | 12.7 |
| Vihiga | 89.8 | 10.2 |
| Bungoma | 70.3 | 29.7 |
| Busia | 65.7 | 34.3 |
| Siaya | 68.1 | 31.9 |
| Kisumu | 79.5 | 20.5 |
| Homabay | 55.8 | 44.2 |
| Migori | 58.2 | 41.8 |
| Kisii | 78.0 | 22.0 |
| Nyamira | 79.2 | 20.8 |
| Nairobi City | 65.2 | 34.8 |

Table 5.26 presents structure fitness by residence and county. Nationally, 44.1 per cent of dwelling units used durable materials for roof, wall, and floor and are considered fit for habitation. In rural areas, 27.9 per cent of dwelling units were fit for occupation in terms of materials used for construction, while in urban areas 75.6 per cent of dwelling were fit.

**Table 5.26: Structure Fitness by Residence and County**

| County/Residence | Fit | Unfit |
|---|---|---|
| **Kenya** | **44.1** | **55.9** |
| Rural | 27.9 | 72.1 |
| Urban | 75.6 | 24.4 |
| **County** | | |
| Mombasa | 91.7 | 8.3 |
| Kwale | 49.7 | 50.3 |
| Kilifi | 41.3 | 58.7 |
| Tana River | 32.0 | 68.0 |
| Lamu | 48.1 | 51.9 |
| Taita-Taveta | 61.1 | 38.9 |
| Garissa | 27.5 | 72.5 |
| Wajir | 23.6 | 76.4 |
| Mandera | 23.3 | 76.7 |
| Marsabit | 27.2 | 72.8 |
| Isiolo | 29.5 | 70.5 |
| Meru | 25.0 | 75.0 |
| Tharaka-Nithi | 32.9 | 67.1 |
| Embu | 42.5 | 57.5 |
| Kitui | 53.8 | 46.2 |
| Machakos | 65.3 | 34.7 |
| Makueni | 64.5 | 35.5 |
| Nyandarua | 31.0 | 69.0 |
| Nyeri | 39.0 | 61.0 |
| Kirinyaga | 47.3 | 52.7 |
| Murang'a | 37.4 | 62.6 |
| Kiambu | 66.2 | 33.8 |
| Turkana | 8.3 | 91.7 |
| West Pokot | 13.0 | 87.0 |
| Samburu | 29.8 | 70.2 |
| Trans Nzoia | 33.2 | 66.8 |
| Uasin Gishu | 43.8 | 56.2 |
| Elgeyo-Marakwet | 15.1 | 84.9 |
| Nandi | 32.4 | 67.6 |
| Baringo | 12.9 | 87.1 |
| Laikipia | 41.8 | 58.2 |
| Nakuru | 50.2 | 49.8 |
| Narok | 19.2 | 80.8 |
| Kajiado | 51.5 | 48.5 |
| Kericho | 22.5 | 77.5 |
| Bomet | 16.2 | 83.8 |
| Kakamega | 33.6 | 66.4 |
| Vihiga | 28.3 | 71.7 |
| Bungoma | 27.3 | 72.7 |
| Busia | 35.4 | 64.6 |
| Siaya | 47.1 | 52.9 |
| Kisumu | 46.2 | 53.8 |
| Homabay | 30.1 | 69.9 |
| Migori | 42.2 | 57.8 |
| Kisii | 32.2 | 67.8 |
| Nyamira | 34.2 | 65.8 |
| Nairobi City | 77.1 | 22.9 |

In regards to energy use, 70.1 per cent of dwelling units in Kenya used clean energy as shown in Table 5.27. In rural areas, 90.6 per cent of dwelling units were using unclean sources of energy for both cooking and lighting as shown in Table 5.27. In urban areas, however, 69.7 per cent of dwelling units used clean source of energy for cooking and lighting. At county levels, Nairobi and Kiambu had the highest proportion of dwellings using clean energy at 95.2 per cent and 65.8 per cent respectively.

### Table 5.27: Energy Use Fitness by County

| | Clean | Unclean/ smoky |
|---|---|---|
| **Kenya** | **29.9** | **70.1** |
| Rural | 9.4 | 90.6 |
| Urban | 69.7 | 30.3 |
| **County** | | |
| Mombasa | 47.1 | 52.9 |
| Kwale | 12.7 | 87.3 |
| Kilifi | 19.8 | 80.2 |
| Tana River | 6.0 | 94.0 |
| Lamu | 18.0 | 82.0 |
| Taita-Taveta | 20.8 | 79.2 |
| Garissa | 2.7 | 97.3 |
| Wajir | 2.2 | 97.8 |
| Mandera | 1.1 | 98.9 |
| Marsabit | 5.7 | 94.3 |
| Isiolo | 20.7 | 79.3 |
| Meru | 12.4 | 87.6 |
| Tharaka-Nithi | 14.6 | 85.4 |
| Embu | 21.6 | 78.4 |
| Kitui | 18.2 | 81.8 |
| Machakos | 30.2 | 69.8 |
| Makueni | 9.1 | 90.9 |
| Nyandarua | 18.0 | 82.0 |
| Nyeri | 36.9 | 63.1 |
| Kirinyaga | 29.2 | 70.8 |
| Murang'a | 19.0 | 81.0 |
| Kiambu | 65.8 | 34.2 |
| Turkana | 3.1 | 96.9 |
| West Pokot | 2.7 | 97.3 |
| Samburu | 6.1 | 93.9 |
| Trans Nzoia | 20.0 | 80.0 |
| Uasin Gishu | 36.0 | 64.0 |
| Elgeyo-Marakwet | 6.1 | 93.9 |
| Nandi | 12.8 | 87.2 |
| Baringo | 3.1 | 96.9 |
| Laikipia | 32.8 | 67.2 |
| Nakuru | 29.7 | 70.3 |
| Narok | 15.3 | 84.7 |
| Kajiado | 55.9 | 44.1 |
| Kericho | 8.0 | 92.0 |
| Bomet | 6.7 | 93.3 |
| Kakamega | 17.4 | 82.6 |
| Vihiga | 11.5 | 88.5 |
| Bungoma | 11.2 | 88.8 |
| Busia | 15.9 | 84.1 |
| Siaya | 9.9 | 90.1 |
| Kisumu | 33.3 | 66.7 |
| Homabay | 20.6 | 79.4 |
| Migori | 10.5 | 89.5 |
| Kisii | 16.1 | 83.9 |
| Nyamira | 11.8 | 88.2 |
| Nairobi City | 95.2 | 4.8 |

Table 5.28 presents the proportion of dwelling units that used improved sources of drinking water and improved toilet facilities. Nationally, 59.7 per cent of dwelling units got water from improved sources of drinking water and used improved toilet facilities. In urban and rural areas, 91.0 per cent and 43.5 per cent of dwelling units used improved sources of drinking water and improved toilet facilities, respectively. At the county level, Nairobi City and Mombasa had the highest proportion for water and sanitation fitness at 96.9 per cent and 96.0 per cent, respectively. Turkana, Mandera, West Pokot, and Elgeiyo-Marakwet counties had the highest proportion of dwelling units that had unimproved sources of drinking water and toilet facilities.

Table 5.28: Water and Sanitation Fitness by County

| | Improved | Unimproved |
|---|---|---|
| **Kenya** | **59.7** | **40.3** |
| Rural | 43.5 | 56.5 |
| Urban | 91.0 | 9.0 |
| **County** | | |
| Mombasa | 96.0 | 4.0 |
| Kwale | 53.0 | 47.0 |
| Kilifi | 60.5 | 39.5 |
| Tana River | 28.7 | 71.3 |
| Lamu | 62.2 | 37.8 |
| Taita-Taveta | 82.4 | 17.6 |
| Garissa | 61.1 | 38.9 |
| Wajir | 34.5 | 65.5 |
| Mandera | 16.2 | 83.8 |
| Marsabit | 24.0 | 76.0 |
| Isiolo | 61.5 | 38.5 |
| Meru | 33.9 | 66.1 |
| Tharaka-Nithi | 50.6 | 49.4 |
| Embu | 70.8 | 29.2 |
| Kitui | 45.2 | 54.8 |
| Machakos | 70.7 | 29.3 |
| Makueni | 43.1 | 56.9 |
| Nyandarua | 46.1 | 53.9 |
| Nyeri | 69.1 | 30.9 |
| Kirinyaga | 57.1 | 42.9 |
| Murang'a | 74.1 | 25.9 |
| Kiambu | 94.5 | 5.5 |
| Turkana | 14.4 | 85.6 |
| West Pokot | 17.3 | 82.7 |
| Samburu | 34.1 | 65.9 |
| Trans Nzoia | 49.7 | 50.3 |
| Uasin Gishu | 69.5 | 30.5 |
| Elgeyo-Marakwet | 18.0 | 82.0 |
| Nandi | 30.5 | 69.5 |
| Baringo | 39.3 | 60.7 |
| Laikipia | 70.7 | 29.3 |
| Nakuru | 63.9 | 36.1 |
| Narok | 39.6 | 60.4 |
| Kajiado | 79.7 | 20.3 |
| Kericho | 31.0 | 69.0 |
| Bomet | 24.3 | 75.7 |
| Kakamega | 63.7 | 36.3 |
| Vihiga | 71.8 | 28.2 |
| Bungoma | 49.1 | 50.9 |
| Busia | 64.6 | 35.4 |
| Siaya | 59.8 | 40.2 |
| Kisumu | 69.0 | 31.0 |
| Homabay | 28.2 | 71.8 |
| Migori | 27.4 | 72.6 |
| Kisii | 48.5 | 51.5 |
| Nyamira | 46.0 | 54.0 |
| Nairobi City | 96.9 | 3.1 |

### 5.7.3 Consolidated Housing Quality Index (CHQI Indicator)

Results of the CHQI indicator shows that, 78.8 per cent of dwelling units in Kenya were of inadequate quality. This proportion is higher for dwelling units in rural areas at 93.7 per cent as compared to 55.1 per cent for those in urban areas as presented in Table 5.29. Mandera, Wajir, West Pokot, Turkana, Bomet, Marsabit, Garissa, had the highest proportions of dwelling units that were of inadequate quality. While Nairobi City, Kajiado, Mombasa, and Kiambu had the highest proportions of adequate quality dwelling units.

Table 5.29: Consolidated Housing Quality Index by Residence and County

| | Adequate Dwelling Unit | Inadequate Dwelling unit |
|---|---|---|
| **Kenya** | **21.2** | **78.8** |
| Rural | 6.3 | 93.7 |
| Urban | 44.9 | 55.1 |
| **County** | | |
| Mombasa | 37.6 | 62.4 |
| Kwale | 9.6 | 90.4 |
| Kilifi | 18.3 | 81.7 |
| Tana River | 3.1 | 96.9 |
| Lamu | 13.1 | 86.9 |
| Taita-Taveta | 17.5 | 82.5 |
| Garissa | 2.2 | 97.8 |
| Wajir | 1.4 | 98.6 |
| Mandera | 0.1 | 99.9 |
| Marsabit | 1.5 | 98.5 |
| Isiolo | 12.3 | 87.7 |
| Meru | 4.5 | 95.5 |
| Tharaka-Nithi | 14.2 | 85.8 |
| Embu | 19.9 | 80.1 |
| Kitui | 18.3 | 81.7 |
| Machakos | 19.0 | 81.0 |
| Makueni | 7.8 | 92.2 |
| Nyandarua | 13.6 | 86.4 |
| Nyeri | 20.9 | 79.1 |
| Kirinyaga | 21.6 | 78.4 |
| Murang'a | 16.2 | 83.8 |
| Kiambu | 45.5 | 54.5 |
| Turkana | 1.6 | 98.4 |
| West Pokot | 2.2 | 97.8 |
| Samburu | 4.6 | 95.4 |
| Trans Nzoia | 15.4 | 84.6 |
| Uasin Gishu | 28.6 | 71.4 |
| Elgeyo-Marakwet | 3.7 | 96.3 |
| Nandi | 6.5 | 93.5 |
| Baringo | 2.5 | 97.5 |
| Laikipia | 26.2 | 73.8 |
| Nakuru | 26.7 | 73.3 |
| Narok | 8.6 | 91.4 |
| Kajiado | 36.4 | 63.6 |
| Kericho | 6.6 | 93.4 |
| Bomet | 2.4 | 97.6 |
| Kakamega | 16.4 | 83.6 |
| Vihiga | 9.0 | 91.0 |
| Bungoma | 8.8 | 91.2 |
| Busia | 10.2 | 89.8 |
| Siaya | 9.2 | 90.8 |
| Kisumu | 21.5 | 78.5 |
| Homabay | 7.5 | 92.5 |
| Migori | 6.6 | 93.4 |
| Kisii | 12.7 | 87.3 |
| Nyamira | 7.0 | 93.0 |
| Nairobi City | 51.8 | 48.2 |

## 5.8 Transport, Infrastructure and Housing Environs

### 5.8.1 Transport and Infrastructure

This section offers insights on how residents access essential services, basic infrastructure and amenities. Access to basic amenities reflects quality of life and plays a crucial role in choosing a place to live. It also shows the status of SDG indicators 9.1.1, 11.2.2 and 11.7.1. Table 5.30 presents the average distances in kilometers from dwellings to various facilities by counties and residence. Nationally, places of worship were the closest social amenity with an average distance of 0.6 kilometres while recreation centres were the furthest at 6.0 kilometres from the dwellings. On average, residents in the rural areas travelled longer distances to access basic amenities compared to residents in urban areas. Analysis by county showed that residents of Kitui, Samburu, and Narok travelled longer distances in kilometres to access recreation centers (29.4, 37.2, and 42.2 respectively) and social halls (23.5, 9.7, and 30.2 respectively). Residents in Tana River travelled the longest distance to the nearest secondary school, police station and shopping centre at 14.0 kilometres, 14.9 kilometres, and 11.2 kilometres respectively. Wajir residents travelled the longest distance to the nearest health facility at 6.7 kilometers.

## Table 5.30: Average Distance from Dwelling Units to Social Amenities (kms)

| Residence/ County | Primary School | Secondary School | Police Station | Health Facility | Bus Stop | Shopping Centre | Worship Centre | Recreation Centre | Market Place | Social Hall | Pick up Drop off | All Weather Season road |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Kenya** | **1.1** | **2.4** | **3.6** | **2.3** | **2.4** | **1.6** | **0.6** | **6.0** | **3.4** | **5.4** | **1.0** | **1.8** |
| Rural | 1.3 | 3.1 | 4.9 | 3.0 | 3.4 | 2.1 | 0.8 | 8.2 | 4.5 | 7.2 | 1.4 | 1.7 |
| Urban | 0.7 | 1.2 | 1.6 | 1.2 | 0.9 | 0.7 | 0.3 | 2.5 | 1.7 | 2.4 | 0.4 | 1.9 |
| **County** | | | | | | | | | | | | |
| Mombasa | 0.6 | 1.2 | 1.6 | 1.0 | 0.9 | 0.7 | 0.2 | 1.8 | 1.9 | 1.6 | 0.2 | 2.0 |
| Kwale | 1.1 | 3.3 | 4.9 | 2.6 | 3.4 | 1.4 | 1.0 | 16.6 | 3.5 | 14.6 | 0.8 | 1.7 |
| Kilifi | 1.1 | 2.4 | 5.9 | 2.5 | 2.7 | 2.0 | 0.8 | 4.6 | 3.3 | 6.2 | 1.8 | 1.9 |
| Tana River | 1.2 | 14.0 | 14.9 | 5.4 | 11.7 | 11.2 | 0.8 | 8.6 | 8.4 | 8.9 | 1.4 | 1.4 |
| Lamu | 0.8 | 1.0 | 1.2 | 1.2 | 1.6 | 0.6 | 0.5 | 0.0 | 0.9 | 0.5 | 0.5 | 2.0 |
| Taita-Taveta | 1.0 | 1.8 | 2.5 | 1.6 | 1.7 | 0.6 | 0.4 | 1.3 | 2.6 | 2.1 | 0.1 | 1.9 |
| Garissa | 0.6 | 7.3 | 7.2 | 2.0 | 0.8 | 1.6 | 0.6 | 1.7 | 3.7 | 4.1 | 0.6 | 2.0 |
| Wajir | 0.8 | 8.2 | 7.8 | 6.7 | 2.3 | 5.9 | 0.5 | 3.7 | 6.9 | 7.7 | 1.1 | 1.9 |
| Mandera | 0.9 | 4.8 | 5.0 | 3.7 | 1.4 | 2.0 | 0.5 | 1.3 | 6.6 | 2.5 | 0.7 | 1.8 |
| Marsabit | 0.9 | 6.1 | 3.8 | 1.8 | 6.6 | 7.0 | 2.0 | 0.9 | 2.5 | 3.5 | 2.2 | 1.5 |
| Isiolo | 1.3 | 5.2 | 6.3 | 2.6 | 2.9 | 2.6 | 1.5 | 2.4 | 6.9 | 6.5 | 1.1 | 1.8 |
| Meru | 1.2 | 1.9 | 2.4 | 2.1 | 1.8 | 1.2 | 0.6 | 9.5 | 2.5 | 7.4 | 0.8 | 1.7 |
| Tharaka-Nithi | 1.1 | 2.2 | 4.0 | 2.4 | 4.1 | 1.2 | 0.5 | 4.2 | 4.3 | 8.0 | 1.6 | 1.8 |
| Embu | 1.7 | 2.5 | 7.1 | 4.0 | 3.1 | 1.3 | 1.2 | 8.3 | 6.0 | 4.7 | 1.5 | 1.7 |
| Kitui | 1.1 | 2.7 | 3.8 | 2.3 | 2.4 | 1.0 | 0.7 | 29.4 | 5.7 | 23.5 | 1.3 | 1.8 |
| Machakos | 1.5 | 2.2 | 4.4 | 4.0 | 4.5 | 1.2 | 1.2 | 12.6 | 4.9 | 9.4 | 3.1 | 1.8 |
| Makueni | 1.2 | 2.2 | 3.5 | 2.4 | 2.2 | 1.2 | 0.7 | 5.2 | 5.2 | 6.2 | 1.8 | 1.4 |
| Nyandarua | 1.1 | 1.9 | 2.6 | 2.9 | 1.8 | 1.3 | 0.7 | 0.7 | 3.2 | 2.2 | 1.3 | 1.5 |
| Nyeri | 1.1 | 1.3 | 1.7 | 1.7 | 1.9 | 0.7 | 0.6 | 1.1 | 2.4 | 1.2 | 0.6 | 1.9 |
| Kirinyaga | 1.2 | 1.7 | 2.7 | 2.4 | 2.2 | 0.6 | 0.5 | 3.5 | 3.3 | 2.7 | 1.2 | 1.8 |
| Murang'a | 1.6 | 2.3 | 2.4 | 2.6 | 2.1 | 1.5 | 0.8 | 5.8 | 4.4 | 3.5 | 1.9 | 1.7 |
| Kiambu | 0.8 | 1.6 | 1.6 | 1.8 | 1.1 | 1.1 | 0.4 | 3.6 | 2.5 | 2.9 | 0.4 | 1.9 |
| Turkana | 1.4 | 9.9 | 13.7 | 4.4 | 5.5 | 4.7 | 1.0 | 2.8 | 13.4 | 3.4 | 1.1 | 1.3 |
| West Pokot | 2.1 | 2.9 | 7.6 | 3.5 | 2.9 | 2.6 | 1.7 | 10.3 | 7.1 | 5.3 | 1.2 | 1.6 |
| Samburu | 1.6 | 5.1 | 7.9 | 3.2 | 10.5 | 4.1 | 1.4 | 37.2 | 9.7 | 9.2 | 2.4 | 1.3 |
| Trans Nzoia | 1.3 | 1.7 | 3.2 | 2.2 | 4.2 | 1.9 | 0.6 | 6.5 | 1.1 | 6.1 | 1.4 | 1.7 |
| Uasin Gishu | 0.8 | 1.8 | 3.2 | 2.1 | 1.1 | 0.9 | 0.5 | 10.7 | 3.2 | 11.4 | 0.8 | 1.8 |
| Elgeyo-Marakwet | 1.0 | 2.1 | 5.2 | 3.1 | 7.7 | 1.8 | 0.8 | 19.8 | 6.1 | 17.8 | 1.1 | 1.5 |
| Nandi | 1.0 | 1.7 | 3.6 | 2.1 | 1.8 | 1.1 | 0.6 | 2.5 | 4.2 | 2.4 | 1.1 | 2.0 |
| Baringo | 1.5 | 2.7 | 6.3 | 2.5 | 4.2 | 2.2 | 1.2 | 7.6 | 7.1 | 6.3 | 3.1 | 1.6 |
| Laikipia | 2.2 | 4.4 | 3.7 | 2.4 | 4.0 | 2.9 | 1.1 | 3.3 | 5.1 | 3.1 | 1.8 | 1.9 |
| Nakuru | 1.2 | 1.6 | 2.9 | 2.2 | 1.6 | 1.5 | 0.5 | 3.3 | 2.3 | 3.0 | 0.3 | 1.9 |
| Narok | 2.2 | 6.0 | 9.9 | 5.2 | 7.7 | 2.2 | 1.2 | 42.2 | 7.7 | 30.2 | 1.1 | 1.5 |
| Kajiado | 1.9 | 6.7 | 8.5 | 5.3 | 5.1 | 2.7 | 0.7 | 7.1 | 7.0 | 13.1 | 4.0 | 1.6 |
| Kericho | 1.1 | 1.9 | 3.6 | 2.2 | 2.7 | 2.1 | 0.5 | 0.3 | 3.8 | 0.3 | 0.2 | 2.0 |
| Bomet | 1.0 | 1.5 | 3.5 | 1.7 | 3.1 | 1.5 | 0.6 | 2.1 | 4.2 | 2.3 | 2.4 | 1.8 |
| Kakamega | 0.9 | 1.5 | 2.1 | 2.0 | 1.4 | 0.9 | 0.5 | 2.5 | 1.3 | 2.6 | 0.4 | 2.0 |
| Vihiga | 0.8 | 1.1 | 2.0 | 1.1 | 3.4 | 1.0 | 0.3 | 4.2 | 2.7 | 3.2 | 0.2 | 1.8 |
| Bungoma | 0.9 | 1.3 | 2.1 | 1.6 | 2.2 | 1.4 | 0.4 | 6.3 | 1.5 | 5.1 | 0.4 | 1.8 |
| Busia | 0.7 | 1.3 | 2.1 | 1.5 | 1.6 | 1.0 | 0.6 | 0.1 | 1.9 | 0.1 | 0.2 | 1.9 |
| Siaya | 0.8 | 1.5 | 2.9 | 2.2 | 2.9 | 1.7 | 0.3 | 3.3 | 2.0 | 2.9 | 1.5 | 1.6 |
| Kisumu | 0.6 | 0.9 | 1.6 | 1.1 | 1.2 | 0.9 | 0.3 | 0.9 | 1.1 | 1.0 | 0.7 | 1.7 |
| Homabay | 1.2 | 2.0 | 4.3 | 2.1 | 2.7 | 1.7 | 0.6 | 4.7 | 1.6 | 5.1 | 1.3 | 1.9 |
| Migori | 1.2 | 1.7 | 3.5 | 2.5 | 3.6 | 1.3 | 0.6 | 1.5 | 2.0 | 1.4 | 0.4 | 1.5 |
| Kisii | 0.9 | 1.4 | 2.8 | 2.1 | 1.4 | 1.5 | 0.7 | 3.4 | 2.2 | 1.5 | 0.4 | 1.9 |
| Nyamira | 1.0 | 1.7 | 2.2 | 1.7 | 2.3 | 1.1 | 0.8 | 1.5 | 2.1 | 1.4 | 0.9 | 1.9 |
| Nairobi City | 0.4 | 0.8 | 1.2 | 0.8 | 0.5 | 0.8 | 0.2 | 2.1 | 1.4 | 1.7 | 0.4 | 1.9 |

### 5.8.2 Type of Access Road

The quality and condition of road used by households to access their dwellings influences the ease of mobility and potentially the value of the property. Table 5.31 shows the type of access roads to the dwellings by residence. Overall, 58.5 per cent of dwellings were accessed via earth roads, 29.5 per cent by gravel/murram road, and 12.0 per cent by bitumen/paved/cabro roads. Dwellings in the rural areas were mainly accessed through earth roads at 64.5 per cent. Urban areas had a higher percentage of bitumen/paved/cabro roads at 21.1 per cent compared to the rural areas at 6.2 per cent.

**Table 5.31: Percentage Distribution of Households byType of Access Road Leading to Dwelling Units by Residence**

| Residence | Bitumen/ Paved/ Cabro | Gravel/ Murram | Earth |
|---|---|---|---|
| **Kenya** | **12.0** | **29.5** | **58.5** |
| Rural | 6.2 | 29.3 | 64.5 |
| Urban | 21.1 | 29.8 | 49.2 |

**The quality and condition of road used by households to access their dwellings influences the ease of mobility and potentially the value of the property.**

### 5.8.3 Street Lighting

Streetlights/High mast lighting provide lighting which increase safety, security, and enhance mobility for residents. Results from the survey indicate that 22.6 per cent of the dwellings in the country have streetlights/ high mask lighting in their access roads. Street lighting for dwellings in urban areas was higher at 47.6 per cent compared to the rural areas at 6.8 per cent. Nairobi City was leading with 75.4 per cent of the residents reporting that they have streetlights/high mast lighting while Vihiga County had the lowest coverage of streetlights at 2.4 per cent as shown in Table 5.32.

Table 5.32: Percentage Distribution of Households by Street Lighting/High Mask Lighting for Access Road to Dwelling Units by Residence

| Residence | Availability of Street Lighting/High Mast Lighting | Total |
|---|---|---|
| **Kenya** | **22.6** | **13,886,126** |
| Rural | 6.8 | 8,519,926 |
| Urban | 47.6 | 5,366,201 |
| **County** | | |
| Mombasa | 56.6 | 405,415 |
| Kwale | 4.0 | 183,739 |
| Kilifi | 4.7 | 407,221 |
| Tana River | 4.2 | 74,962 |
| Lamu | 18.0 | 40,543 |
| Taita-Taveta | 23.6 | 108,463 |
| Garissa | 10.3 | 180,468 |
| Wajir | 3.8 | 152,058 |
| Mandera | 4.3 | 167,096 |
| Marsabit | 6.5 | 87,421 |
| Isiolo | 5.6 | 63,947 |
| Meru | 15.4 | 463,535 |
| Tharaka-Nithi | 9.4 | 120,886 |
| Embu | 12.3 | 199,046 |
| Kitui | 10.3 | 275,514 |
| Machakos | 11.8 | 430,469 |
| Makueni | 5.2 | 257,105 |
| Nyandarua | 23.2 | 198,250 |
| Nyeri | 34.4 | 270,743 |
| Kirinyaga | 11.7 | 217,216 |
| Murang'a | 18.2 | 385,599 |
| Kiambu | 36.3 | 997,101 |
| Turkana | 7.0 | 219,588 |
| West Pokot | 4.2 | 183,115 |
| Samburu | 14.5 | 95,708 |
| Trans Nzoia | 11.9 | 266,538 |
| Uasin Gishu | 37.7 | 351,899 |
| Elgeyo-Marakwet | 7.2 | 110,356 |
| Nandi | 11.3 | 226,515 |
| Baringo | 9.0 | 157,303 |
| Laikipia | 16.4 | 154,631 |
| Nakuru | 25.3 | 673,026 |
| Narok | 7.8 | 263,863 |
| Kajiado | 4.9 | 371,234 |
| Kericho | 11.1 | 233,615 |
| Bomet | 10.1 | 219,222 |
| Kakamega | 8.4 | 484,205 |
| Vihiga | 2.4 | 160,520 |
| Bungoma | 8.3 | 470,168 |
| Busia | 5.4 | 216,855 |
| Siaya | 4.1 | 247,647 |
| Kisumu | 13.0 | 338,619 |
| Homabay | 9.7 | 270,043 |
| Migori | 6.4 | 267,547 |
| Kisii | 4.2 | 371,985 |
| Nyamira | 7.3 | 183,594 |
| Nairobi City | 75.4 | 1,661,533 |

### 5.8.4 Utilities Provided by Government

Table 5.33 shows distribution of various utilities provided by the government in rural and urban areas. Urban areas are far better equipped with street lighting (54.8% in urban areas vs. 8.9% in rural areas), pedestrian pathways (18.4% vs. 4.6%), drainage systems (34.6% vs. 6.8%), sewerage systems (35.2% vs. 1.9%), water supply (59.9% vs. 23.5%), and garbage collection services (20.3% vs. 3.8%). These findings indicate a stronger infrastructure and service provision focus on urban areas. Road infrastructure is better in urban areas at 76.8 per cent compared to rural areas at 59.6 per cent. Urban areas also offer more recreation facilities, such as parks and public spaces (15.8% in urban areas vs. 7.8% in rural areas), emphasizing the availability of recreational amenities in urban areas.

Table 5.33: Percentage Distribution of Households by Utilities Provided by the Government by Residence

| Utilities Provided by Government | Rural | Urban |
|---|---|---|
| Street lighting | 8.9 | 54.8 |
| Pedestrarian Pathways | 4.6 | 18.4 |
| Cycling Pathways | 3.0 | 7.1 |
| Drainage | 6.8 | 34.6 |
| Sewerage | 1.9 | 35.2 |
| Water | 23.5 | 59.9 |
| Roads | 59.6 | 76.8 |
| Health facilities/Hospitals | 66.3 | 66.9 |
| Garbage Collection | 3.8 | 20.3 |
| Recreation Facility(Parks, Public Space) | 7.8 | 15.8 |

The analysis of functional utilities provided by the government in rural and urban areas is shown in Table 5.34. Urban areas had a higher coverage of functional street lighting (91.0% in urban areas vs. 73.7% in rural areas), functional pedestrian pathways (96.7% vs. 84.8%), functional drainage systems (85.1% vs. 76.6%), functional sewerage systems (88.4% vs. 56.5%), functional water supply (90.4% vs. 84.1%), and functional garbage collection services (89.3% vs. 59.7%). These findings indicate that urban areas have a more robust infrastructure and better service provision. Rural areas have a lower percentage of functional cycling pathways (78.4% in rural areas vs. 96.2% in urban areas) and health facilities or hospitals (94.8% vs. 97.0%). Roads are slightly less functional in rural areas (93.9%) compared to urban areas (96.1%). Urban areas also offer more functional recreation facilities, such as parks and public spaces (92.4% in urban areas vs. 80.9% in rural areas), reflecting a greater emphasis on recreational facilities in urban areas.

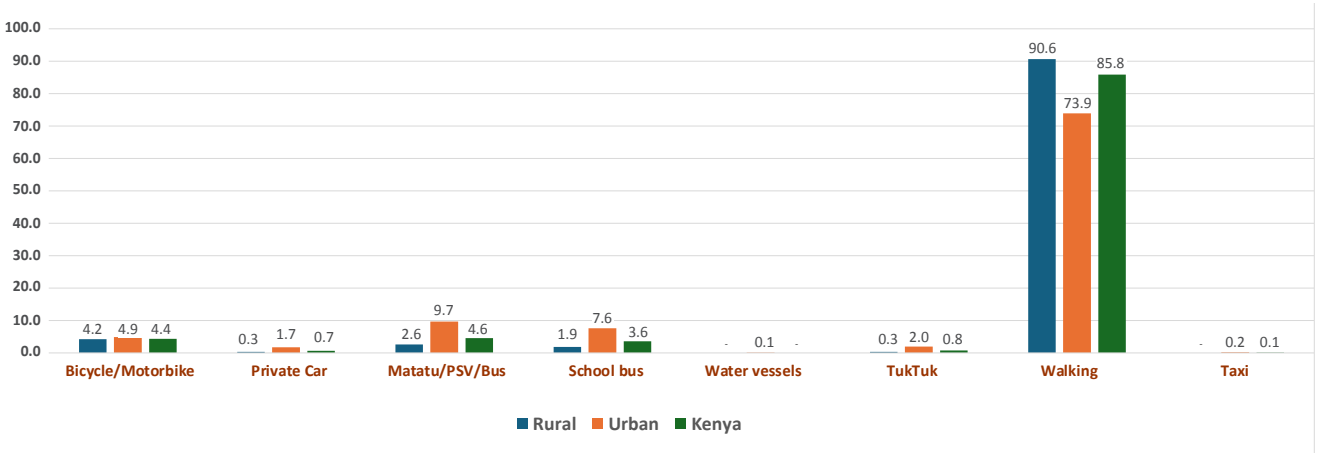
**Table 5.34: Percentage Distribution of Households by Functionality of Utilities Provided by the Government**

| Functional Utilities | Rural | Urban |
|---|---|---|
| Street lighting | 73.7 | 91.0 |
| Pedestrian Pathways | 84.8 | 96.7 |
| Cycling Pathways | 78.4 | 96.2 |
| Drainage | 76.6 | 85.1 |
| Sewerage | 56.5 | 88.4 |
| Water | 84.1 | 90.4 |
| Roads | 93.9 | 96.1 |
| Health facilities/Hospitals | 94.8 | 97.0 |
| Garbage Collection | 59.7 | 89.3 |
| Recreation Facility(Parks, Public Space) | 80.9 | 92.4 |

### 5.8.5 Main Mode of Transport to School.

In Kenya, walking is the primary mode of transport for students going to day-schools as shown in fig 5.11. Nationally, 85.8 per cent students/pupils walk to school with rural and urban at 90.6 and 73.9 per cent, respectively. The other common modes of transport to school include using public transport like matatus, boda-bodas and school buses at 4.6 per cent, 4.4 per cent, and 3.6 per cent respectively.

*Figure 5.11: Main Mode of Transport to School for Day Scholars*




### 5.8.6 Mode of Transport to Work.

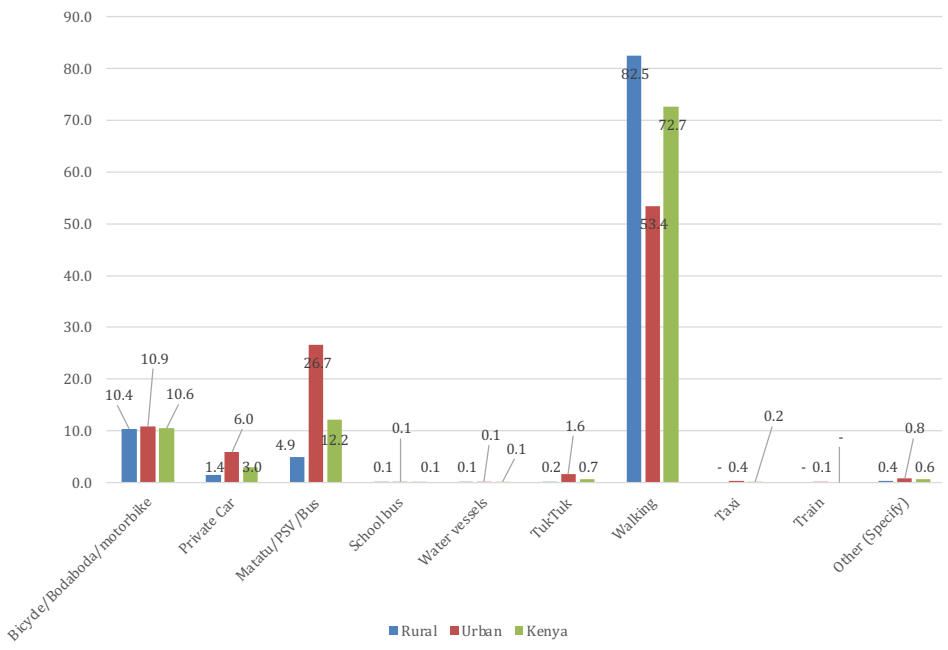
Figure 5.12 outlines the different modes of transport used to commute to work in Kenya, disaggregated by rural and urban areas. Walking was the predominant mode of transport to work, with 72.7 per cent of Kenyans walking to work, with rural areas recording the highest percentage (82.5%) compared to urban areas (53.4%). Public Transport (Matatu/PSV/Bus) was more common in urban areas (26.7%) compared to rural areas (4.9 %). The use of Boda-bodas (Bicycles and Motorbikes) was popular in both rural and urban areas at 10.4 per cent and 10.9 per cent, respectively. Private Cars were more commonly used in urban areas at 6.0 per cent and 1.4 per cent in rural areas.

**72.7%**
Walking was the predominant mode of transport to work, 72.7 per cent of Kenyans walking to work.

**12.2%**
Overall, 12.2 per cent of Kenyans use public transport.

**10.6%**
The percentage of Kenyans whos used boda bodas nationally.

*Figure 5.12: Main Mode of Transport to Work*



### 5.8.7 Housing Environs

Housing is not merely about providing shelter; it is deeply intertwined with the surrounding environment and the specific characteristics of its location. For this survey, housing environs include natural elements like topography, proximity to riparian land, perception on pollution severity, solid waste disposal, and membership to resident associations. These environs are crucial factors in housing, affecting the quality of life, property value, and overall satisfaction of residents.

### 5.8.8 Land Terrain

Housing is influenced by the topography of the land. The location of a dwelling unit affects its stability, accessibility, scenery, drainage, building costs, and proneness to natural hazards. Table 5.35 displays the distribution of residential units by topography, residence, and county. Nationally, 51.3 per cent of dwelling units were located on plain/flat ground, while 36.2 per cent positioned on slightly sloppy terrain. Garissa County had 96.6 per cent of its housing units on flat/plain terrain, while 40.1 per cent of dwelling units in Elgeyo-Marakwet county were on sloppy terrain.

**Table 5.35: Proportion of Dwelling Units by Land Terrain**

| County | Plain/ Flat | Slightly slopy | Slopy | Steep |
|---|---|---|---|---|
| **Kenya** | **51.3** | **36.2** | **9.9** | **2.7** |
| Mombasa | 72.5 | 22.3 | 3.6 | 1.6 |
| Kwale | 60.0 | 28.9 | 9.1 | 2.0 |
| Kilifi | 58.8 | 31.9 | 7.2 | 2.1 |
| Tana River | 93.6 | 5.3 | 0.8 | 0.3 |
| Lamu | 70.5 | 28.3 | 0.8 | 0.3 |
| Taita-Taveta | 53.5 | 28.6 | 14.4 | 3.5 |
| Garissa | 96.6 | 2.7 | 0.2 | 0.5 |
| Wajir | 92.2 | 0.1 | 7.4 | 0.3 |
| Mandera | 81.6 | 14.5 | 3.4 | 0.5 |
| Marsabit | 66.4 | 27.0 | 3.7 | 2.8 |
| Isiolo | 78.0 | 19.4 | 1.7 | 0.8 |
| Meru | 40.7 | 39.2 | 15.1 | 4.9 |
| Tharaka-Nithi | 64.5 | 22.4 | 9.1 | 4.0 |
| Embu | 42.4 | 36.6 | 11.6 | 9.3 |
| Kitui | 59.3 | 37.7 | 2.4 | 0.6 |
| Machakos | 34.9 | 39.5 | 22.0 | 3.7 |
| Makueni | 49.8 | 33.9 | 14.4 | 1.9 |
| Nyandarua | 47.6 | 34.0 | 17.4 | 1.0 |
| Nyeri | 36.0 | 44.7 | 17.3 | 2.0 |
| Kirinyaga | 46.4 | 35.9 | 10.9 | 6.8 |
| Murang'a | 23.4 | 47.7 | 17.7 | 11.2 |
| Kiambu | 66.8 | 25.5 | 7.7 | 0.0 |
| Turkana | 59.6 | 37.5 | 2.3 | 0.6 |
| West Pokot | 33.7 | 36.0 | 24.2 | 6.1 |
| Samburu | 69.2 | 21.6 | 8.6 | 0.7 |
| Trans Nzoia | 34.2 | 47.6 | 13.3 | 4.8 |
| Uasin Gishu | 51.3 | 42.3 | 5.9 | 0.5 |
| Elgeyo-Marakwet | 2.7 | 30.9 | 40.1 | 26.4 |
| Nandi | 10.2 | 68.2 | 17.1 | 4.5 |
| Baringo | 52.6 | 40.9 | 6.5 | 0.0 |
| Laikipia | 53.6 | 39.1 | 5.6 | 1.7 |
| Nakuru | 48.6 | 34.5 | 14.0 | 2.9 |
| Narok | 38.1 | 51.2 | 7.7 | 3.0 |
| Kajiado | 54.7 | 31.1 | 11.9 | 2.3 |
| Kericho | 64.0 | 27.7 | 8.3 | 0.0 |
| Bomet | 53.1 | 28.4 | 14.8 | 3.7 |
| Kakamega | 27.8 | 59.9 | 10.0 | 2.3 |
| Vihiga | 37.6 | 43.5 | 13.4 | 5.4 |
| Bungoma | 53.1 | 37.3 | 8.3 | 1.2 |
| Busia | 79.6 | 16.1 | 2.1 | 2.2 |
| Siaya | 27.9 | 63.9 | 8.2 | 0.0 |
| Kisumu | 65.6 | 29.3 | 3.8 | 1.3 |
| Homabay | 11.0 | 46.8 | 26.3 | 15.8 |
| Migori | 48.8 | 42.7 | 8.4 | 0.1 |
| Kisii | 21.5 | 68.1 | 9.1 | 1.3 |
| Nyamira | 18.2 | 50.2 | 26.6 | 4.9 |
| Nairobi City | 67.0 | 30.6 | 2.3 | 0.1 |

### 5.8.9 Proximity of Dwellings to Potential Hazards

The survey highlights significant differences in average distances to various hazard risks between rural and urban areas and across different counties. Rural areas generally exhibited shorter average distances to natural features such as rivers/lakes at 727 metres swamps at 502 metres and wetlands at 342 metres, indicating closer proximity to these potential natural hazards. Urban areas had shorter average distances to man-made hazards like dumpsites at 345 metres, factories at 1,276 metres, and busy roads at 223 metres compared to rural areas as shown in Table 5.36.

**Table 5.36: Proximity of Dwellings to Potential Hazards in Metres**

| Residence | River/Lake | Swamp | Wetland | Quarry | Dumpsite | Factory/ Industry | Forest | Bars and Night Clubs | Worship centres | Airport | Busy Road |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Kenya** | **677** | **517** | **321** | **1,440** | **332** | **1,620** | **1,195** | **431** | **340** | **1,749** | **303** |
| Rural | 727 | 502 | 342 | 1,563 | 207 | 1,867 | 1,236 | 697 | 444 | 2,047 | 418 |
| Urban | 727 | 551 | 282 | 1,236 | 345 | 1,276 | 1,052 | 317 | 246 | 1,589 | 223 |
| **County** | | | | | | | | | | | |
| Mombasa | 100 | 177 | 427 | 331 | 710 | 607 | 173 | 303 | 180 | 2,682 | 207 |
| Kwale | 501 | 175 | 295 | 1,021 | 128 | 941 | 526 | 343 | 283 | 600 | 172 |
| Kilifi | 1,003 | . | 133 | 3,114 | 1,625 | 1,493 | 189 | 254 | 358 | 300 | 355 |
| Tana River | 1,090 | 214 | 41 | . | 263 | 100 | 444 | 622 | 367 | 2,000 | 333 |
| Lamu | 1,536 | 37 | . | . | 160 | . | 47 | 363 | 120 | 883 | 19 |
| Taita-Taveta | 307 | . | 333 | 200 | 107 | . | 251 | 130 | 135 | . | 86 |
| Garissa | 714 | . | . | . | . | . | . | . | 194 | 350 | 126 |
| Wajir | . | 477 | . | . | . | . | . | . | 478 | 300 | 30 |
| Mandera | 1,591 | 1,750 | . | . | 675 | . | . | 300 | 430 | 1,000 | 242 |
| Marsabit | 347 | . | . | . | . | . | 253 | . | 180 | . | 70 |
| Isiolo | 248 | . | . | . | . | 100 | . | 71 | 213 | . | 50 |
| Meru | 456 | 550 | 700 | 752 | 238 | 1,031 | 1,460 | 435 | 340 | . | 195 |
| Tharaka-Nithi | 688 | 500 | 188 | 2,275 | 575 | 1,193 | 1,440 | 300 | 354 | . | 222 |
| Embu | 899 | 250 | 403 | 1,795 | 100 | 1,490 | 2,022 | 778 | 717 | . | 489 |
| Kitui | 387 | . | . | . | 441 | . | 165 | 140 | 204 | . | 320 |
| Machakos | 406 | 792 | 144 | 800 | 98 | 445 | 325 | 158 | 256 | 960 | 191 |
| Makueni | 485 | 300 | 296 | . | 517 | 10,000 | 333 | 225 | 241 | . | 442 |
| Nyandarua | 1,152 | 357 | 30 | 3,295 | 142 | 1,500 | 1,766 | 735 | 475 | . | 272 |
| Nyeri | 869 | 525 | 200 | 1,169 | 831 | 1,560 | 1,471 | 524 | 523 | . | 745 |
| Kirinyaga | 587 | 925 | 360 | 869 | 279 | 1,638 | 629 | 371 | 375 | . | 327 |
| Murang'a | 777 | 583 | 424 | 1,304 | 432 | 2,695 | 2,499 | 785 | 594 | . | 196 |
| Kiambu | 411 | 0 | 348 | 750 | 400 | 374 | 303 | 308 | 215 | . | 193 |
| Turkana | 1,054 | . | . | . | . | . | . | 252 | 306 | 800 | 218 |
| West Pokot | 504 | 480 | . | . | 340 | . | 536 | 446 | 473 | 1,633 | 372 |
| Samburu | 320 | 312 | 42 | 100 | 105 | . | 359 | 146 | 304 | 203 | 90 |
| Trans Nzoia | 627 | 847 | 473 | 5,740 | 403 | 3,067 | 4,297 | 629 | 403 | 3,167 | 604 |

Table 5.36: Proximity of Dwellings to Potential Hazards in Metres (Continued)

| Residence | River/Lake | Swamp | Wetland | Quarry | Dumpsite | Factory/ Industry | Forest | Bars and Night Clubs | Worship centres | Busy Road | Busy Road |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Uasin Gishu | 428 | 302 | 271 | 933 | . | 837 | 1,512 | 258 | 217 | . | 120 |
| Elgeyo-Marakwet | 557 | 570 | 541 | 833 | 1,150 | . | 1,021 | 318 | 439 | . | 251 |
| Nandi | 535 | 752 | 644 | 2,496 | . | 1,918 | 1,592 | 1,115 | 482 | . | 668 |
| Baringo | 805 | . | . | 683 | 250 | 293 | 619 | 87 | 288 | . | 172 |
| Laikipia | 611 | 410 | 367 | 672 | 1,500 | 755 | 751 | 305 | 359 | 1,500 | 201 |
| Nakuru | 610 | 556 | 321 | 1,074 | 441 | 497 | 519 | 239 | 232 | . | 269 |
| Narok | 605 | 346 | 62 | 512 | 89 | . | 541 | 216 | 502 | 7,000 | 909 |
| Kajiado | 1,343 | . | 400 | 3,338 | . | 2,667 | 1,651 | 788 | 490 | . | 1,193 |
| Kericho | 431 | 645 | . | 1,203 | 803 | 677 | 1,020 | 307 | 406 | . | 288 |
| Bomet | 666 | 780 | 476 | 544 | 325 | 342 | 859 | 396 | 471 | 3,000 | 429 |
| Kakamega | 329 | 98 | 153 | 364 | . | . | 478 | 184 | 190 | . | 122 |
| Vihiga | 197 | . | . | 50 | . | 388 | 250 | 327 | 276 | . | 273 |
| Bungoma | 1,131 | 329 | 404 | 1,450 | 520 | 4,931 | 2,664 | 705 | 362 | . | 259 |
| Busia | 487 | 179 | 179 | 930 | 50 | . | 550 | 241 | 278 | . | 227 |
| Siaya | 1412 | 125 | 183 | 525 | 176 | . | 110 | 628 | 227 | . | 107 |
| Kisumu | 222 | 143 | 143 | 386 | 162 | 631 | 138 | 215 | 157 | 375 | 112 |
| Homabay | 598 | 489 | 117 | 1,669 | 178 | 3,000 | 4,000 | 1,360 | 310 | . | 164 |
| Migori | 509 | 174 | 87 | 1,188 | 44 | 658 | 302 | 268 | 281 | . | 143 |
| Kisii | 321 | 150 | . | 733 | 67 | 3,000 | 450 | 178 | 242 | 1,000 | 78 |
| Nyamira | 1,101 | 425 | 1,375 | 886 | . | 2,633 | 1,217 | 695 | 715 | . | 216 |
| Nairobi City | 384 | 110 | 57 | 397 | 249 | 451 | 1,345 | 220 | 146 | 6,570 | 199 |

Table 5.37 shows distribution of households' locality to areas prone to flooding & mudslides. Nationally, 19.7 per cent of households lived in areas prone to flooding, while 13.7 per cent of households lived in areas likely to experience mudslides. Distribution by residence showed that more households in urban areas were prone to flooding compared to rural areas. Households in the rural areas were more prone to mudslides than in the urban areas.

Table 5.37: Percentage of Households in Areas Prone to Flooding & Mudslides by Residence

| Residence | Flooding | | | Mudslides | | |
|---|---|---|---|---|---|---|
| | Yes | Yes, Severe | Yes, Mild | Yes | Yes, Severe | Yes, Mild |
| **Kenya** | **19.7** | **6.9** | **12.8** | **13.7** | **4.8** | **8.9** |
| **Rural** | **18.0** | **5.2** | **12.8** | **14.8** | **4.4** | **10.3** |
| **Urban** | **22.3** | **9.6** | **12.8** | **12.0** | **5.4** | **6.7** |


lak e

## 5.9 Solid Waste Disposal

Solid waste disposal is a critical aspect of environmental management. Solid waste can either be organic or inorganic. Organic waste consists of biodegradable materials that were once part of a living organism and undergo rapid decomposition. It includes food waste, yard trimmings, and other natural materials that can easily decompose and serve as a nutrient-rich soil amendment. Inorganic waste refers to waste materials that do not contain organic compounds. These substances are generally resistant to decomposition by microorganisms. Examples of inorganic waste include glass, aluminum cans, dust, and metals.

Figure 5.12 shows how households dispose of their solid wastes. Nationally, the main method of households' solid waste disposal was burning the solid waste in the open at 36.8 per cent followed by dumping in a pit at 28.6 per cent. Notably, 7.5 per cent and 2.8 per cent of households in Kenya dispose of their solid waste by dumping in the compound and dumping in the street, vacant plot or drainage respectively. This means one in ten households (10.3%) in Kenya dispose of their solid waste inappropriately.

*Figure 5.13: Primary method of Solid Waste Disposal*

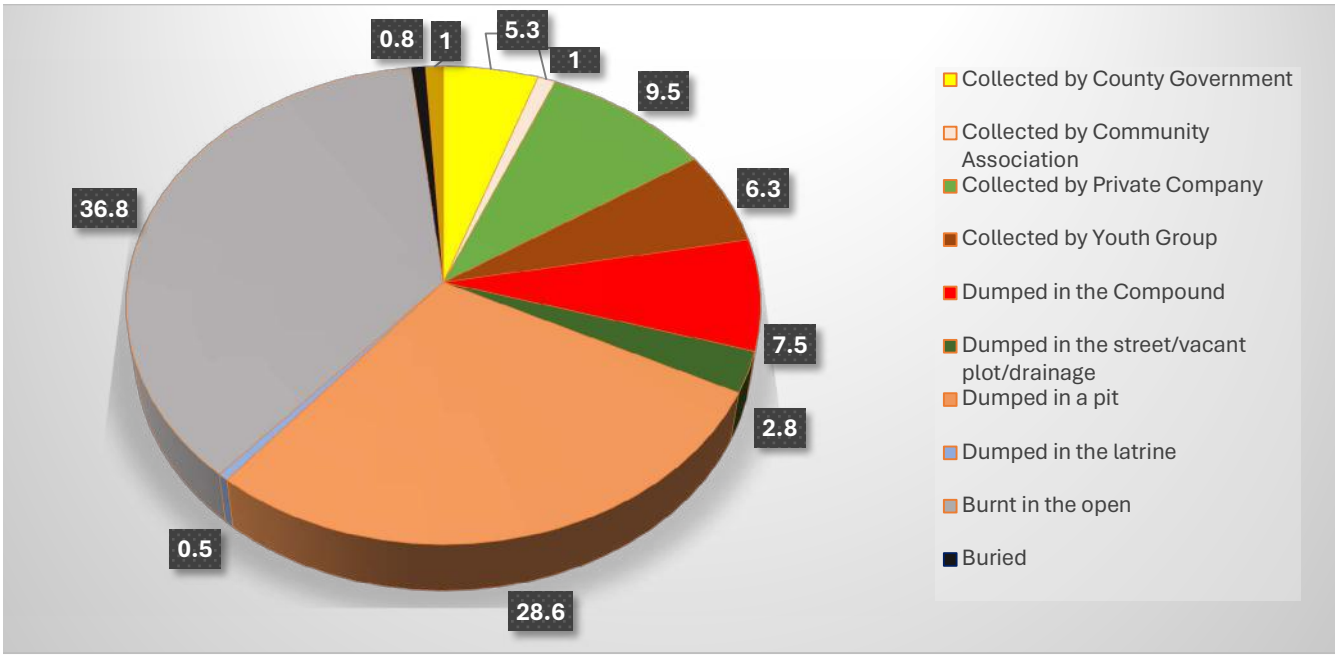



Table 5.38 shows the primary method of waste disposal used by households by residence. The most common method of waste disposal in the rural area was burning in the open at 48.2 per cent while in urban areas was collected by private company at 23.4 per cent.

**Table 5.38: Percentage Distribution of Households by Primary Method of Waste Disposal by Residence**

| | Collected by County Government | Collected by Community Association | Collected by Private Company | Collected by Youth Group | Dumped in the Compound | Dumped in the street/vacant plot/drainage | Dumped in a pit | Dumped in the latrine | Burnt in the open | Buried | Others |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Kenya | 5.3 | 1.0 | 9.5 | 6.3 | 7.5 | 2.8 | 28.6 | 0.5 | 36.8 | 0.8 | 1.0 |
| Rural | 0.7 | 0.2 | 0.7 | 0.1 | 9.6 | 1.7 | 35.9 | 0.6 | 48.2 | 1.1 | 1.1 |
| Urban | 12.6 | 2.3 | 23.4 | 16.3 | 4.0 | 4.5 | 17.0 | 0.3 | 18.6 | 0.3 | 0.7 |

The frequency of waste collection from the households by County Governments, community associations, private companies or by youth groups is as shown in Table 5.39. The frequency of waste collection was daily, twice a week, weekly, or monthly. Nationally 73.3 per cent of households reported that their waste was collected on a weekly basis, 19.2 per cent twice a week, 3.6 per cent daily and 3.8 per cent monthly. Three in four households (74.5%) in the urban areas and 49.0 per cent of the households in the rural areas had their solid waste collected on a weekly basis. More than half of the households in Tharaka-Nithi (53.7%) reported that their waste was collected daily, while 63.9 per cent of household in Embu, 71.1 per cent in Makueni and 71.7 in Homabay County reported that their solid waste was collected twice a week. More than half of the households in Wajir (57%) and Muranga (55.2%) counties reported that their solid waste was collected once a month.

**Table 5.39: Percentage Distribution of Households by Frequency of Waste Collection by County**

| | Daily | Twice a week | Weekly | Monthly |
|---|---|---|---|---|
| **Kemya** | **3.6** | **19.2** | **73.3** | **3.8** |
| Rural | 8.1 | 16.4 | 49.0 | 26.5 |
| Urban | 3.4 | 19.4 | 74.5 | 2.7 |
| **County** | | | | |
| Mombasa | 14.6 | 35.3 | 48.7 | 1.3 |
| Kwale | 9.9 | 6.3 | 72.4 | 11.3 |
| Kilifi | 10.3 | 26.4 | 63.3 | - |
| Lamu | 14.7 | 34.2 | 51.1 | - |
| Taita-Taveta | 2.3 | 39.2 | 49.3 | 9.3 |
| Garissa | 2.9 | 7.2 | 90.0 | - |
| Wajir | - | 1.3 | 41.7 | 57.0 |
| Mandera | - | 5.6 | 88.9 | 5.5 |
| Marsabit | - | 35.7 | 64.3 | - |
| Isiolo | 2.4 | 18.8 | 78.8 | - |
| Meru | 1.1 | 14.0 | 83.3 | 1.7 |
| Tharaka-Nithi | 53.7 | 13.3 | 32.1 | 0.8 |
| Embu | - | 63.9 | 36.1 | - |
| Kitui | 45.1 | 41.9 | 12.0 | 1.0 |
| Machakos | 5.3 | 40.6 | 48.8 | 5.3 |
| Makueni | 22.6 | 71.1 | 4.5 | 1.8 |
| Nyandarua | 3.6 | 34.9 | 56.8 | 4.8 |
| Nyeri | 6.2 | 25.4 | 58.0 | 10.3 |
| Kirinyaga | 1.8 | 11.4 | 67.9 | 18.9 |
| Murang'a | - | 6.1 | 38.8 | 55.2 |
| Kiambu | - | 7.6 | 84.1 | 8.3 |

| | Daily | Twice a week | Weekly | Monthly |
|---|---|---|---|---|
| Turkana | 28.6 | 28.6 | 42.9 | - |
| West Pokot | 10.4 | 4.5 | 82.9 | 2.3 |
| Samburu | 3.3 | 28.0 | 66.9 | 1.7 |
| Trans Nzoia | - | 1.7 | 98.3 | - |
| Uasin Gishu | - | 31.2 | 65.6 | 3.2 |
| Elgeyo-Marakwet | 4.6 | 48.7 | 29.5 | 17.2 |
| Nandi | 19.7 | 38.7 | 37.0 | 4.6 |
| Baringo | 3.3 | 9.7 | 53.8 | 33.2 |
| Laikipia | 5.2 | 24.6 | 70.2 | - |
| Nakuru | 0.6 | 6.6 | 86.5 | 6.2 |
| Narok | 8.1 | 50.2 | 41.2 | 0.6 |
| Kajiado | - | 21.1 | 78.9 | - |
| Kericho | 2.5 | 38.9 | 52.3 | 6.3 |
| Bomet | - | 25.5 | 73.9 | 0.6 |
| Kakamega | 12.0 | 14.4 | 71.1 | 2.4 |
| Vihiga | - | 3.3 | 96.7 | - |
| Bungoma | - | 4.7 | 80.6 | 14.7 |
| Busia | - | - | 95.6 | 4.4 |
| Siaya | - | - | 87.7 | 12.3 |
| Kisumu | - | 1.4 | 86.3 | 12.4 |
| Homabay | 3.4 | 71.7 | 24.8 | - |
| Migori | - | 17.6 | 82.4 | - |
| Kisii | 9.1 | 9.8 | 81.1 | - |
| Nyamira | 7.3 | 26.9 | 43.7 | 22.0 |
| Nairobi City | 2.1 | 17.2 | 79.6 | 1.1 |

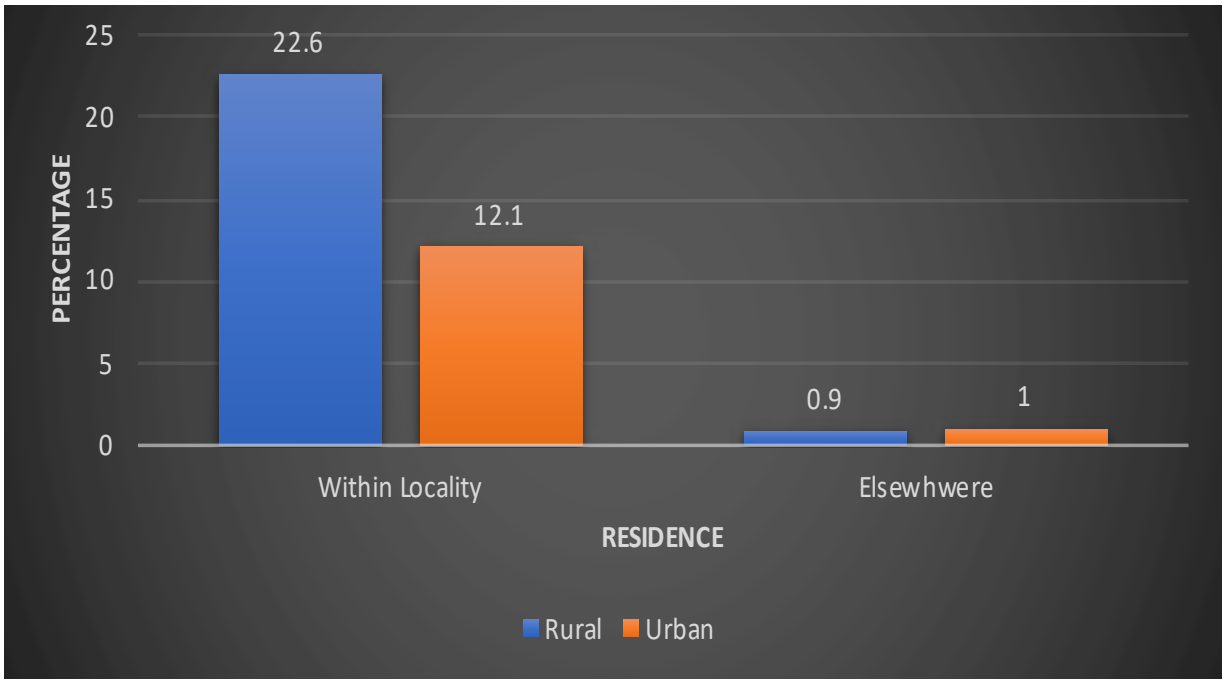
## 5.10 Membership to Associations

Resident associations are groups that are formed by residents of an area to commune together and protect the interests of the area within which they reside.

Figure 5.13 shows the proportion of households which reported to be members of residence association.

In rural areas, 22.6 per cent of household members were members of local associations, compared to 12.1 per cent in urban areas. Residents with membership to associations elsewhere was 1.0 per cent in urban areas and 0.9 per cent in rural areas respectively.

*Figure 5.14: Membership to Associations by Locality*



# CHAPTER 06

# Housing Awareness and Perceptions

## Key Findings

- Overall, 87.6 per cent of respondents reported that they felt comfortable with the residence they were occupying at the time of the survey, 60.5 per cent felt secure in their neighbourhoods at night and 15.4 per cent reported to have been victims of crime.
- Survey results show that 75.9 per cent and 83.0 per cent of those interviewed were not aware of the rules and regulations in the building sector and the minimum housing requirement respectively. Further, 45.2 per cent of respondents were of the opinion that government/ public agencies should regulate interest rates on housing loans and mortgages.
- Overall, 53.5 per cent of respondents indicated that they were aware of the affordable housing program. Nationally, 7.7 per cent of respondents reported that they were aware of the stamp duty exemption for first time homebuyers. Nationally, 11.3 per cent of the respondents were aware of the affordable housing relief with 16.2 per cent of those who were aware of the affordable housing relief reported to have benefitted from the incentive.

The 2023/24 Kenya Housing Survey collected data on respondents' perceptions of their current dwelling's comfort and security as well as their awareness of various housing aspects and regulations. One individual aged 18 years and above among the usual household members was randomly selected to respond to specific awareness questions. This chapter presents survey findings on awareness and perceptions on housing aspects.

## 6.1 Comfort in Dwellings

Dwellings are a complex socio-material arrangement that serve more than just financial purposes; they also have a functional role, requiring them to provide comfort. While comfort is a subjective concept, it can be defined as the state of fully enjoying one's current circumstances, where the present moment is perfectly satisfying, free from worries about the future or the need for significant sacrifices to achieve this state. The survey sought to ascertain the level of comfort of respondents in their dwellings. Overall 87.6 per cent of respondents aged 18 years and above reported that they felt comfortable with the residence they were occupying at the time of the survey. As shown in Table 6.1, 91.8 per cent of the target population in rural areas and 79.7 per cent of the target population in urban areas reported that they were comfortable with their current residence.

**Table 6.1: Proportion of Individuals Aged 18 years and Above who Reported they were Comfortable with their Current Residence**

| | Not Comfortable | Comfortable | Not Stated | Total |
|---|---|---|---|---|
| **Kenya** | **12.3** | **87.6** | **0.1** | **28,185,053** |
| Rural | 8.2 | 91.8 | 0 | 18,531,386 |
| Urban | 20.1 | 79.7 | 0.2 | 9,653,667 |
| **County** | | | | |
| Mombasa | 20.2 | 79.8 | 0 | 782,450 |
| Kwale | 12.2 | 87.8 | 0 | 517,666 |
| Kilifi | 9.9 | 90.1 | 0 | 858,379 |
| Tana River | 29.6 | 70.4 | 0 | 158,531 |
| Lamu | 4.3 | 95.7 | 0 | 103,172 |
| Taita-Taveta | 5.2 | 94.8 | 0 | 212,006 |
| Garissa | 1.4 | 98.6 | 0 | 497,232 |
| Wajir | 4.4 | 95.6 | 0 | 446,582 |
| Mandera | 14.4 | 85.6 | 0 | 360,427 |
| Marsabit | 2.2 | 97.8 | 0 | 236,235 |
| Isiolo | 3.7 | 96.3 | 0 | 140,195 |
| Meru | 17.4 | 82.6 | 0 | 965,240 |
| Tharaka-Nithi | 10.8 | 89.2 | 0 | 234,659 |
| Embu | 16.5 | 83.5 | 0 | 423,095 |
| Kitui | 7.1 | 92.9 | 0 | 675,990 |
| Machakos | 11.9 | 88.1 | 0 | 906,382 |
| Makueni | 7.3 | 92.7 | 0 | 651,569 |
| Nyandarua | 15.6 | 84.4 | 0 | 403,392 |
| Nyeri | 6.9 | 93.1 | 0 | 529,451 |
| Kirinyaga | 10.0 | 90.0 | 0 | 418,563 |
| Murang'a | 7.3 | 92.7 | 0 | 648,880 |
| Kiambu | 14.8 | 84.1 | 1.2 | 1,562,302 |
| Turkana | 9.8 | 90.2 | 0 | 393,839 |
| West Pokot | 9.1 | 90.9 | 0 | 301,155 |
| Samburu | 5.2 | 94.8 | 0 | 134,807 |
| Trans Nzoia | 7.5 | 92.2 | 0.3 | 589,829 |

| | Not Comfortable | Comfortable | Not Stated | Total |
|---|---|---|---|---|
| Uasin Gishu | 4.9 | 95.1 | 0 | 723,932 |
| Elgeyo-Marakwet | 10.5 | 89.5 | 0 | 246,373 |
| Nandi | 2.5 | 97.5 | 0 | 538,299 |
| Baringo | 9.5 | 90.5 | 0 | 339,062 |
| Laikipia | 18.2 | 81.8 | 0 | 330,961 |
| Nakuru | 13.2 | 86.8 | 0 | 1,281,346 |
| Narok | 4.2 | 95.8 | 0 | 581,781 |
| Kajiado | 27.0 | 73.0 | 0 | 753,613 |
| Kericho | 3.2 | 96.8 | 0 | 528,064 |
| Bomet | 5.6 | 94.4 | 0 | 496,555 |
| Kakamega | 2.2 | 97.8 | 0 | 1,145,830 |
| Vihiga | 1.9 | 97.7 | 0.4 | 350,577 |
| Bungoma | 11.7 | 88.0 | 0.3 | 896,366 |
| Busia | 2.6 | 97.4 | 0 | 505,047 |
| Siaya | 6.3 | 93.7 | 0 | 550,475 |
| Kisumu | 12.4 | 87.4 | 0.2 | 672,041 |
| Homabay | 2.8 | 97.2 | 0 | 523,438 |
| Migori | 18.6 | 81.4 | 0 | 521,546 |
| Kisii | 6.8 | 93.2 | 0 | 766,133 |
| Nyamira | 12.5 | 87.5 | 0 | 325,375 |
| Nairobi City | 31.0 | 69.0 | 0 | 2,956,206 |

## 6.2 Neighbourhood Safety

Table 6.2 provides proportions of persons aged 18 years and above who felt secure in their neighbourhood at night. Nationally, 60.5 per cent of respondents aged 18 years and above reported that they felt secure in their neighbourhoods at night. In rural areas, 64.6 per cent of the adult population and 52.6 per cent of adults in urban areas reported that they felt secure at night.

**Table 6.2: Proportion of Persons Aged 18 years and Above who Felt Secure in their Neighbourhood at Night**

| | No | Yes | Not Stated | Respondent Count |
|---|---|---|---|---|
| **Kenya** | **28.1** | **60.5** | **11.4** | **28,185,053** |
| Rural | 25.3 | 64.6 | 10.1 | 18,531,386 |
| Urban | 33.5 | 52.6 | 13.9 | 9,653,667 |
| **County** | | | | |
| Mombasa | 36.4 | 40.2 | 23.4 | 782,450 |
| Kwale | 10.7 | 76.9 | 12.4 | 517,666 |
| Kilifi | 7.6 | 85.8 | 6.6 | 858,379 |
| Tana River | 22.3 | 69.8 | 7.9 | 158,531 |
| Lamu | 19.7 | 72.2 | 8.2 | 103,172 |
| Taita-Taveta | 16 | 82.1 | 1.9 | 212,006 |
| Garissa | 11.8 | 82.1 | 6.1 | 497,232 |
| Wajir | 26.7 | 64.2 | 9.0 | 446,582 |
| Mandera | 9.1 | 76 | 14.9 | 360,427 |
| Marsabit | 27.3 | 72.5 | 0.2 | 236,235 |
| Isiolo | 47.1 | 52.1 | 0.8 | 140,195 |
| Meru | 36.9 | 51.6 | 11.5 | 965,240 |
| Tharaka-Nithi | 21.4 | 73.8 | 4.8 | 234,659 |
| Embu | 21.6 | 66.7 | 11.7 | 423,095 |
| Kitui | 27.4 | 71.4 | 1.2 | 675,990 |
| Machakos | 28.6 | 62.3 | 9.1 | 906,382 |
| Makueni | 17.9 | 57.5 | 24.6 | 651,569 |
| Nyandarua | 34.4 | 60.8 | 4.8 | 403,392 |
| Nyeri | 13.9 | 75.8 | 10.3 | 529,451 |
| Kirinyaga | 22.5 | 61.4 | 16.1 | 418,563 |
| Murang'a | 25.1 | 70.3 | 4.7 | 648,880 |
| Kiambu | 32.7 | 48.4 | 18.9 | 1,562,302 |
| Turkana | 28.2 | 68.1 | 3.6 | 393,839 |
| West Pokot | 3.3 | 89.4 | 7.2 | 301,155 |
| Samburu | 48.4 | 48.8 | 2.8 | 134,807 |
| Trans Nzoia | 42.9 | 41.2 | 15.9 | 589,829 |
| Uasin Gishu | 21.1 | 74.9 | 4.0 | 723,932 |
| Elgeyo-Marakwet | 15.0 | 84.5 | 0.5 | 246,373 |
| Nandi | 19.3 | 71.7 | 9.0 | 538,299 |
| Baringo | 27.4 | 65.6 | 7.0 | 339,062 |
| Laikipia | 25.6 | 28.2 | 46.2 | 330,961 |
| Nakuru | 33.0 | 54.8 | 12.2 | 1,281,346 |
| Narok | 9.6 | 89 | 1.4 | 581,781 |
| Kajiado | 72.4 | 24 | 3.7 | 753,613 |
| Kericho | 12.8 | 75.9 | 11.3 | 528,064 |
| Bomet | 2.0 | 93.1 | 4.9 | 496,555 |
| Kakamega | 42.3 | 47.7 | 10.0 | 1,145,830 |
| Vihiga | 56.9 | 24.6 | 18.5 | 350,577 |
| Bungoma | 36.3 | 55.9 | 7.8 | 896,366 |
| Busia | 18.9 | 54.0 | 27.0 | 505,047 |
| Siaya | 31.0 | 55.5 | 13.5 | 550,475 |
| Kisumu | 30.1 | 47.9 | 22.0 | 672,041 |
| Homabay | 7.4 | 83.3 | 9.3 | 523,438 |
| Migori | 39.9 | 40.3 | 19.8 | 521,546 |
| Kisii | 33.9 | 61.3 | 4.8 | 766,133 |
| Nyamira | 31.1 | 66.2 | 2.7 | 325,375 |
| Nairobi City | 32.3 | 54.3 | 13.4 | 2,956,206 |

## 6.3 Incidence of Crime

Table 6.3 illustrates the proportion of individuals aged 18 years and above who fell victim to crime within their locality over the 12 months preceding the survey, by residence and county. Nationally, 15.4 per cent of respondents reported being victims of crime. In urban and rural areas, 17.6 per cent and 14.3 per cent of respondents, respectively, reported that they had been victims of crime.

**Table 6.3: Proportion of Persons aged 18 years and Above who have been Victims of Crime within their Locality in the 12 months Preceding the survey.**

| | No | Yes | Not Stated | Respondent Count |
|---|---|---|---|---|
| **Kenya** | **84.5** | **15.4** | **0.1** | **28,185,053** |
| Rural | 85.7 | 14.3 | 0 | 18,531,386 |
| Urban | 82.2 | 17.6 | 0.2 | 9,653,667 |
| **County** | | | | |
| Mombasa | 85.3 | 14.7 | 0 | 782,450 |
| Kwale | 95.3 | 4.7 | 0 | 517,666 |
| Kilifi | 87.9 | 12.1 | 0 | 858,379 |
| Tana River | 89.9 | 10.1 | 0 | 158,531 |
| Lamu | 97.3 | 2.7 | 0 | 103,172 |
| Taita-Taveta | 75.5 | 24.5 | 0 | 212,006 |
| Garissa | 92.5 | 7.5 | 0 | 497,232 |
| Wajir | 88.9 | 11.1 | 0 | 446,582 |
| Mandera | 95.8 | 4.2 | 0 | 360,427 |
| Marsabit | 96.0 | 4.0 | 0 | 236,235 |
| Isiolo | 83.0 | 17.0 | 0 | 140,195 |
| Meru | 70.2 | 29.8 | 0 | 965,240 |
| Tharaka-Nithi | 80.3 | 19.7 | 0 | 234,659 |
| Embu | 85.4 | 14.6 | 0 | 423,095 |
| Kitui | 84.3 | 15.7 | 0 | 675,990 |
| Machakos | 82.2 | 17.8 | 0 | 906,382 |
| Makueni | 97.1 | 2.9 | 0 | 651,569 |
| Nyandarua | 86.0 | 14.0 | 0 | 403,392 |
| Nyeri | 73.7 | 26.3 | 0 | 529,451 |
| Kirinyaga | 75.1 | 24.9 | 0 | 418,563 |
| Murang'a | 70.8 | 29.2 | 0 | 648,880 |
| Kiambu | 86.4 | 12.4 | 1.2 | 1,562,302 |
| Turkana | 90.4 | 9.6 | 0 | 393,839 |
| West Pokot | 94.5 | 5.5 | 0 | 301,155 |
| Samburu | 89.9 | 10.1 | 0 | 134,807 |
| Trans Nzoia | 85.4 | 14.2 | 0.3 | 589,829 |
| Uasin Gishu | 80.4 | 19.6 | 0 | 723,932 |
| Elgeyo-Marakwet | 87.6 | 12.4 | 0 | 246,373 |
| Nandi | 83.3 | 16.7 | 0 | 538,299 |
| Baringo | 91.9 | 8.1 | 0 | 339,062 |
| Laikipia | 69.3 | 30.7 | 0 | 330,961 |
| Nakuru | 85.2 | 14.8 | 0 | 1,281,346 |
| Narok | 93.9 | 6.1 | 0 | 581,781 |
| Kajiado | 88.4 | 11.6 | 0 | 753,613 |
| Kericho | 99.2 | 0.8 | 0 | 528,064 |
| Bomet | 93.7 | 6.3 | 0 | 496,555 |
| Kakamega | 84.6 | 15.4 | 0 | 1,145,830 |
| Vihiga | 95.4 | 4.3 | 0.4 | 350,577 |
| Bungoma | 90.3 | 9.4 | 0.3 | 896,366 |
| Busia | 91.5 | 8.5 | 0 | 505,047 |
| Siaya | 73.2 | 26.8 | 0 | 550,475 |
| Kisumu | 84.9 | 14.9 | 0.2 | 672,041 |
| Homabay | 85.6 | 14.4 | 0 | 523,438 |
| Migori | 82.5 | 17.5 | 0 | 521,546 |
| Kisii | 79.5 | 20.5 | 0 | 766,133 |
| Nyamira | 90.6 | 9.4 | 0 | 325,375 |
| Nairobi City | 75.5 | 24.5 | 0 | 2,956,206 |

## 6.4 Awareness of Rules and Regulations in the Building Sector

The building and construction sector is governed by rules and regulations found in a variety of publications. These laws govern the payment of fees, obtaining pre-construction approvals, development controls and zoning regulations; and obtaining building permits and certificates of occupation. The key publications include, but are not limited to, the Physical and Land Use Planning Act, 2019, the Building Code, the Planning and Building Regulations, 2009, the National Building Regulations, 2015, and the Environmental Management and Coordination Act, 1999.

Table 6.4 presents the proportion of persons aged 18 years and above who were aware of the rules and regulations in the building sector. Nationally, 75.9 per cent of the target population were not aware of the rules and regulations in the building sector. In rural and urban areas, 79.5 per cent and 69.1 per cent respectively of respondents were not aware of the rules and regulations in the building sector.

**75.9%**

Nationally, 75.9 per cent of the target population were not aware of the rules and regulations in the building sector

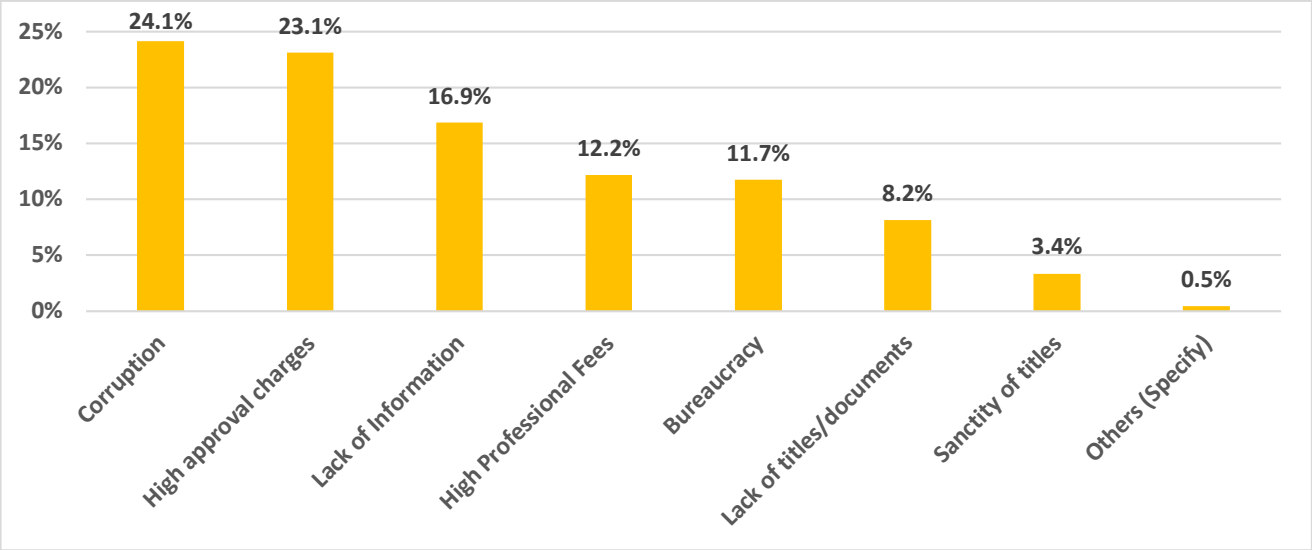
**Table 6.4: Proportion of Persons Aged 18 years and Above who were aware of the Rules and Regulations in the Building Sector**

| | Not Aware | Aware | Not Stated | Respondent Count |
|---|---|---|---|---|
| **Kenya** | **75.9** | **24.0** | **0.1** | **28,185,053** |
| Rural | 79.5 | 20.5 | 0 | 18,531,386 |
| Urban | 69.1 | 30.7 | 0.2 | 9,653,667 |
| **County** | | | | |
| Mombasa | 74.5 | 25.5 | 0 | 782,450 |
| Kwale | 89.7 | 10.3 | 0 | 517,666 |
| Kilifi | 83.6 | 16.4 | 0 | 858,379 |
| Tana River | 79.2 | 20.8 | 0 | 158,531 |
| Lamu | 96.2 | 3.8 | 0 | 103,172 |
| Taita-Taveta | 66.1 | 33.9 | 0 | 212,006 |
| Garissa | 98.0 | 2.0 | 0 | 497,232 |
| Wajir | 97.5 | 2.5 | 0 | 446,582 |
| Mandera | 96.7 | 3.3 | 0 | 360,427 |
| Marsabit | 88.8 | 11.2 | 0 | 236,235 |
| Isiolo | 85.7 | 14.3 | 0 | 140,195 |
| Meru | 78.8 | 21.2 | 0 | 965,240 |
| Tharaka-Nithi | 83.4 | 16.6 | 0 | 234,659 |
| Embu | 79.0 | 21.0 | 0 | 423,095 |
| Kitui | 92.2 | 7.8 | 0 | 675,990 |
| Machakos | 73.4 | 26.6 | 0 | 906,382 |
| Makueni | 52.4 | 47.6 | 0 | 651,569 |
| Nyandarua | 71.6 | 28.4 | 0 | 403,392 |
| Nyeri | 67.2 | 32.8 | 0 | 529,451 |
| Kirinyaga | 63.4 | 36.6 | 0 | 418,563 |
| Murang'a | 72.6 | 27.4 | 0 | 648,880 |
| Kiambu | 66.9 | 31.9 | 1.2 | 1,562,302 |
| Turkana | 73.9 | 26.1 | 0 | 393,839 |
| West Pokot | 95.0 | 5.0 | 0 | 301,155 |
| Samburu | 76.9 | 23.1 | 0 | 134,807 |
| Trans Nzoia | 82.4 | 17.3 | 0.3 | 589,829 |
| Uasin Gishu | 77.9 | 22.1 | 0 | 723,932 |
| Elgeyo-Marakwet | 79.2 | 20.8 | 0 | 246,373 |
| Nandi | 82.5 | 17.5 | 0 | 538,299 |
| Baringo | 71.1 | 28.9 | 0 | 339,062 |
| Laikipia | 69.7 | 30.3 | 0 | 330,961 |
| Nakuru | 48.7 | 51.3 | 0 | 1,281,346 |
| Narok | 84.2 | 15.8 | 0 | 581,781 |
| Kajiado | 93.0 | 7.0 | 0 | 753,613 |
| Kericho | 89.6 | 10.4 | 0 | 528,064 |
| Bomet | 75.0 | 25.0 | 0 | 496,555 |
| Kakamega | 82.8 | 17.2 | 0 | 1,145,830 |
| Vihiga | 94.9 | 4.7 | 0.4 | 350,577 |
| Bungoma | 86.5 | 13.2 | 0.3 | 896,366 |
| Busia | 82.0 | 18.0 | 0 | 505,047 |
| Siaya | 64.7 | 35.3 | 0 | 550,475 |
| Kisumu | 74.3 | 25.6 | 0.2 | 672,041 |
| Homabay | 85.0 | 15.0 | 0 | 523,438 |
| Migori | 37.1 | 62.9 | 0 | 521,546 |
| Kisii | 72.4 | 27.6 | 0 | 766,133 |
| Nyamira | 73.8 | 26.2 | 0 | 325,375 |
| Nairobi City | 69.7 | 30.3 | 0 | 2,956,206 |

## 6.5 Challenges Associated with the Implementation of Regulations in the Building Sector

Amongst the respondents who were aware of the rules and regulations in the building sector, 24.1 per cent and 23.1 per cent cited the sanctity of titles and corruption as the main challenges associated with implementing rules and regulations in the building sector.

*Figure 6.1: Challenges associated with the Implementation of Regulations in the Building Sector*




## 6.6 Awareness on the Minimum Housing Requirement

The housing policy sets out the minimum requirements for adequate housing as one with sufficient privacy; space- a minimum floor space of seven square meters per member of the household; accessibility; adequate security; security of tenure; structurally stable; adequate lighting, heating and ventilation; adequate basic infrastructure; cultural adequacy; suitable environmental quality and health-related factors; and adequate and accessible location with regard to work and basic facilities.

Table 6.5 presents the proportion of adult population who were aware of the minimum housing requirement. The survey revealed that nationally, 83.0 per cent of respondents were not aware of the minimum housing requirement. Makueni County had the highest proportion of respondents at 58.9 per cent that were aware of the requirement.

Table 6.5: Proportion of Persons Aged 18 years and Above who are Aware of the Minimum Housing Requirement

| | Not Aware | Aware | Not Stated | Respondent Count |
|---|---|---|---|---|
| **Kenya** | **83.0** | **16.9** | **0.1** | **28,185,053** |
| Rural | 83.9 | 16.1 | 0 | 18,531,386 |
| Urban | 81.3 | 18.5 | 0.2 | 9,653,667 |
| **County** | | | | |
| Mombasa | 74.8 | 25.2 | 0 | 782,450 |
| Kwale | 95.9 | 4.1 | 0 | 517,666 |
| Kilifi | 87.8 | 12.2 | 0 | 858,379 |
| Tana River | 81.3 | 18.7 | 0 | 158,531 |
| Lamu | 97.8 | 2.2 | 0 | 103,172 |
| Taita-Taveta | 77.6 | 22.4 | 0 | 212,006 |
| Garissa | 97.5 | 2.5 | 0 | 497,232 |
| Wajir | 96.3 | 3.7 | 0 | 446,582 |
| Mandera | 97.3 | 2.7 | 0 | 360,427 |
| Marsabit | 90.5 | 9.5 | 0 | 236,235 |
| Isiolo | 91.0 | 9.0 | 0 | 140,195 |
| Meru | 88.2 | 11.8 | 0 | 965,240 |
| Tharaka-Nithi | 94.8 | 5.2 | 0 | 234,659 |
| Embu | 83.2 | 16.8 | 0 | 423,095 |
| Kitui | 65.5 | 34.5 | 0 | 675,990 |
| Machakos | 75.5 | 24.5 | 0 | 906,382 |
| Makueni | 41.1 | 58.9 | 0 | 651,569 |
| Nyandarua | 83.1 | 16.9 | 0 | 403,392 |
| Nyeri | 74.7 | 25.3 | 0 | 529,451 |
| Kirinyaga | 82.4 | 17.6 | 0 | 418,563 |
| Murang'a | 76.5 | 23.5 | 0 | 648,880 |
| Kiambu | 88.4 | 10.4 | 1.2 | 1,562,302 |
| Turkana | 77.2 | 22.8 | 0 | 393,839 |
| West Pokot | 96.8 | 3.2 | 0 | 301,155 |
| Samburu | 64.1 | 35.9 | 0 | 134,807 |
| Trans Nzoia | 70.2 | 29.5 | 0.3 | 589,829 |
| Uasin Gishu | 86.7 | 13.3 | 0 | 723,932 |
| Elgeyo-Marakwet | 92.8 | 7.2 | 0 | 246,373 |
| Nandi | 88.1 | 11.9 | 0 | 538,299 |
| Baringo | 92.9 | 7.1 | 0 | 339,062 |
| Laikipia | 72.4 | 27.6 | 0 | 330,961 |
| Nakuru | 79.3 | 20.7 | 0 | 1,281,346 |
| Narok | 82.4 | 17.6 | 0 | 581,781 |
| Kajiado | 94.0 | 6.0 | 0 | 753,613 |
| Kericho | 93.9 | 6.1 | 0 | 528,064 |
| Bomet | 76.2 | 23.8 | 0 | 496,555 |
| Kakamega | 98.7 | 1.3 | 0 | 1,145,830 |
| Vihiga | 95.8 | 3.8 | 0.4 | 350,577 |
| Bungoma | 97.5 | 2.2 | 0.3 | 896,366 |
| Busia | 89.9 | 10.1 | 0 | 505,047 |
| Siaya | 62.4 | 37.6 | 0 | 550,475 |
| Kisumu | 55.5 | 44.3 | 0.2 | 672,041 |
| Homabay | 90.0 | 10.0 | 0 | 523,438 |
| Migori | 79.4 | 20.6 | 0 | 521,546 |
| Kisii | 80.8 | 19.2 | 0 | 766,133 |
| Nyamira | 63.2 | 36.8 | 0 | 325,375 |
| Nairobi City | 84.5 | 15.5 | 0 | 2,956,206 |

Table 6.6 shows the proportion of respondents who were aware of the minimum housing requirements and considered them useful. Nationally, 90.8 per cent of those aware of these housing requirements reported that they considered them useful.

**90.8%**

The percentage of those aware of these housing requirements who considered them useful.

Table 6.6: Proportion of Persons Aged 18 years and Above who Consider the Minimum Housing Requirement Useful

| Residence/County | Not Aware | Aware | Respondent Count |
|---|---|---|---|
| **Kenya** | **9.2** | **90.8** | **4,770,545** |
| Rural | 9.0 | 91.0 | 2,985,581 |
| Urban | 9.4 | 90.6 | 1,784,963 |
| **County** | | | |
| Mombasa | 6.8 | 93.2 | 197,156 |
| Kwale | 37.1 | 62.9 | 21,170 |
| Kilifi | 4.1 | 95.9 | 104,402 |
| Tana River | 29.3 | 70.7 | 29,649 |
| Lamu | 8.6 | 91.4 | 2,225 |
| Taita-Taveta | 3.1 | 96.9 | 47,393 |
| Garissa | 4.9 | 95.1 | 12,379 |
| Wajir | 13.1 | 86.9 | 16,569 |
| Mandera | 2.1 | 97.9 | 9,688 |
| Marsabit | 15.0 | 85.0 | 22,528 |
| Isiolo | 18.8 | 81.2 | 12,617 |
| Meru | 10.5 | 89.5 | 113,632 |
| Tharaka-Nithi | 5.6 | 94.4 | 12,285 |
| Embu | 21.0 | 79.0 | 70,990 |
| Kitui | 21.9 | 78.1 | 233,318 |
| Machakos | 4.5 | 95.5 | 222,290 |
| Makueni | 2.8 | 97.2 | 383,958 |
| Nyandarua | 15.6 | 84.4 | 68,101 |
| Nyeri | 6.6 | 93.4 | 133,818 |
| Kirinyaga | 12.6 | 87.4 | 73,871 |
| Murang'a | 3.8 | 96.2 | 152,605 |
| Kiambu | 16.0 | 84.0 | 163,168 |
| Turkana | 21.9 | 78.1 | 89,663 |
| West Pokot | 55.1 | 44.9 | 9,626 |
| Samburu | 4.4 | 95.6 | 48,448 |
| Trans Nzoia | 5.3 | 94.7 | 173,981 |
| Uasin Gishu | 6.4 | 93.6 | 96,159 |
| Elgeyo-Marakwet | 20.4 | 79.6 | 17,782 |
| Nandi | 11.3 | 88.7 | 63,891 |
| Baringo | 19.8 | 80.2 | 24,243 |
| Laikipia | 6.2 | 93.8 | 91,251 |
| Nakuru | 10.1 | 89.9 | 265,230 |
| Narok | 7.5 | 92.5 | 102,139 |
| Kajiado | 24.8 | 75.2 | 45,228 |
| Kericho | 6.2 | 93.8 | 32,456 |
| Bomet | 2.8 | 97.2 | 118,411 |
| Kakamega | 11.2 | 88.8 | 14,339 |
| Vihiga | 10.1 | 89.9 | 13,219 |
| Bungoma | 5.5 | 94.5 | 20,128 |
| Busia | 39.4 | 60.6 | 51,255 |
| Siaya | 2.2 | 97.8 | 206,918 |
| Kisumu | 4.4 | 95.6 | 297,612 |
| Homabay | 4.8 | 95.2 | 52,364 |
| Migori | 23.4 | 76.6 | 107,321 |
| Kisii | 9.1 | 90.9 | 146,898 |
| Nyamira | 2.5 | 97.5 | 119,781 |
| Nairobi City | 7.2 | 92.8 | 458,394 |

## 6.7 Rent Regulation

Rent control programs aim to limit how much landlords can charge for leasing or renewing a lease to keep housing affordable for lower-income residents. Proponents argue that rent control helps people with moderate incomes and elderly residents on fixed incomes stay in their homes, especially as rising prices from gentrification threaten their ability to afford housing. They also believe that rent control is necessary because rental prices are often increasing faster than wages, and controlling rent can prevent sudden, unaffordable hikes, allowing families to live without fear of displacement. Additionally, they claim that communities become safer and more stable with a core group of long-term residents.

In contrast, opponents argue that rent control reduces the availability of quality housing, as landlords may convert properties to other uses to avoid profit-limiting regulations. They claim that rent control discourages investment in new rental properties and leads to poor maintenance of existing buildings due to limited financial returns for landlords.

Table 6.7 presents the proportion of respondents who reported that the government / agencies should regulate rent. Nationally, 37.6 per cent of the respondents reported that government/public agencies should regulate house rent.

Table 6.8 presents the distribution of respondents on the opinion that government/public agencies should regulate interest rates on housing loans and mortgages. Nationally, 45.2 per cent of the respondents were of the opinion that government/ public agencies should regulate interest rates on housing loans and mortgages.

### Table 6.7 Proportion of Adult Population who think that Government/Public Agencies Should Regulate Rent

| | No | Yes | Respondent Count |
|---|---|---|---|
| **Kenya** | **62.4** | **37.6** | **28,185,053** |
| Rural | 64.2 | 35.8 | 18,531,386 |
| Urban | 59.0 | 41.0 | 9,653,667 |
| **County** | | | |
| Mombasa | 71.8 | 28.2 | 782,450 |
| Kwale | 84.0 | 16.0 | 517,666 |
| Kilifi | 56.3 | 43.7 | 858,379 |
| Tana River | 63.7 | 36.3 | 158,531 |
| Lamu | 46.8 | 53.2 | 103,172 |
| Taita-Taveta | 74.7 | 25.3 | 212,006 |
| Garissa | 90.3 | 9.7 | 497,232 |
| Wajir | 91.9 | 8.1 | 446,582 |
| Mandera | 17.7 | 82.3 | 360,427 |
| Marsabit | 87.8 | 12.2 | 236,235 |
| Isiolo | 96.4 | 3.6 | 140,195 |
| Meru | 68.9 | 31.1 | 965,240 |
| Tharaka-Nithi | 52.2 | 47.8 | 234,659 |
| Embu | 70.1 | 29.9 | 423,095 |
| Kitui | 67.2 | 32.8 | 675,990 |
| Machakos | 32.3 | 67.7 | 906,382 |
| Makueni | 22.6 | 77.4 | 651,569 |
| Nyandarua | 46.2 | 53.8 | 403,392 |
| Nyeri | 65.3 | 34.7 | 529,451 |
| Kirinyaga | 44.9 | 55.1 | 418,563 |
| Murang'a | 64.0 | 36.0 | 648,880 |
| Kiambu | 71.7 | 28.3 | 1,562,302 |
| Turkana | 88.5 | 11.5 | 393,839 |
| West Pokot | 72.8 | 27.2 | 301,155 |
| Samburu | 54.8 | 45.2 | 134,807 |
| Trans Nzoia | 34.5 | 65.5 | 589,829 |
| Uasin Gishu | 62.4 | 37.6 | 723,932 |
| Elgeyo-Marakwet | 57.3 | 42.7 | 246,373 |
| Nandi | 41.7 | 58.3 | 538,299 |
| Baringo | 63.9 | 36.1 | 339,062 |
| Laikipia | 30.3 | 69.7 | 330,961 |
| Nakuru | 60.3 | 39.7 | 1,281,346 |
| Narok | 67.1 | 32.9 | 581,781 |
| Kajiado | 82.1 | 17.9 | 753,613 |
| Kericho | 61.8 | 38.2 | 528,064 |
| Bomet | 58.4 | 41.6 | 496,555 |
| Kakamega | 87.8 | 12.2 | 1,145,830 |
| Vihiga | 78.7 | 21.3 | 350,577 |
| Bungoma | 70.7 | 29.3 | 896,366 |
| Busia | 91.4 | 8.6 | 505,047 |
| Siaya | 78.2 | 21.8 | 550,475 |
| Kisumu | 62.5 | 37.5 | 672,041 |
| Homabay | 69.1 | 30.9 | 523,438 |
| Migori | 32.3 | 67.7 | 521,546 |
| Kisii | 54.5 | 45.5 | 766,133 |
| Nyamira | 52.3 | 47.7 | 325,375 |
| Nairobi City | 53.8 | 46.2 | 2,956,206 |

Table 6.8: Percentage Distribution on the Opinion that Government/Public Agencies should Regulate Interest Rates on Housing Loans and Mortgages

| | No | Yes | Not Stated | Respondent Count |
|---|---|---|---|---|
| **Kenya** | **54.6** | **45.2** | **0.1** | **28,185,053** |
| Rural | 56.6 | 43.4 | 0.1 | 18,531,386 |
| Urban | 50.9 | 48.9 | 0.2 | 9,653,667 |
| **County** | | | | |
| Mombasa | 71.1 | 28.9 | 0 | 782,450 |
| Kwale | 66.9 | 33.1 | 0 | 517,666 |
| Kilifi | 51.1 | 48.9 | 0 | 858,379 |
| Tana River | 72.0 | 28.0 | 0 | 158,531 |
| Lamu | 47.0 | 53.0 | 0 | 103,172 |
| Taita-Taveta | 60.5 | 39.5 | 0 | 212,006 |
| Garissa | 81.6 | 18.4 | 0 | 497,232 |
| Wajir | 92.0 | 8.0 | 0 | 446,582 |
| Mandera | 36.0 | 64.0 | 0 | 360,427 |
| Marsabit | 88.5 | 11.5 | 0 | 236,235 |
| Isiolo | 95.0 | 5.0 | 0 | 140,195 |
| Meru | 39.3 | 60.7 | 0 | 965,240 |
| Tharaka-Nithi | 44.0 | 56.0 | 0 | 234,659 |
| Embu | 72.2 | 27.8 | 0 | 423,095 |
| Kitui | 65.0 | 35.0 | 0 | 675,990 |
| Machakos | 27.9 | 72.1 | 0 | 906,382 |
| Makueni | 26.6 | 73.4 | 0 | 651,569 |
| Nyandarua | 39.8 | 60.2 | 0 | 403,392 |
| Nyeri | 53.7 | 46.3 | 0 | 529,451 |
| Kirinyaga | 38.0 | 62.0 | 0 | 418,563 |
| Murang'a | 29.1 | 70.9 | 0 | 648,880 |
| Kiambu | 54.4 | 44.5 | 1.2 | 1,562,302 |
| Turkana | 61.0 | 39.0 | 0 | 393,839 |
| West Pokot | 65.8 | 34.2 | 0 | 301,155 |
| Samburu | 38.0 | 62.0 | 0 | 134,807 |
| Trans Nzoia | 30.7 | 68.9 | 0.3 | 589,829 |
| Uasin Gishu | 59.0 | 41.0 | 0 | 723,932 |
| Elgeyo-Marakwet | 53.6 | 46.4 | 0 | 246,373 |
| Nandi | 38.5 | 61.5 | 0 | 538,299 |
| Baringo | 49.1 | 50.9 | 0 | 339,062 |
| Laikipia | 26.3 | 73.7 | 0 | 330,961 |
| Nakuru | 47.1 | 52.9 | 0 | 1,281,346 |
| Narok | 64.7 | 35.3 | 0 | 581,781 |
| Kajiado | 83.4 | 16.6 | 0 | 753,613 |
| Kericho | 57.1 | 42.9 | 0 | 528,064 |
| Bomet | 55.1 | 44.9 | 0 | 496,555 |
| Kakamega | 93.6 | 6.4 | 0 | 1,145,830 |
| Vihiga | 44.1 | 55.5 | 0.4 | 350,577 |
| Bungoma | 50.4 | 49.3 | 0.3 | 896,366 |
| Busia | 83.1 | 16.9 | 0 | 505,047 |
| Siaya | 78.7 | 21.3 | 0 | 550,475 |
| Kisumu | 54.9 | 44 | 1.1 | 672,041 |
| Homabay | 63.3 | 36.7 | 0 | 523,438 |
| Migori | 29.0 | 71.0 | 0 | 521,546 |
| Kisii | 44.3 | 55.7 | 0 | 766,133 |
| Nyamira | 54.3 | 45.7 | 0 | 325,375 |
| Nairobi City | 47.6 | 52.4 | 0 | 2,956,206 |

## 6.8: Affordable Housing Program

Kenya is required to uphold economic and social rights, such as the right to sufficient housing, as a party to the International Covenant on Economic, Social, and Cultural Rights (ICESCR). Economic and social rights are expressly provided for in Kenya's Constitution, Article 43. Sub-article (1)(b) explicitly states that every person has the right to accessible and adequate housing and (to) reasonable standards of sanitation. To ensure that low- and middle-income households have access to adequate and affordable housing, the government launched the Affordable Housing Program (AHP), an ambitious initiative that aims to enable the building of 200,000 affordable housing units annually.

Table 6.9 presents the proportion of respondents who were aware of the affordable housing scheme/program. Nationally, 53.5 per cent of the respondents indicated that they were aware of the affordable housing program.

Under the AHP, the government has provided incentives to encourage and eventually increase homeownership for Kenyans. These include: -

01. **Stamp duty exemption for first-time homebuyers:** Stamp duty is charged on the market value of the property at the rate of four per cent in towns and two per cent in rural areas. Currently, the exemption from stamp duty applies to first-time homebuyers of approved affordable housing units. This strategy is aimed at reducing the cost of home ownership.

02. **Affordable Housing relief at 15% of employee contributions:** "The amount of affordable housing relief is 15% of gross contributions to an Affordable Housing Scheme up to a maximum of KSh 9,000 per month and not exceeding Sh108,000 per annum,".

03. **Tax deductibility of interest paid on Housing Loans:** Effective 1 January 2017, interest payments on loans borrowed for the purposes of improvement or construction of residential premises are deductible, subject to a limit of KES 300,000 per annum (or KES 25,000 per month).

### Table 6.9: Percentage of Respondents Aware of Affordable Housing Program

| | Not Aware | Aware | Not Stated | Respondent Count |
|---|---|---|---|---|
| **Kenya** | **46.4** | **53.5** | **0.1** | **28,185,053** |
| Rural | 49.7 | 50.3 | 0 | 18,531,386 |
| Urban | 40.1 | 59.7 | 0.2 | 9,653,667 |
| **County** | | | | |
| Mombasa | 39.4 | 60.6 | 0 | 782,450 |
| Kwale | 73.1 | 26.9 | 0 | 517,666 |
| Kilifi | 43.3 | 56.7 | 0 | 858,379 |
| Tana River | 54.5 | 45.5 | 0 | 158,531 |
| Lamu | 93.5 | 6.5 | 0 | 103,172 |
| Taita-Taveta | 43.7 | 56.3 | 0 | 212,006 |
| Garissa | 89.3 | 10.7 | 0 | 497,232 |
| Wajir | 95.2 | 4.8 | 0 | 446,582 |
| Mandera | 90.1 | 9.9 | 0 | 360,427 |
| Marsabit | 73.4 | 26.6 | 0 | 236,235 |
| Isiolo | 92.8 | 7.2 | 0 | 140,195 |
| Meru | 44.0 | 56.0 | 0 | 965,240 |
| Tharaka-Nithi | 69.6 | 30.4 | 0 | 234,659 |
| Embu | 35.3 | 64.7 | 0 | 423,095 |
| Kitui | 61.5 | 38.5 | 0 | 675,990 |
| Machakos | 50.3 | 49.7 | 0 | 906,382 |
| Makueni | 24.0 | 76.0 | 0 | 651,569 |
| Nyandarua | 53.9 | 46.1 | 0 | 403,392 |
| Nyeri | 36.3 | 63.7 | 0 | 529,451 |
| Kirinyaga | 50.9 | 49.1 | 0 | 418,563 |
| Murang'a | 29.3 | 70.7 | 0 | 648,880 |
| Kiambu | 46.8 | 52.1 | 1.2 | 1,562,302 |
| Turkana | 75.2 | 24.8 | 0 | 393,839 |
| West Pokot | 75.5 | 24.5 | 0 | 301,155 |
| Samburu | 67.1 | 32.9 | 0 | 134,807 |
| Trans Nzoia | 20.7 | 79.0 | 0.3 | 589,829 |
| Uasin Gishu | 48.8 | 51.2 | 0 | 723,932 |
| Elgeyo-Marakwet | 64.5 | 35.5 | 0 | 246,373 |
| Nandi | 31.6 | 68.4 | 0 | 538,299 |
| Baringo | 31.1 | 68.9 | 0 | 339,062 |
| Laikipia | 18.6 | 81.4 | 0 | 330,961 |
| Nakuru | 21.1 | 78.9 | 0 | 1,281,346 |
| Narok | 66.3 | 33.7 | 0 | 581,781 |
| Kajiado | 79.7 | 20.3 | 0 | 753,613 |
| Kericho | 41.9 | 58.1 | 0 | 528,064 |
| Bomet | 66.2 | 33.8 | 0 | 496,555 |
| Kakamega | 21.3 | 78.7 | 0 | 1,145,830 |
| Vihiga | 34.4 | 65.2 | 0.4 | 350,577 |
| Bungoma | 35.9 | 63.8 | 0.3 | 896,366 |
| Busia | 17.8 | 82.2 | 0 | 505,047 |
| Siaya | 40.9 | 59.1 | 0 | 550,475 |
| Kisumu | 39.9 | 59.9 | 0.2 | 672,041 |
| Homabay | 65.3 | 34.7 | 0 | 523,438 |
| Migori | 23.0 | 77.0 | 0 | 521,546 |
| Kisii | 59.1 | 40.9 | 0 | 766,133 |
| Nyamira | 66.8 | 33.2 | 0 | 325,375 |
| Nairobi City | 38.4 | 61.6 | 0 | 2,956,206 |

### 6.8.1 Stamp Duty Exemption for First-Time Homebuyers

Table 6.10 presents the proportion of respondents who were aware of stamp duty exemption for first time buyers for approved affordable housing. Nationally, 7.7 per cent of respondents reported that they were aware of the stamp duty exemption for first time homebuyers.

In Table 6.11, 11.9 per cent of the respondents who were aware of the stamp duty exemption benefited from the same.

**Table 6.10: Percentage of Respondents Aware of Stamp Duty Exemption**

| Residence/County | Not Aware | Aware | Respondent Count |
|---|---|---|---|
| **Kenya** | **92.3** | **7.7** | **15,089,434** |
| Rural | 93.2 | 6.8 | 9,324,213 |
| Urban | 90.8 | 9.2 | 5,765,221 |
| **County** | | | |
| Mombasa | 96.4 | 3.6 | 474,336 |
| Kwale | 95.9 | 4.1 | 139,028 |
| Kilifi | 96.4 | 3.6 | 487,050 |
| Tana River | 88.1 | 11.9 | 72,067 |
| Lamu | 60.4 | 39.6 | 6,713 |
| Taita-Taveta | 93.0 | 7.0 | 119,358 |
| Garissa | 96.9 | 3.1 | 53,233 |
| Wajir | 90.8 | 9.2 | 21,644 |
| Mandera | 88.7 | 11.3 | 35,513 |
| Marsabit | 76.1 | 23.9 | 62,937 |
| Isiolo | 78.5 | 21.5 | 10,064 |
| Meru | 96.6 | 3.4 | 540,121 |
| Tharaka-Nithi | 95.4 | 4.6 | 71,236 |
| Embu | 83.2 | 16.8 | 273,715 |
| Kitui | 98.2 | 1.8 | 259,975 |
| Machakos | 97.3 | 2.7 | 450,376 |
| Makueni | 96.4 | 3.6 | 495,460 |
| Nyandarua | 91.3 | 8.7 | 186,155 |
| Nyeri | 94.1 | 5.9 | 337,231 |
| Kirinyaga | 88.5 | 11.5 | 205,572 |
| Murang'a | 88.9 | 11.1 | 458,816 |
| Kiambu | 85.6 | 14.4 | 813,714 |
| Turkana | 86.0 | 14.0 | 97,607 |
| West Pokot | 97.3 | 2.7 | 73,787 |
| Samburu | 88.8 | 11.2 | 44,316 |
| Trans Nzoia | 95.3 | 4.7 | 465,777 |
| Uasin Gishu | 92.6 | 7.4 | 370,308 |
| Elgeyo-Marakwet | 84.5 | 15.5 | 87,408 |
| Nandi | 89.9 | 10.1 | 368,373 |
| Baringo | 94.2 | 5.8 | 233,595 |
| Laikipia | 91.4 | 8.6 | 269,496 |
| Nakuru | 95.8 | 4.2 | 1,010,856 |
| Narok | 91.8 | 8.2 | 196,209 |
| Kajiado | 89.9 | 10.1 | 153,171 |
| Kericho | 91.8 | 8.2 | 306,891 |
| Bomet | 61.1 | 38.9 | 167,639 |
| Kakamega | 99.2 | 0.8 | 901,815 |
| Vihiga | 98.6 | 1.4 | 228,523 |
| Bungoma | 96.9 | 3.1 | 572,017 |
| Busia | 98.6 | 1.4 | 415,128 |
| Siaya | 96.9 | 3.1 | 325,458 |
| Kisumu | 80.7 | 19.3 | 402,622 |
| Homabay | 78.8 | 21.2 | 181,738 |
| Migori | 83.6 | 16.4 | 401,334 |
| Kisii | 91.0 | 9.0 | 313,318 |
| Nyamira | 85.8 | 14.2 | 108,031 |
| Nairobi City | 91.3 | 8.7 | 1,819,702 |

**Nationally, 7.7 per cent of respondents reported that they were aware of the stamp duty exemption for first time homebuyers.**

Table 6.11: Proportion of Respondents who Benefitted from Stamp Duty Exemption

| Residence/County | Did not Benefit | Benefitted | Respondent Count |
|---|---|---|---|
| **Kenya** | **88.1** | **11.9** | **1,162,881** |
| Rural | 86.1 | 13.9 | 630,378 |
| Urban | 90.6 | 9.4 | 532,504 |
| **County** | | | |
| Mombasa | 83.3 | 16.7 | 16,945 |
| Kwale | 44.0 | 56.0 | 5,635 |
| Kilifi | 100.0 | - | 17,717 |
| Tana River | 64.2 | 35.8 | 8,606 |
| Lamu | 85.7 | 14.3 | 2,661 |
| Taita-Taveta | 86.7 | 13.3 | 8,355 |
| Garissa | 100.0 | - | 1,643 |
| Wajir | 5.0 | 95.0 | 1,980 |
| Mandera | 92.3 | 7.7 | 4,022 |
| Marsabit | 13.8 | 86.2 | 15,045 |
| Isiolo | 93.4 | 6.6 | 2,166 |
| Meru | 100.0 | - | 18,159 |
| Tharaka-Nithi | 97.3 | 2.7 | 3,299 |
| Embu | 91.8 | 8.2 | 45,881 |
| Kitui | 100.0 | - | 4,733 |
| Machakos | 79.6 | 20.4 | 11,998 |
| Makueni | 88.7 | 11.3 | 17,766 |
| Nyandarua | 100.0 | - | 16,151 |
| Nyeri | 85.5 | 14.5 | 19,785 |
| Kirinyaga | 80.8 | 19.2 | 23,590 |
| Murang'a | 91.3 | 8.7 | 50,767 |
| Kiambu | 89.3 | 10.7 | 116,998 |
| Turkana | 97.7 | 2.3 | 13,675 |
| West Pokot | 94.5 | 5.5 | 1,995 |
| Samburu | 100.0 | - | 4,979 |
| Trans Nzoia | 88.3 | 11.7 | 21,900 |
| Uasin Gishu | 89.4 | 10.6 | 27,344 |
| Elgeyo-Marakwet | 95.7 | 4.3 | 13,511 |
| Nandi | 86.6 | 13.4 | 37,193 |
| Baringo | 100.0 | - | 13,588 |
| Laikipia | 95.1 | 4.9 | 23,298 |
| Nakuru | 100.0 | - | 42,627 |
| Narok | 67.5 | 32.5 | 16,059 |
| Kajiado | 65.9 | 34.1 | 15,438 |
| Kericho | 97.8 | 2.2 | 25,108 |
| Bomet | 84.5 | 15.5 | 65,201 |
| Kakamega | 100.0 | - | 7,088 |
| Vihiga | 82.0 | 18.0 | 3,280 |
| Bungoma | 60.7 | 39.3 | 17,809 |
| Busia | 95.4 | 4.6 | 5,655 |
| Siaya | 64.7 | 35.3 | 9,995 |
| Kisumu | 83.6 | 16.4 | 77,565 |
| Homabay | 82.6 | 17.4 | 38,486 |
| Migori | 97.3 | 2.7 | 66,002 |
| Kisii | 95.9 | 4.1 | 28,204 |
| Nyamira | 61.4 | 38.6 | 15,359 |
| Nairobi City | 96.1 | 3.9 | 157,620 |

### 6.8.2 Affordable Housing relief

Table 6.12 presents the proportion of respondents who were aware of the affordable housing relief. Nationally, 11.3 per cent of the respondents were aware of the affordable housing relief.

Table 6.12: Percentage of Respondents Population Aware of Affordable Housing Relief

| Residence/County | Not Aware | Aware | Respondent Count |
|---|---|---|---|
| **Kenya** | **88.7** | **11.3** | **15,089,434** |
| Rural | 90.1 | 9.9 | 9,324,213 |
| Urban | 86.5 | 13.5 | 5,765,221 |
| **County** | | | |
| Mombasa | 96.4 | 3.6 | 474,336 |
| Kwale | 82.4 | 17.6 | 139,028 |
| Kilifi | 95.8 | 4.2 | 487,050 |
| Tana River | 83.2 | 16.8 | 72,067 |
| Lamu | 53.2 | 46.8 | 6,713 |
| Taita-Taveta | 94.4 | 5.6 | 119,358 |
| Garissa | 90.2 | 9.8 | 53,233 |
| Wajir | 71.7 | 28.3 | 21,644 |
| Mandera | 84.2 | 15.8 | 35,513 |
| Marsabit | 76.5 | 23.5 | 62,937 |
| Isiolo | 61.6 | 38.4 | 10,064 |
| Meru | 97.3 | 2.7 | 540,121 |
| Tharaka-Nithi | 94.3 | 5.7 | 71,236 |
| Embu | 67.6 | 32.4 | 273,715 |
| Kitui | 97.5 | 2.5 | 259,975 |
| Machakos | 96.9 | 3.1 | 450,376 |
| Makueni | 97.8 | 2.2 | 495,460 |
| Nyandarua | 87.6 | 12.4 | 186,155 |
| Nyeri | 92.0 | 8.0 | 337,231 |
| Kirinyaga | 76.3 | 23.7 | 205,572 |
| Murang'a | 92.4 | 7.6 | 458,816 |
| Kiambu | 68.1 | 31.9 | 813,714 |
| Turkana | 80.0 | 20.0 | 97,607 |
| West Pokot | 98.0 | 2.0 | 73,787 |
| Samburu | 90.1 | 9.9 | 44,316 |
| Trans Nzoia | 81.4 | 18.6 | 465,777 |
| Uasin Gishu | 91.5 | 8.5 | 370,308 |
| Elgeyo-Marakwet | 83.0 | 17.0 | 87,408 |
| Nandi | 78.8 | 21.2 | 368,373 |
| Baringo | 84.5 | 15.5 | 233,595 |
| Laikipia | 91.2 | 8.8 | 269,496 |
| Nakuru | 95.0 | 5.0 | 1,010,856 |
| Narok | 70.0 | 30.0 | 196,209 |
| Kajiado | 86.5 | 13.5 | 153,171 |
| Kericho | 81.1 | 18.9 | 306,891 |
| Bomet | 57.7 | 42.3 | 167,639 |
| Kakamega | 99.2 | 0.8 | 901,815 |
| Vihiga | 99.3 | 0.7 | 228,523 |
| Bungoma | 91.2 | 8.8 | 572,017 |
| Busia | 99.9 | 0.1 | 415,128 |
| Siaya | 98.2 | 1.8 | 325,458 |
| Kisumu | 83.7 | 16.3 | 402,622 |
| Homabay | 85.2 | 14.8 | 181,738 |
| Migori | 88.4 | 11.6 | 401,334 |
| Kisii | 84.8 | 15.2 | 313,318 |
| Nyamira | 79.2 | 20.8 | 108,031 |
| Nairobi City | 87.9 | 12.1 | 1,819,702 |

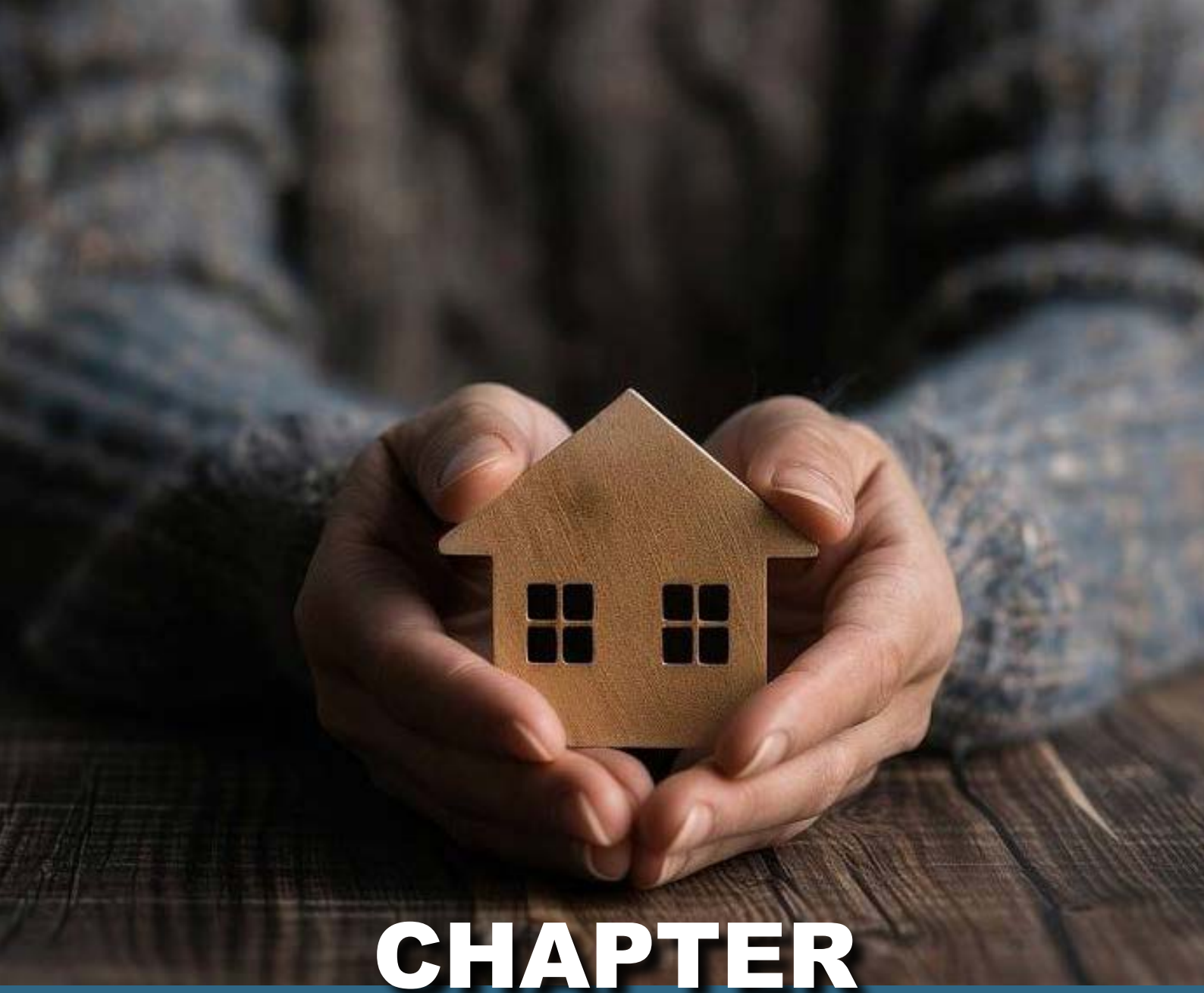
### 6.8.3 Tax Deductibility of Interest Paid on Housing Loans

Table 6.13 presents the percentage of respondents who are aware of tax deductibility from housing loans. Nationally, 4.5 per cent of the respondents were aware of the tax deductibility of interest paid on housing loans.

## Table 6.13: Percentage of Respondents Aware of Tax Deductibility paid on Housing Loans

| | Not Aware | Aware | Respondent Count |
|---|---|---|---|
| **Kenya** | **95.5** | **4.5** | **15,089,434** |
| Rural | 95.6 | 4.4 | 9,324,213 |
| Urban | 95.5 | 4.5 | 5,765,221 |
| **County** | | | |
| Mombasa | 98.7 | 1.3 | 474,336 |
| Kwale | 95.5 | 4.5 | 139,028 |
| Kilifi | 98.3 | 1.7 | 487,050 |
| Tana River | 92.4 | 7.6 | 72,067 |
| Lamu | 99.1 | 0.9 | 6,713 |
| Taita-Taveta | 96.4 | 3.6 | 119,358 |
| Garissa | 93.9 | 6.1 | 53,233 |
| Wajir | 77.4 | 22.6 | 21,644 |
| Mandera | 98.8 | 1.2 | 35,513 |
| Marsabit | 79.5 | 20.5 | 62,937 |
| Isiolo | 94.8 | 5.2 | 10,064 |
| Meru | 99.0 | 1.0 | 540,121 |
| Tharaka-Nithi | 97.4 | 2.6 | 71,236 |
| Embu | 96.4 | 3.6 | 273,715 |
| Kitui | 99.4 | 0.6 | 259,975 |
| Machakos | 98.8 | 1.2 | 450,376 |
| Makueni | 99.5 | 0.5 | 495,460 |
| Nyandarua | 93.0 | 7.0 | 186,155 |
| Nyeri | 95.1 | 4.9 | 337,231 |
| Kirinyaga | 83.6 | 16.4 | 205,572 |
| Murang'a | 97.7 | 2.3 | 458,816 |
| Kiambu | 98.2 | 1.8 | 813,714 |

| | Not Aware | Aware | Respondent Count |
|---|---|---|---|
| Turkana | 94.7 | 5.3 | 97,607 |
| West Pokot | 99.0 | 1.0 | 73,787 |
| Samburu | 94.5 | 5.5 | 44,316 |
| Trans Nzoia | 87.6 | 12.4 | 465,777 |
| Uasin Gishu | 94.0 | 6.0 | 370,308 |
| Elgeyo-Marakwet | 89.1 | 10.9 | 87,408 |
| Nandi | 90.9 | 9.1 | 368,373 |
| Baringo | 98.8 | 1.2 | 233,595 |
| Laikipia | 92.4 | 7.6 | 269,496 |
| Nakuru | 97.9 | 2.1 | 1,010,856 |
| Narok | 90.7 | 9.3 | 196,209 |
| Kajiado | 91.5 | 8.5 | 153,171 |
| Kericho | 93.1 | 6.9 | 306,891 |
| Bomet | 58.7 | 41.3 | 167,639 |
| Kakamega | 99.9 | 0.1 | 901,815 |
| Vihiga | 99.5 | 0.5 | 228,523 |
| Bungoma | 96.4 | 3.6 | 572,017 |
| Busia | 99.9 | 0.1 | 415,128 |
| Siaya | 99.7 | 0.3 | 325,458 |
| Kisumu | 92.0 | 8.0 | 402,622 |
| Homabay | 88.8 | 11.2 | 181,738 |
| Migori | 95.2 | 4.8 | 401,334 |
| Kisii | 97.6 | 2.4 | 313,318 |
| Nyamira | 90.2 | 9.8 | 108,031 |
| Nairobi City | 94.8 | 5.2 | 1,819,702 |



# CHAPTER 07

# Housing Finance

## 7.1 Introduction

Access to finance is a major limiting factor in housing development. The sources of funds for shelter are few and the lending institutions may not have realized their full capacity in providing finances to support housing development. Qualifying terms for mortgages are still too stringent even though housing is still in short supply. Inability to finance house loans, low affordability due to poverty, high perceived interest rates on mortgages, absence of graduated payments of mortgages and lack of access to the large deposits of retirement benefit funds are some of the factors that hinder housing development in Kenya.

On the demand side, the barriers to housing finance include high interest rates, fluctuating interest rates, formal documentation needs, informality as well as informal income sources and inadequate collateral especially for the low-income earners which makes them less appealing to financial institutions thus limiting access to finances. This notwithstanding, Kenya's financial sector plays a pivotal role in housing development through provision of finances through credit and saving platforms geared specifically for housing. The 2023/24 KHS sought to collect information on housing development financing with focus on respondents within the housing development sector. These include commercial banks, microfinance banks, SACCOS and other institutions that provide finance for housing development.

This chapter explores the contribution of the targeted financial institutions to housing development, focusing on savings products tailored for housing, loan offerings, interest rates, specialized mortgage products, loan portfolios, non-performing loans, recovery processes, barriers to lending, financial incentives and challenges in loan recovery. A total of 341 against 413 targeted financial institutions responded to the survey. A total of 92.8 per cent of MFBs, 81.7 per cent of SACCOs and 86.8 per cent of Commercial Banks responded to the survey.

### Key findings

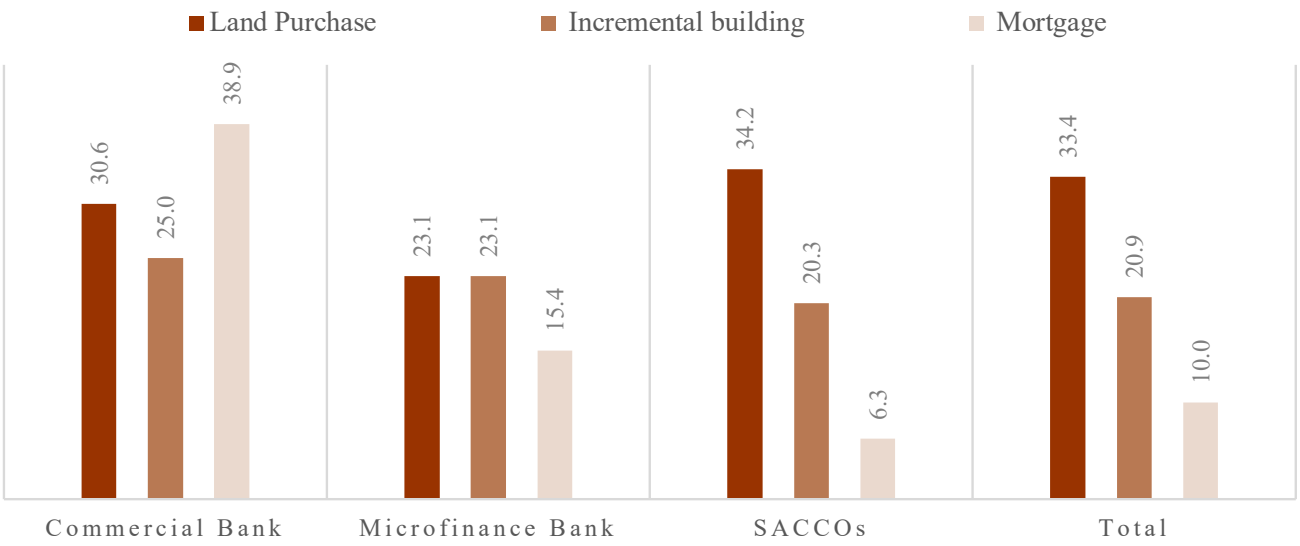
- Approximately **33.4** per cent of financiers have savings products aimed at land purchase, while **20.9** per cent focus on savings for incremental building. Only **10.0** per cent of surveyed financiers have a savings product for mortgage.
- Among commercial banks **38.9** per cent reported having savings products specifically designed for mortgages while 34.2 per cent of SACCOs have saving products designed for land purchase.
- The primary housing finance products for commercial banks is mortgage finance at **86.1** per cent, for MFBs construction finance for rental units is the primary product at **53.8** per cent while for the SACCOs it is land acquisition at **60.8** per cent.
- As at December 2023, the proportion of housing Non-Performing Loans (NPLs) to total housing loans was **12.7** per cent. Micro-Finance Banks (MFBs) reported a proportion of **24.0** per cent, commercial banks **15.3** per cent and SACCOs **3.9** per cent of housing NPLs.
- The average interest rate for mortgage loans in 2023 was **13.0** per cent, commercial banks reported an average interest rate of **14.0** per cent, while SACCOs reported a slightly lower rate of **12.0** per cent.
- The lack of long-term capital is the main barrier to lending by financiers suggesting that financiers may lack adequate long-term capital to expand their lending activities.

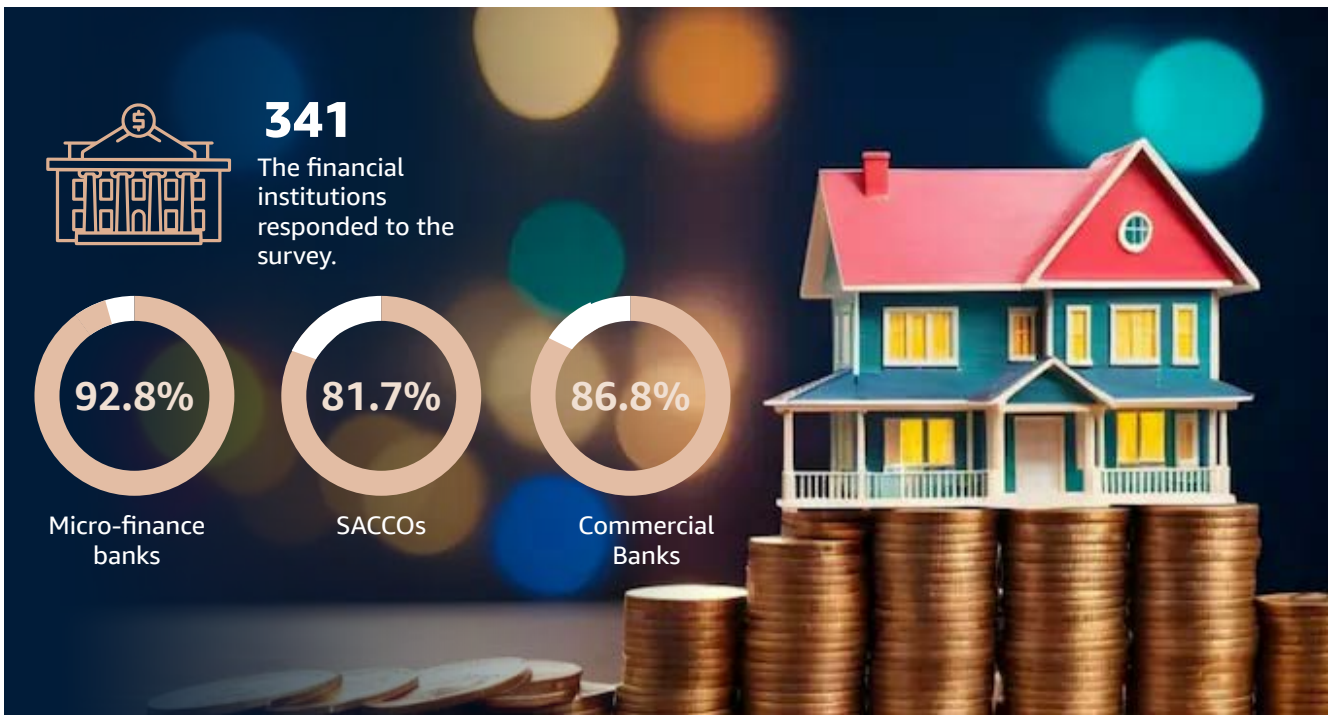
## 7.2 Saving Products for Housing

Financial institutions offer different savings products to customers. These savings products are defined by their purpose, mode of access and utilization. The survey sought to establish whether financial institutions offer housing financing saving products specifically geared towards land purchase, incremental building and mortgages. The survey findings indicate that a majority of surveyed financiers offer savings products tailored for specific housing needs. Specifically, 33.4 per cent of financiers have savings products for land purchase, while 20.9 per cent have a saving product for incremental building. Only 10.0 per cent of surveyed financiers had a savings product for mortgage.

The survey findings also indicate that 38.9 per cent of commercial banks and 34.2 per cent of SACCOs have saving products specifically designed for mortgages and land purchase, respectively, as shown in Figure 7.1.

*Figure 7.1: Proportion of financial institutions with saving products for housing*



## 7.3 Loan Products for Housing

The survey categorized loan products for housing development into several types: purchase of rental properties, graduated loans, mortgages, construction, and land acquisitions. Financial institutions were asked whether they provide loans for various housing products. Among these products, land acquisition was the most commonly provided, with 61.1 per cent of financiers offering such loans as shown in Figure 7.2a. Only 3.7 per cent of financiers provided graduated loans.

The primary housing products for commercial banks, MFB's and SACCOs, is mortgage finance, construction finance for rental units and land acquisition at 86.1, 53.8, and 60.8 per cent, respectively.

*Figure 7.2 (a): Provision of loan products*

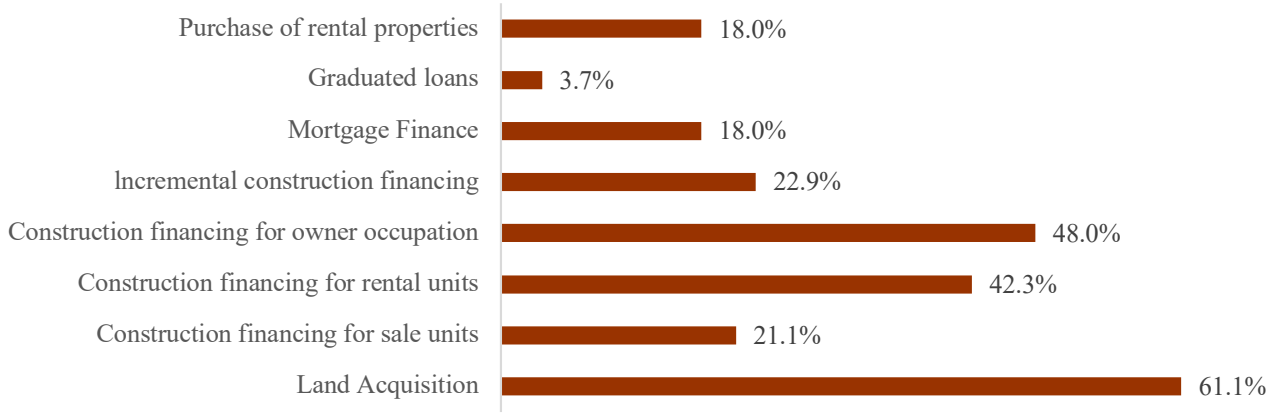
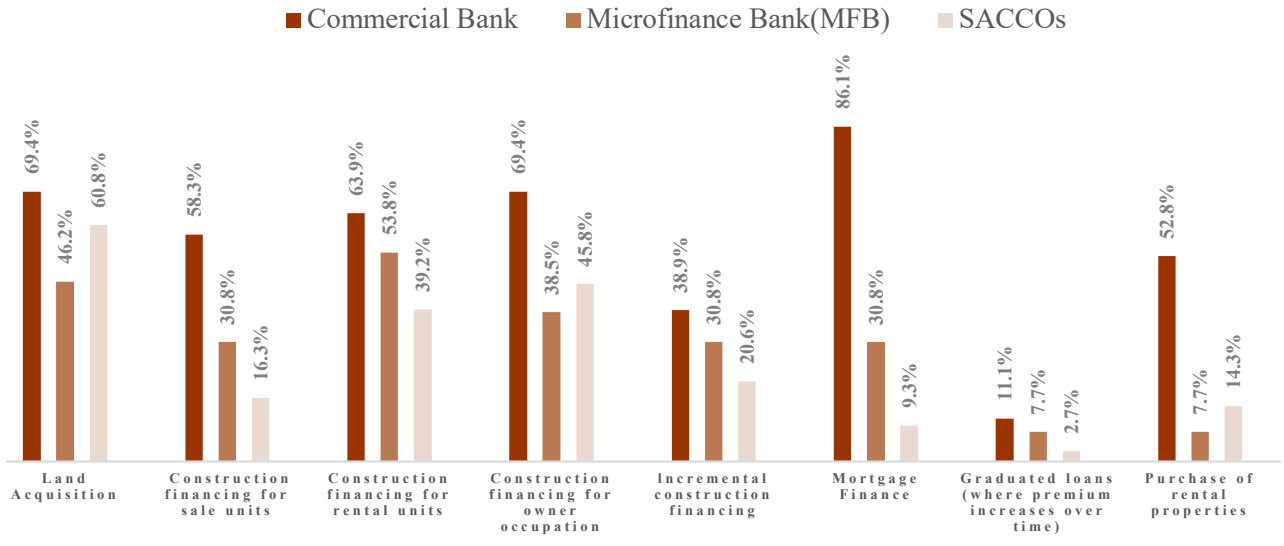


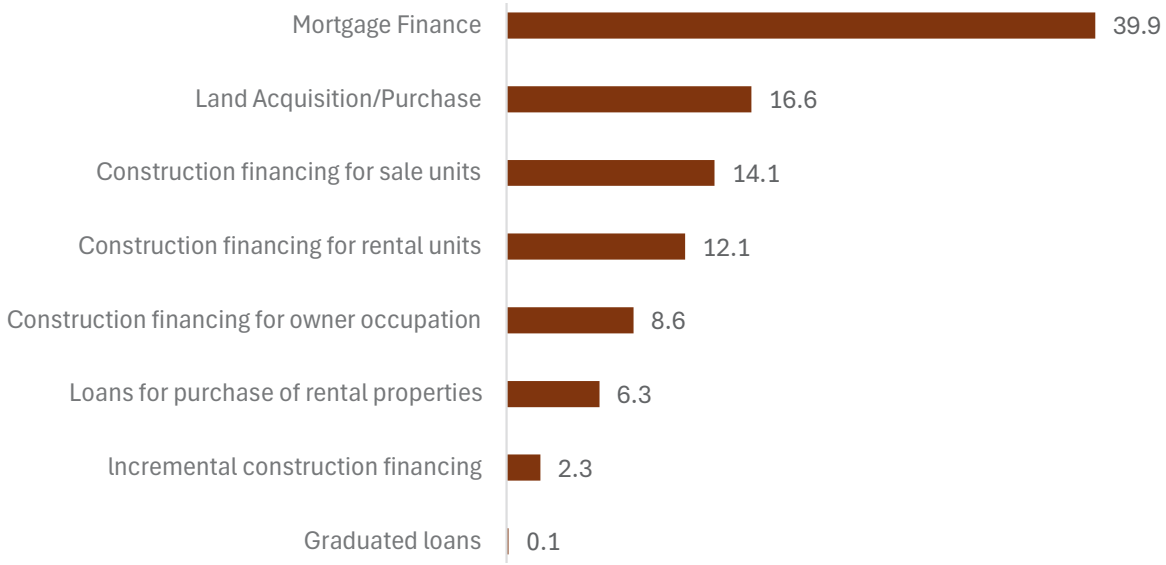

*Figure 7.2 (b) Provision of loan products for construction/housing among financiers*



## 7.4 Housing Loans Issued in 2023

Financial institutions offer housing development financing with various terms for different specific housing, categories and housing delivery modes. The 2023/24 Housing Survey collected information on different types and structure of loan financing towards housing, including purpose and mode of financing. The survey findings indicate that mortgages offered by financiers provide a significant share of credit advanced for the purposes of housing development at 39.9 per cent with different financial institutions offering different terms on this type of credit facility. Housing loans offered for the purposes of land acquisition accounted for 16.6 per cent of value of loans on housing while loans advanced for construction of sale units was at 14.1 per cent.

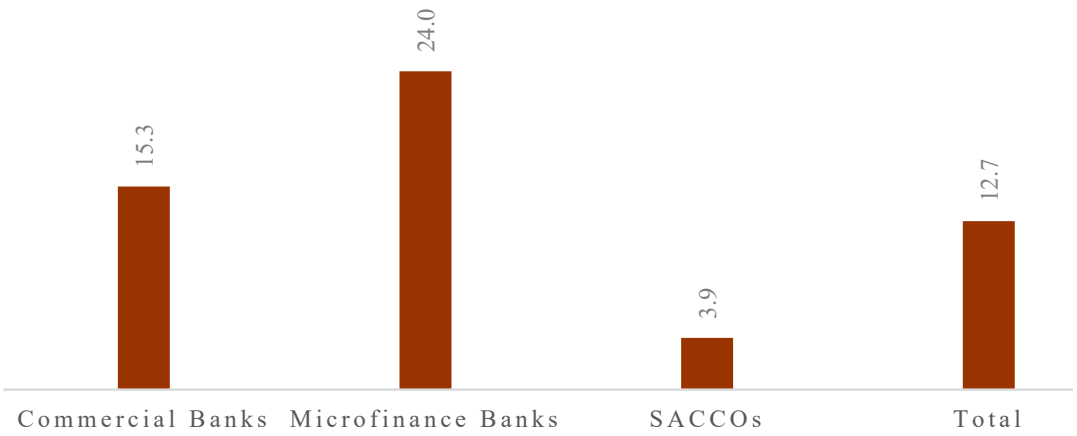
*Figure 7.3 Percentage of the value of loan per products*

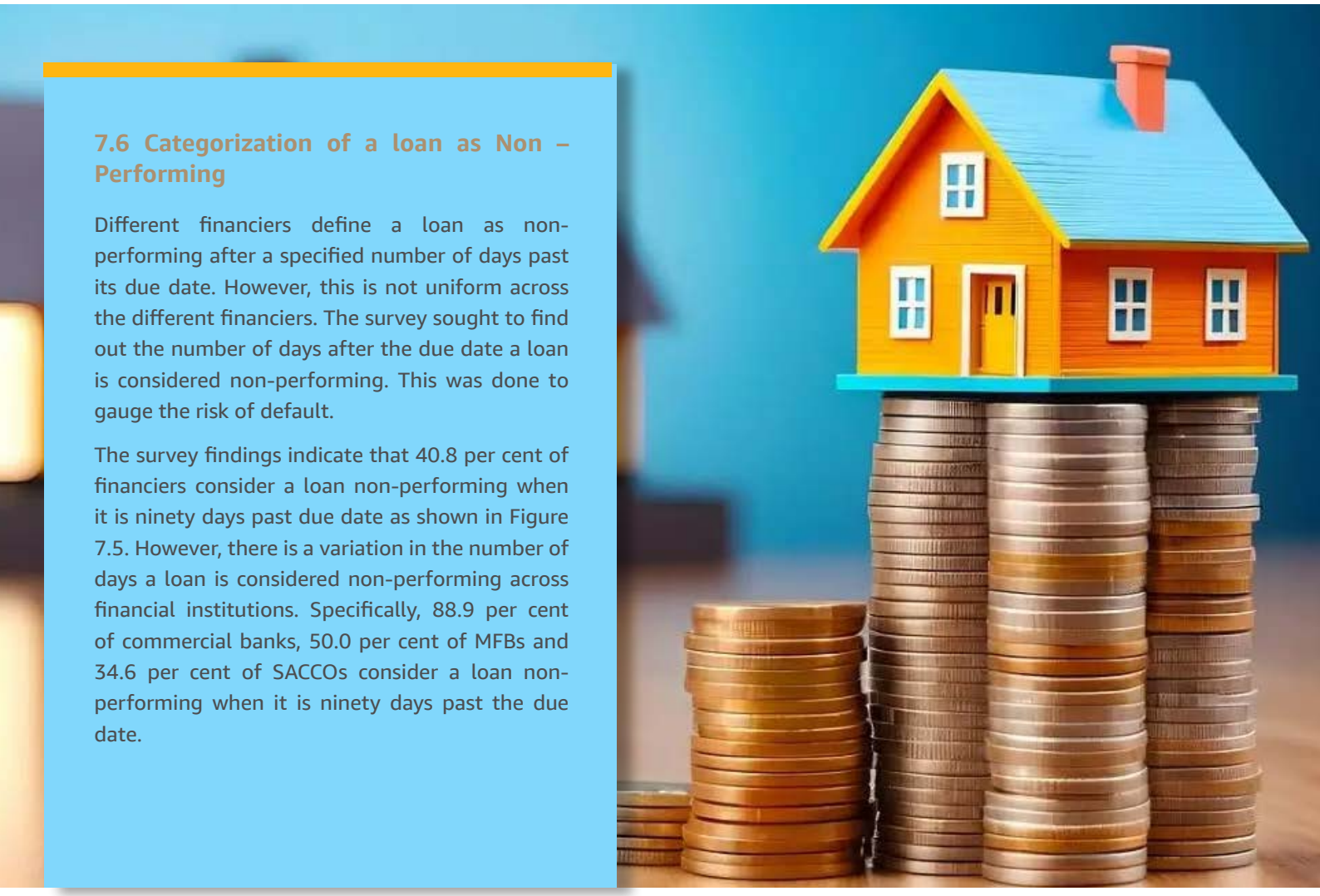



## 7.5 Non-Performing Loans

Non-performing loans (NPLs) pose a threat to financial institutions through reduction in interest income, operating profits and capitalization levels. NPLs also reduce the financial institution's loanable funds, leaving potential borrowers with limited options to get loans from and expose borrowers to vulnerabilities occasioned by stringent measures put in place by financial institutions to recover loans. On this veil, the survey collected information to establish the proportion of housing loans that were non-performing as at December 2023. As at December 2023, financiers reported that the proportion of housing NPLs to total housing loans was 12.7 per cent. MFBs reported a proportion of 24.0 per cent, Commercial banks 15.3 per cent and SACCOs 3.9 per cent of housing NPLs as shown in Figure 7.4.

*Figure 7.4: Proportion of housing NPLs to total housing loans*



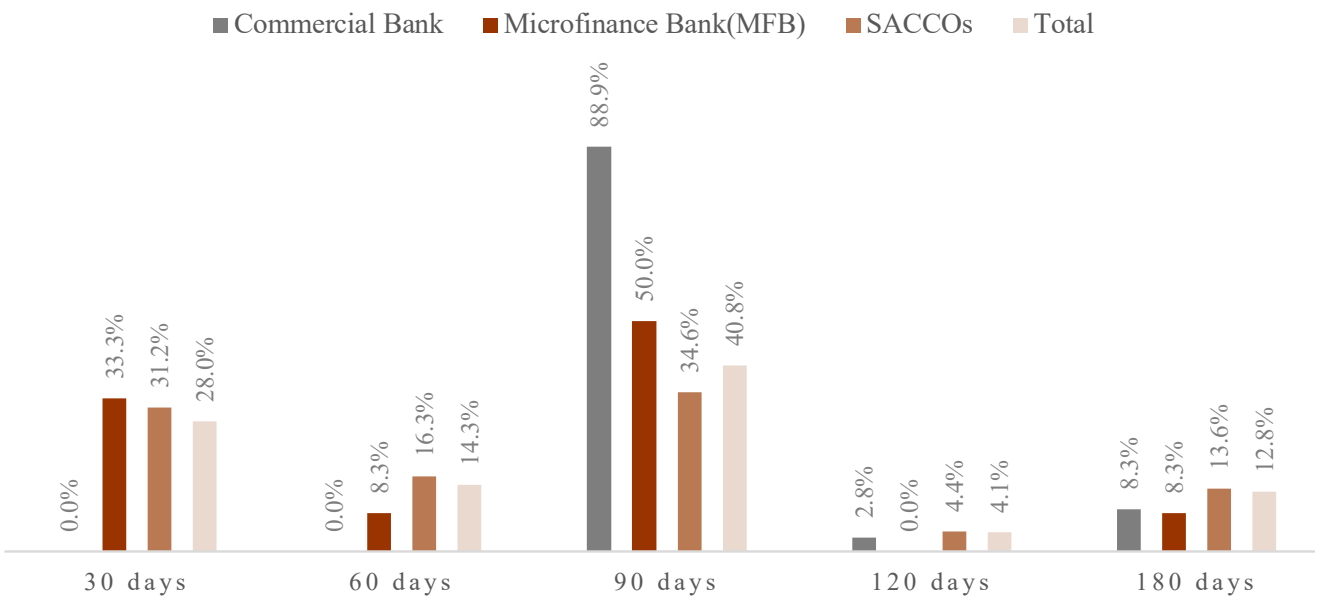


## 7.6 Categorization of a loan as Non – Performing

Different financiers define a loan as non-performing after a specified number of days past its due date. However, this is not uniform across the different financiers. The survey sought to find out the number of days after the due date a loan is considered non-performing. This was done to gauge the risk of default.

The survey findings indicate that 40.8 per cent of financiers consider a loan non-performing when it is ninety days past due date as shown in Figure 7.5. However, there is a variation in the number of days a loan is considered non-performing across financial institutions. Specifically, 88.9 per cent of commercial banks, 50.0 per cent of MFBs and 34.6 per cent of SACCOs consider a loan non-performing when it is ninety days past the due date.

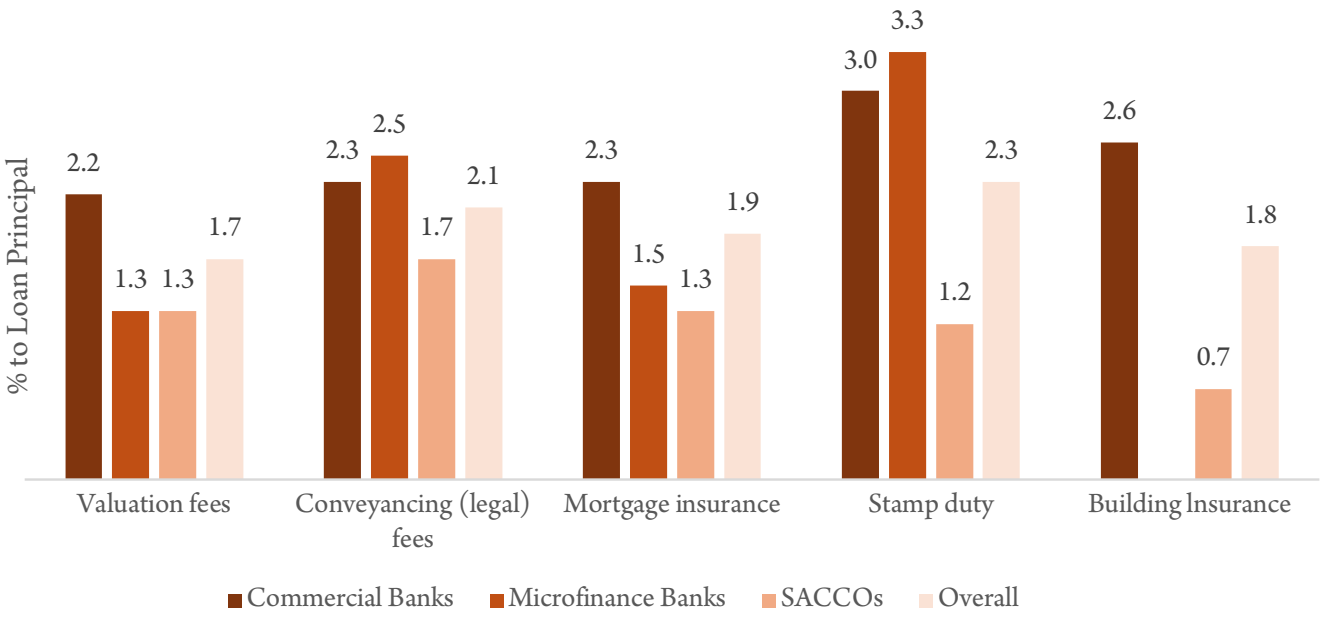
*Figure 7.5: Number of days after due date a loan is declared Non-Performimg*



## 7.7 Average Rates of fees charged on Mortgage

The survey sought to establish the percentage charged on the loan principal when providing financing to mortgage borrowers. Among all types of financiers, stamp duty fee charged on mortgage loan attracts the highest percentage to the loan principal at 2.3 per cent, with average rate charged by commercial banks being the highest at 3.3 per cent. Conveyance/legal fees charged by microfinance banks on mortgage borrowers attracts a rate of 2.5 per cent while that charged by SACCOS attracts a rate of 1.7 per cent.

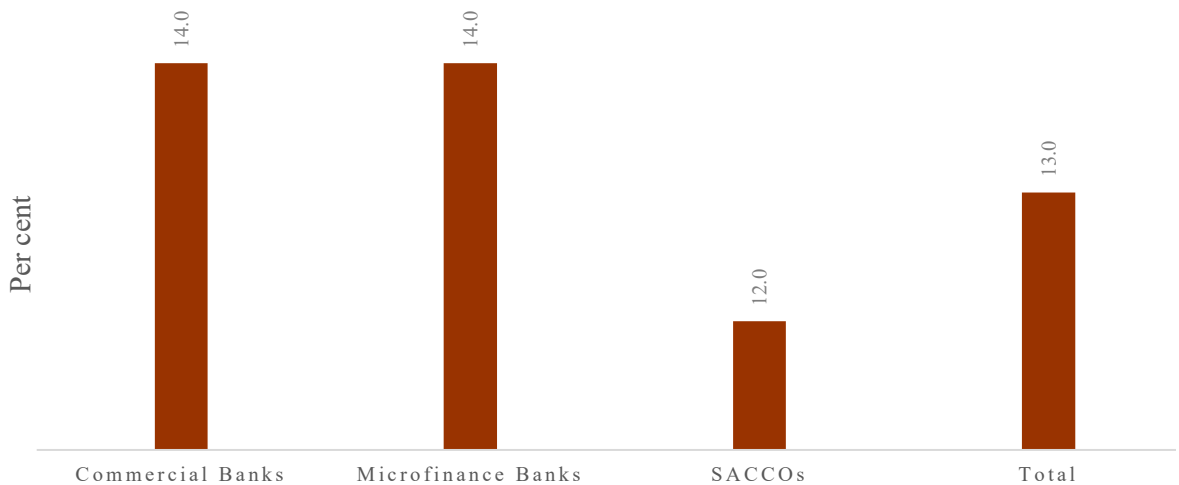
*Figure 7.6: Average Rate of fees charged on Mortgage*




## 7.8 Interest Rates

To determine the affordability of mortgage loans and potential barriers to their uptake, the survey collected information on the average cost of mortgage loans. The average interest rate for mortgage loans, was 13.0 per cent as indicated in Figure 7.7. Commercial banks and Microfinance Banks reported an average interest rate of 14.0 per cent, while SACCOs reported a slightly lower rate of 12.0 per cent.

*Figure 7.7: Average Interest Rate for Mortgage*



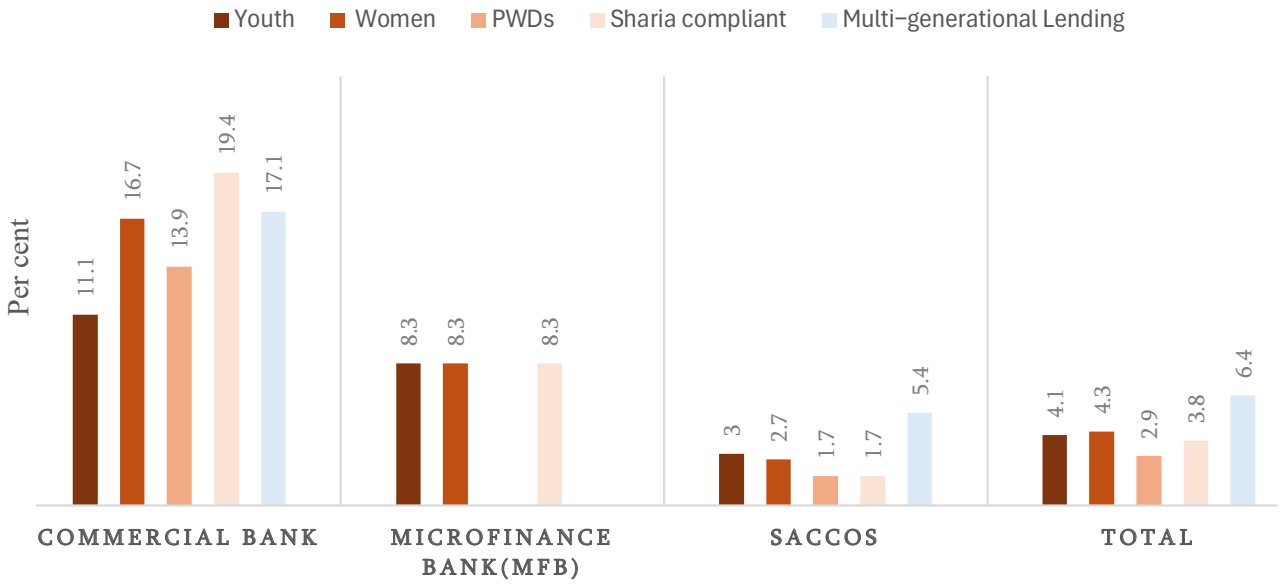
## 7.9 Availability of Mortgage Products to Special Groups

The survey sought to establish the availability of construction, housing, and mortgage products tailored for special groups such as youths, women, and persons living with disabilities (PWDs). Further, the survey sought to find out whether financiers provide Shariah-compliant mortgage products as well as multi-generational lending options which allow households to repay loans over multiple generations.

The survey findings indicate that multi-generational lending was the most prevalent among these specialized products, with 6.4 per cent of financiers indicating to be offering such products specifically for this target group.

Specialized mortgage products for women, youth and PWDs was provided by 4.3 per cent, 4.1 per cent, and 3.8 per cent respectively. However, products specifically designed for PWDs were low, with only 2.9 per cent of financiers offering them as shown in Figure 7.8.

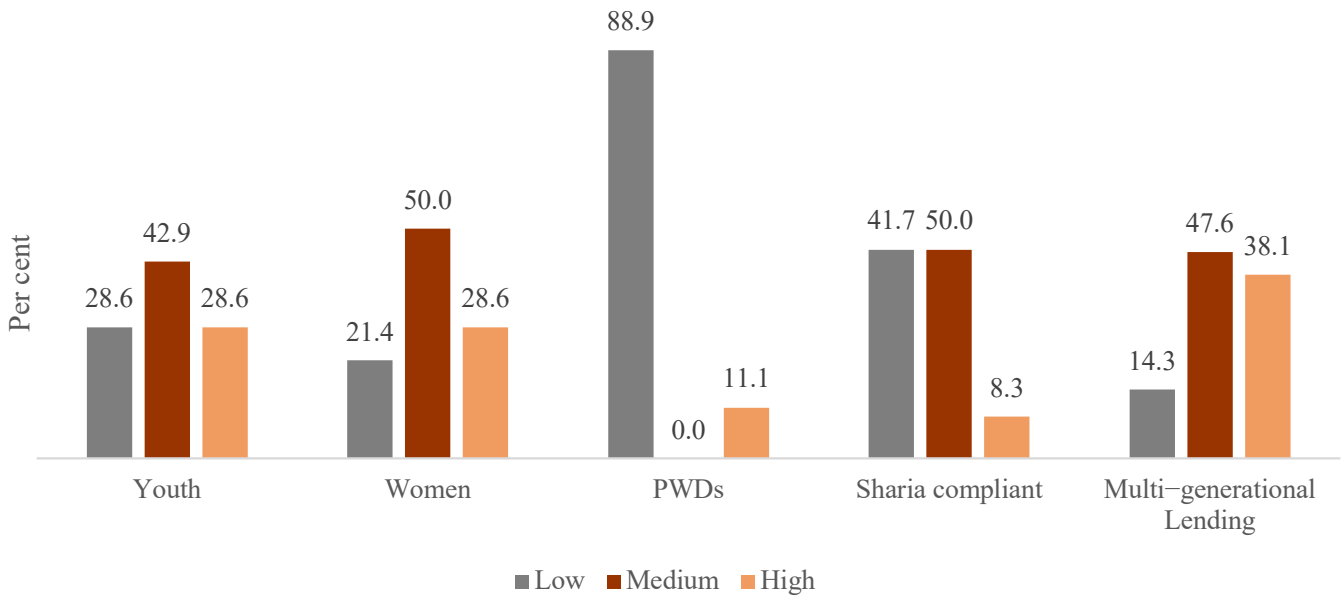
*Figure 7.8: Availability of Mortgage Products to Special Groups*




## 7.10 Demand for Housing/Mortgage Products by Special Groups

Survey findings indicated there was medium demand for financial products for the women and youth at 50.0 per cent and 42.9 per cent as shown in figure 7.9

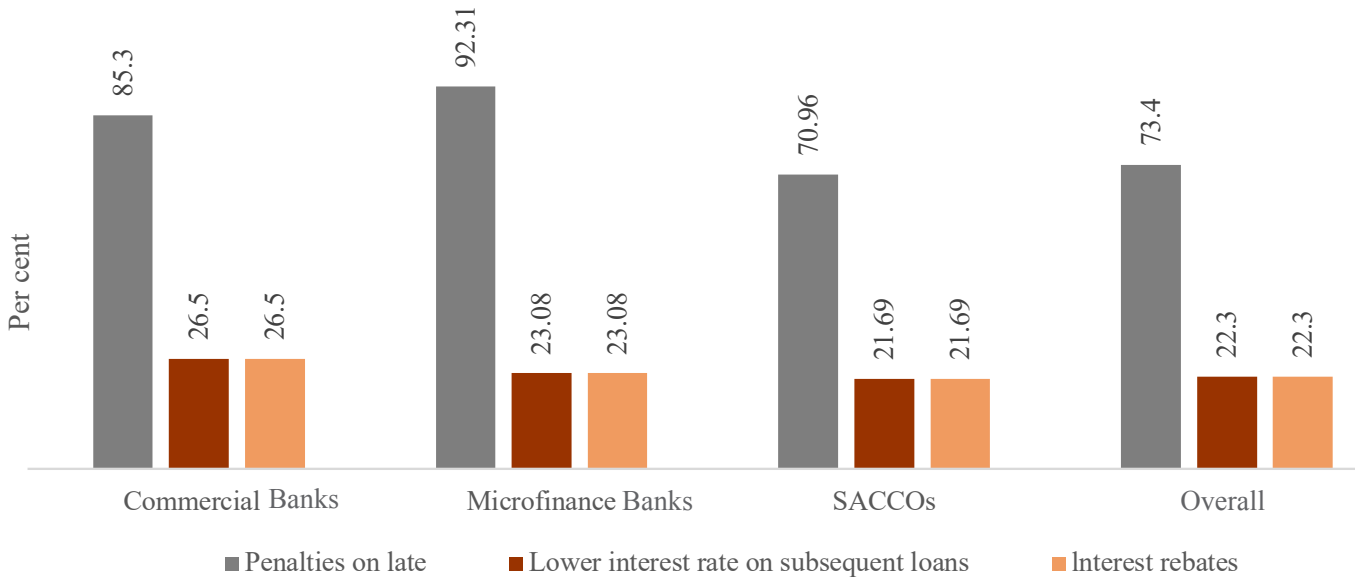
*Figure 7.9: Demand for Housing/Mortgage Products by Special Groups*




## 7.11 Measures used to encourage timely repayment of loans

As shown in Figure 7.10 financiers encourage timely repayment of loans by applying penalties on late repayments, with 73.4 per cent of total financiers indicating its utilization. Other measures include lowering interest rates on subsequent loans and offering interest rebates at 22.3 per cent.

*Figure 7.10: Measures Used to Encourage Timely Repayment of Loans*

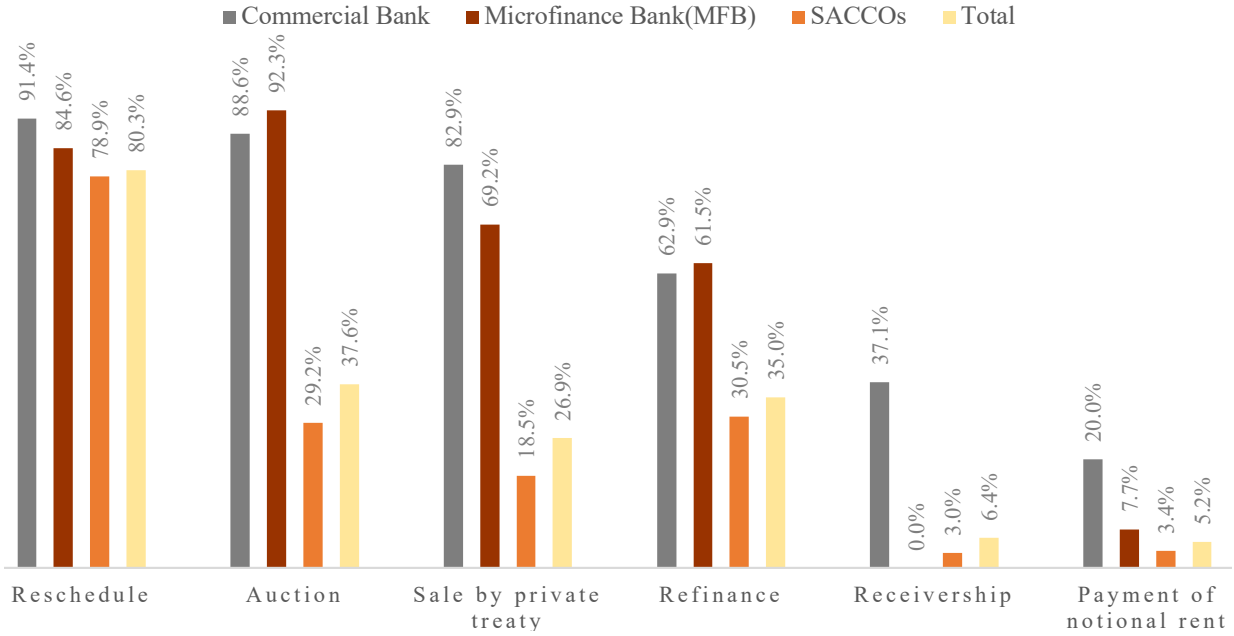



## 7.12 Recovery Processes for Non-Performing Loans

The survey sought to establish the use of various strategies to recover non-performing loans (NPLs), including rescheduling, property auctioning, private treaty sales, refinancing with other institutions, receivership, and payment of notional rent.

Loan rescheduling was used by 80.3 per cent of financial institutions. Most Commercial banks and MFBs use property auction and sale by private treaty as a way of recovering non-performing loans.

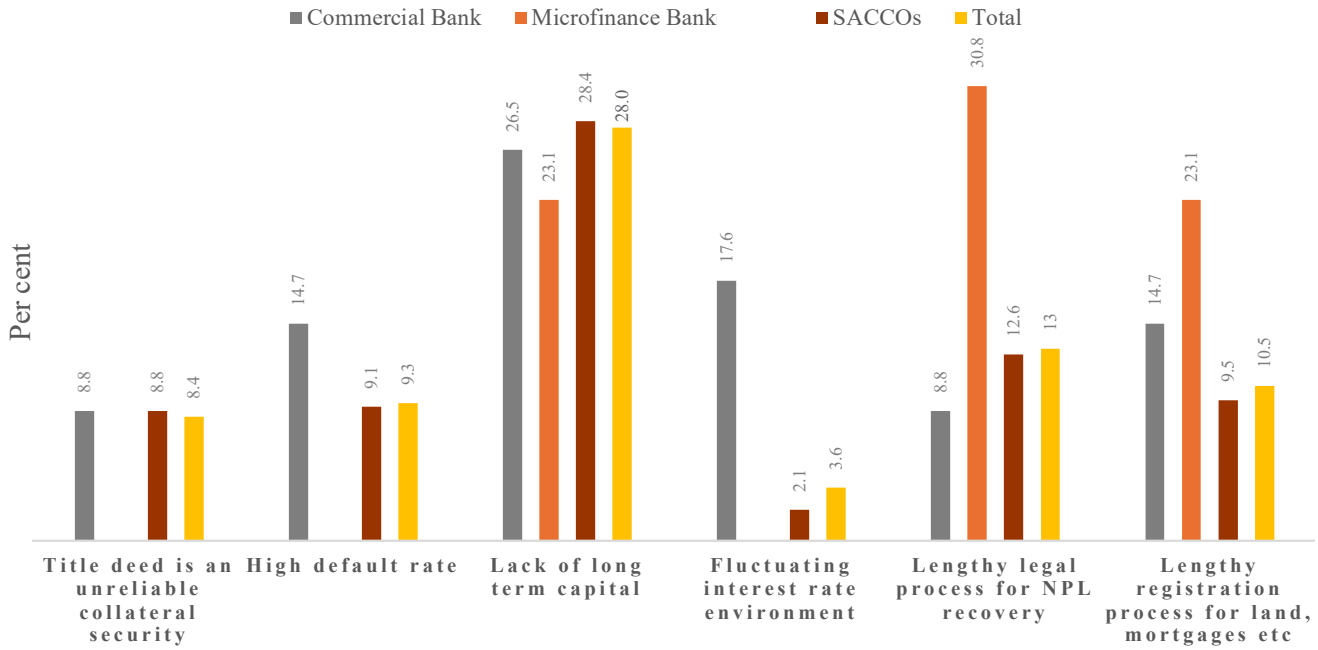
*Figure 7.11: Recovery Processes for Non-Performing Loans*



## 7.13 Barriers to Lending for Mortgage and Construction Financing

The survey sought to identify the primary barriers to lending by financiers. The lack of long-term capital was the main barrier identified by financiers, as indicated in Figure 7.12.

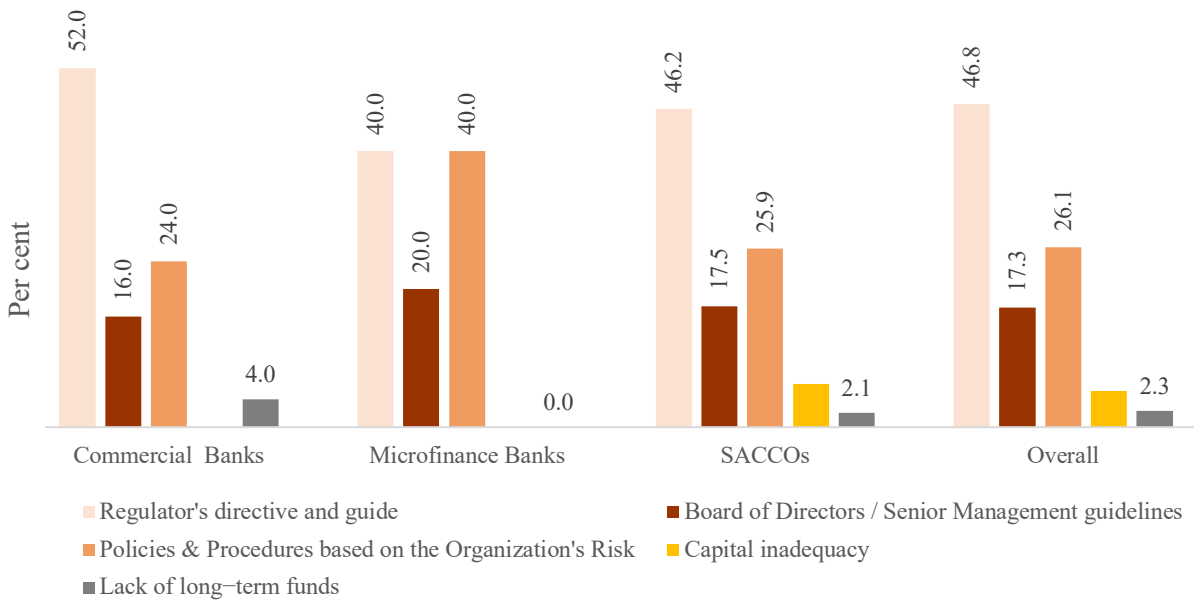
*Figure 7.12: Key barriers to lending*




## 7.14 Funding Restrictions

This survey sought to identify key restrictions on the amount of funding channeled towards financing of housing (construction and mortgages). As shown in Figure 7.13, regulators directives and guides, policies and procedures based on the organization's risk were the most significant reasons for restrictions on the amount of funding that can be channeled towards financing of housing.

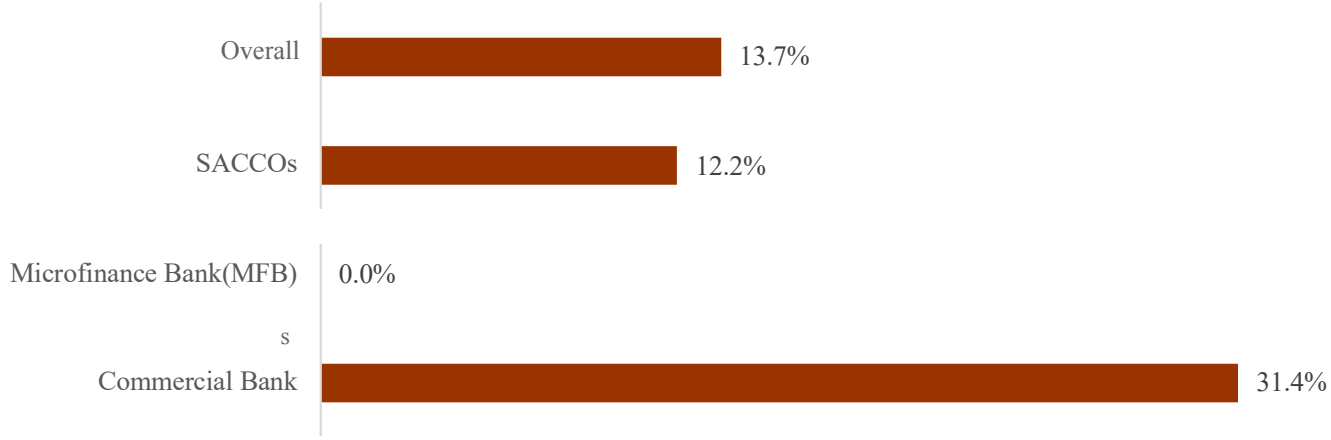
*Figure 7.13: Funding Restrictions*



## 7.15 Financial Incentives

Financiers provided information on whether they provide incentives to borrowers for housing loans. Approximately 13.7 per cent of financiers indicated they have such incentives in place as shown in Figure 7.14.

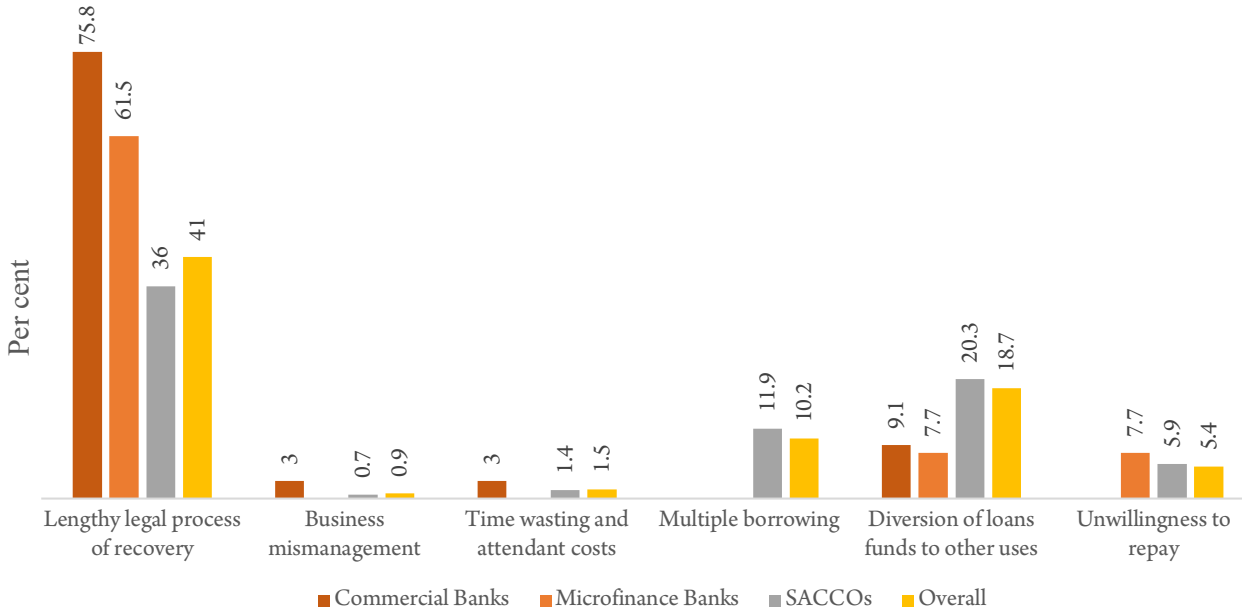
*Figure 7.14: Incentives to lend*

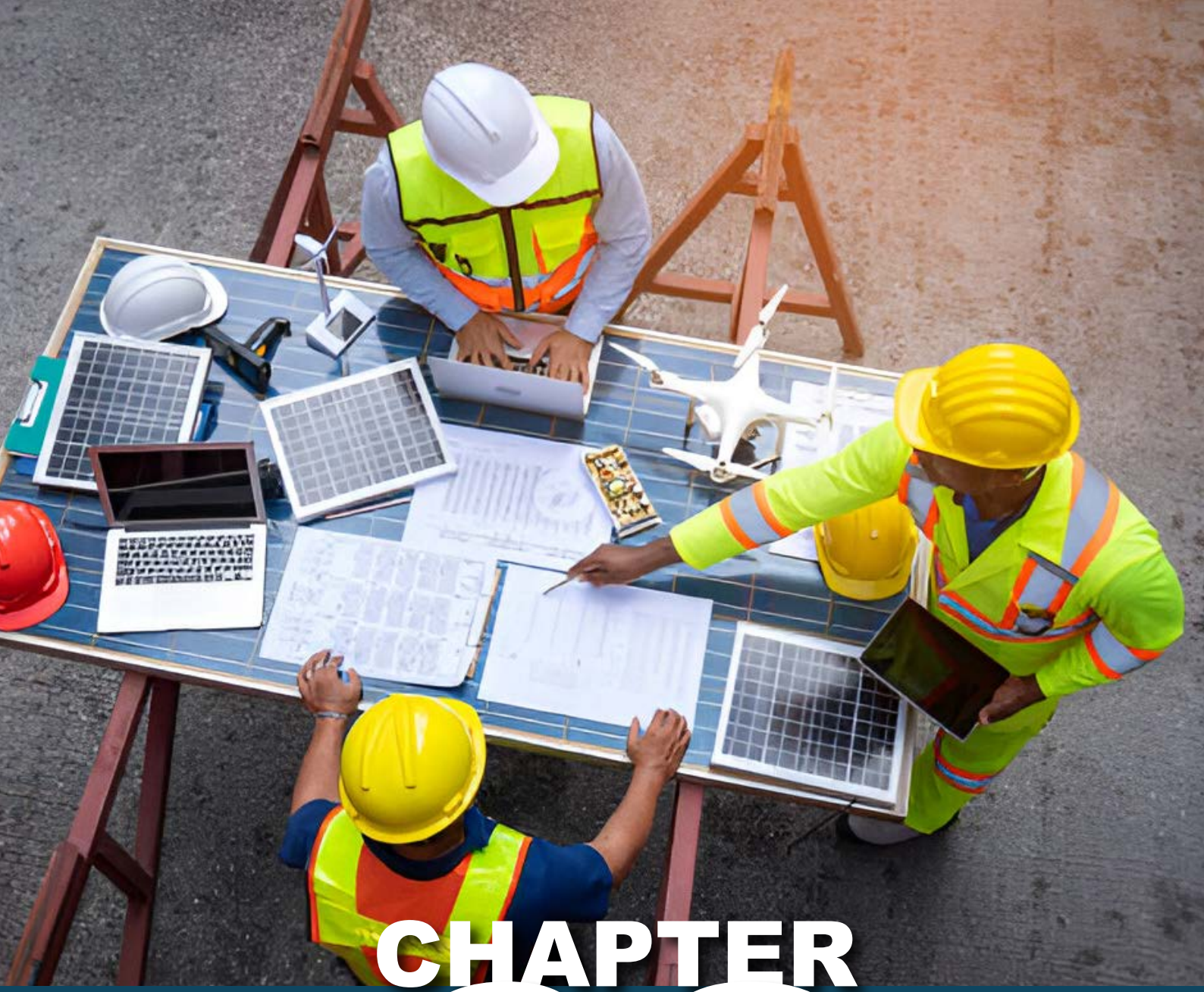



## 7.16 Challenges in Loan Recovery

Financiers identified the key challenges to recovering housing construction and mortgage loans as: lengthy legal process of recovery, business mismanagement, time wastage and associated costs, multiple borrowing, diversion of funds to other uses, and borrower unwillingness to repay, among others as shown in Figure 7.15.

*Figures 7.15: Challenges in recovering housing construction and mortgage loans*





# CHAPTER 08

# Housing Development and Property Prices

## Key Findings

About **66.0** per cent and **35.9** per cent of housing developers reported that county governments and NEMA, respectively take too long to grant approvals for housing development.

County governments charge high fees for housing development approvals as reported by **56.6** per cent of housing developers. Further, **64.2** per cent and **62.3** per cent of housing developers reported that NCA and NEMA, respectively charge reasonable fees.

About **67.9** per cent of housing developers feel approval process for housing development at NEMA is reasonably efficient while **66.0** per cent feel the approval process at NCA is reasonably efficient.

Awareness of the available alternative building technologies is high among developers, an indication that the same technologies may be in use by the developers.

Land availability **(94.1%)**, future returns **(88.2%)**, access to materials **(82.4%)** and access to infrastructure and services **(64.7%)** are among the key factors used to select areas for housing development.

While **69.1** per cent of housing developers are aware of the VAT exemption on construction inputs, only **10.5** per cent of those that were aware of the incentive reported that they benefited from these VAT exemptions.

The average sale price for a two, three and four-bedroom bungalow was **KSh 19.3, KSh 19.5 and KSh 49.9 million,** respectively in 2023,while the average sale price of a three-bedroom maisonette, apartment and townhouse was KSh 20.9 million, KSh 19.4 and KSh 23.3 million, respectively.

Average prices for various types of residential properties are generally high in Nairobi Upper, Kilifi and Mombasa regions compared to other regions of the country. Prices of stand-alone properties are higher than those of apartments of equal number of bedrooms.

## 8.1: Introduction

The rapid growth of Kenya's population and the high rate of urbanization has contributed to increased demand for housing especially in the urban areas. Majority of the housing units are supplied by the private sector who have adopted various housing development and financing models which include site and service schemes, incremental housing development, tenant purchase, own financing, joint ventures, public private partnership and off-plan developments among others. Housing developers are companies or individuals involved in the planning, construction and sale of residential properties. They play a key role in shaping communities and urban landscapes by creating housing options ranging from single-family homes to large apartment complexes.

This chapter explores the extent to which housing developers, adhere to development control requirements, engage professionals in the sector, contract delivery models and knowledge of alternative building materials and technologies, as well as awareness and usage of various incentives available to encourage housing development.

Further, real estate indicators play a pivotal role in informing financial stability, economic policy decision making, and in the compilation of national accounts statistics where they are used as a deflator for the balance sheet and fixed capital formation. The International Monetary Fund Financial Soundness Indicators (FSIs) Guide (IMF, 2019) identifies real estate markets as an important source of indicators relevant for both financial and non-financial sectors. In Kenya, house purchases and rents constitute a high proportion of urban and peri-urban household expenditures. On this account, the 2023/24 Kenya Housing Survey included a component of real estate activities where information on property prices was collected. This chapter also presents the analytical results of the residential property prices from the survey.

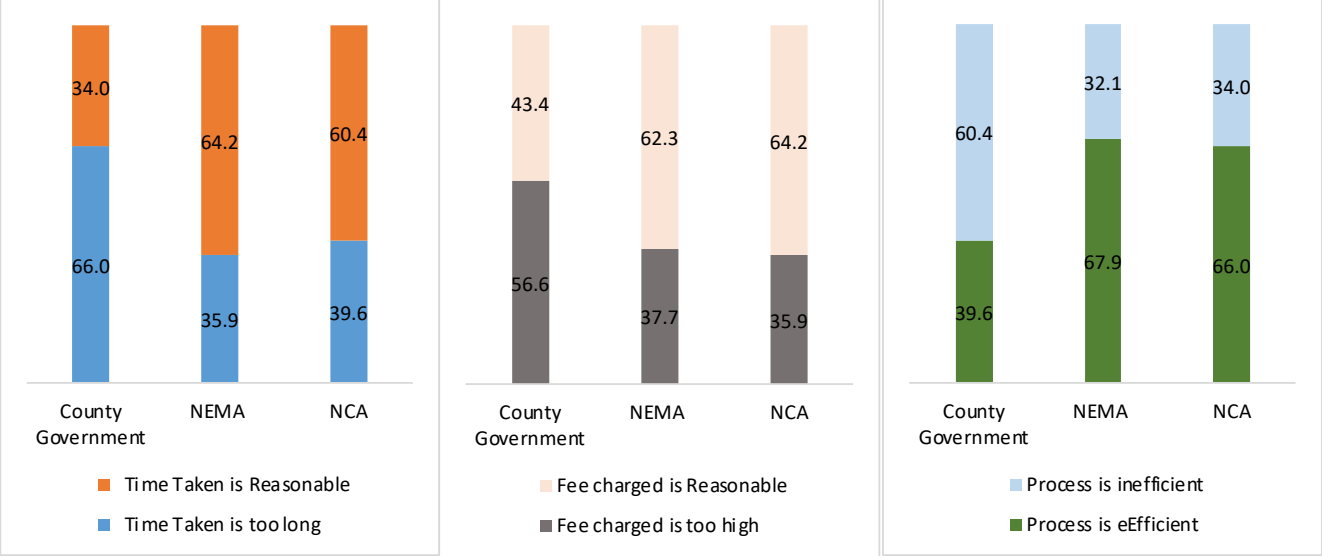
## 8.2 Housing Development

### 8.2.1 Compliance to Housing Development Control Requirements

Housing developers are required to obtain four mandatory construction approvals for construction: Architectural plan approval; Structural plan approval; Environmental Impact Assessment (EIA) License/National Environment Management Authority (NEMA) approval, and National Construction Authority (NCA) project registration. These approvals are granted by County governments, NEMA, and NCA. The survey sought to establish the developers' experiences while seeking approvals from these institutions in terms of time taken, fees charged, and the efficiency of the process of obtaining approvals.

As shown in Figure 8.1, 66.0 per cent reported that county governments take too long to grant approvals for housing development while 64.2 per cent reported that NEMA takes a reasonable amount of time to grant approvals. The survey also revealed that county governments charge high fees for these approvals as reported by 56.6 per cent of housing developers while 64.2 per cent and 62.3 per cent of developers reported that NCA and NEMA charge reasonable fees, respectively. Compared to NEMA and NCA, county governments take too long to grant building approvals and charge higher fees. The approval processes are also inefficient. To promote Housing Develompment county governments need to modernise building applications aprroval processes to enhance efficiency, reduce time taken and attendant costs.

*Figure 8.1: Rating of time taken, fee charged and efficiency of approval process for housing development (%)*

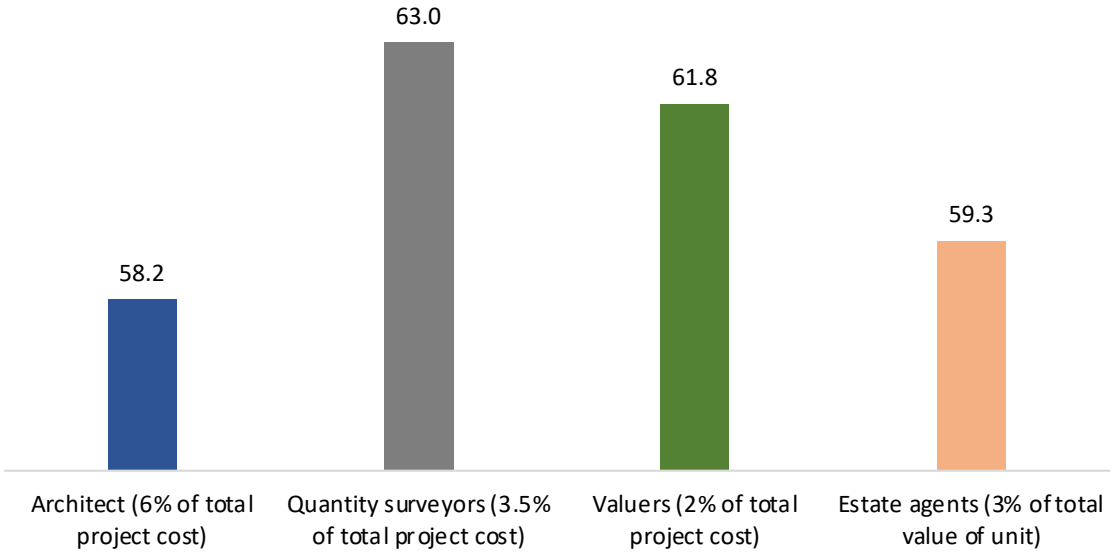



### 8.2.2 Engagement of Built Environment Professionals by Housing Developers

#### 8.2.2.1 Professional fees

The minimum fee charged by building professionals is stipulated in various Acts of parliament. The Architects and Quantity Surveyors Act (Cap 525) sets professional fees for Architects at 6 per cent of the total cost of the project and professional fees for Quantity Surveyors at 3.5 per cent of the total cost of the project. On the other hand, the Valuers Act (Cap 532) sets professional fees for valuers at 2 per cent of the total cost of the project and the Estates Agents Act (533) sets professional fees for agents at 3 per cent of the total value of the unit. The survey sought to establish if these fees are considered by developers as commensurate to the services that these professionals offer. As indicated in Figure 8.2, 63.0 per cent of housing developers feel that fees paid to quantity surveyors is equivalent to the services they provide.

*Figure 8.2: Proportion of developers who consider stipulated professional fees as equivalent to services provided by various built environment professionals*



### 8.2.2.2 Negotiation of Professional Fees

Although the fees for various professionals are stated by law, housing developers may negotiate these fees. The survey results indicate that more than half of housing developers negotiate fees with architects at 80.0 per cent, quantity surveyors at 75.9 per cent, and valuers at 67.3 per cent and estate agents at 64.8 per cent (Figure 8.3). Among those who negotiate professional fees the negotiation occurs very often as shown in Figure 8.4.

**6%**

The Architects and Quantity Surveyors Act (Cap 525) sets professional fees for Architects at 6% of the total cost of the project

**3.5%**

Professional fees for Quantity Surveyors at 3.5% of the total cost of the project.

*Figure 8.3: Proportion of housing developers who negotiate professional fees by type of profession*

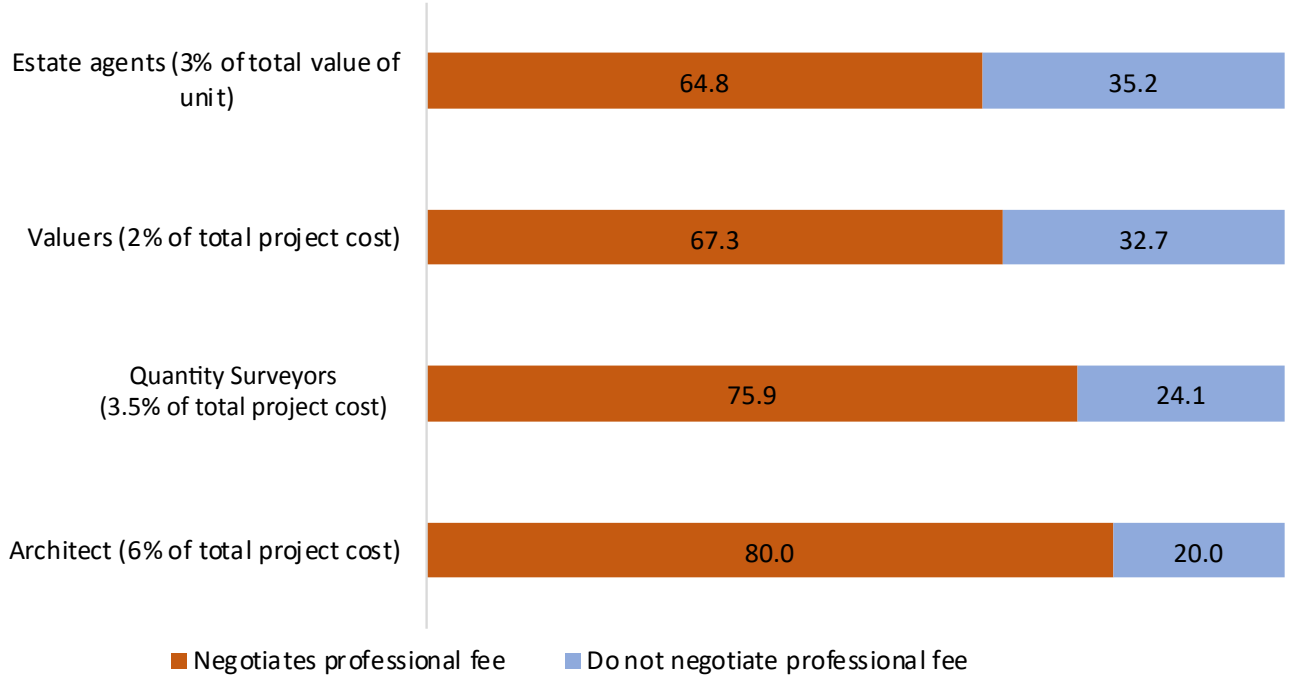
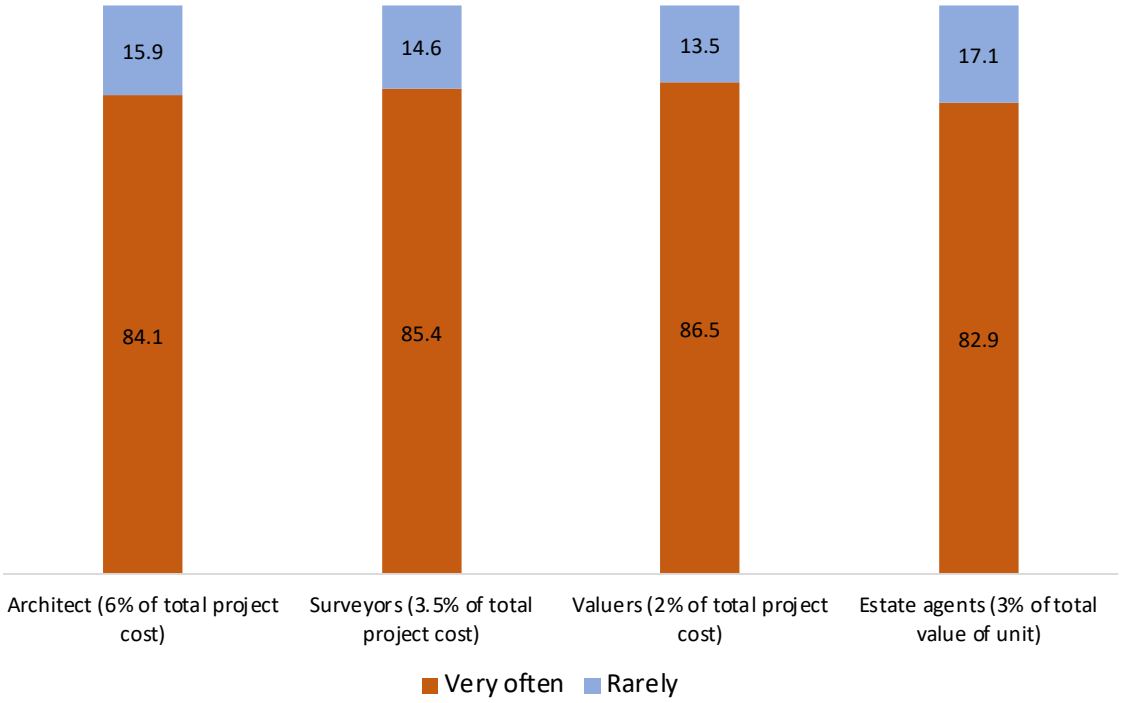


*Figure 8.4: Distribution of housing developers by frequency of negotiating professional fee by type of profession (%)*




More than half of the housing developers regard the stipulated professional fees as equivalent to the services provided. This encourages the use of such professionals leading to quality and safe housing development projects. Despite this majority of housing developers frequently negotiate the stipulated professional fees when they engage the BEPs.

### 8.2.3 Usage of various forms of contracting in housing development

The survey sought to establish the various forms of contracting that are used by housing developers. Figure 8.5 indicates that 73.1 per cent of developers use sub-contracting, 51.9 per cent use labour contracting, and 46.2 per cent do self-build. Less than half of housing developers use turnkey as a form of contracting in housing development.

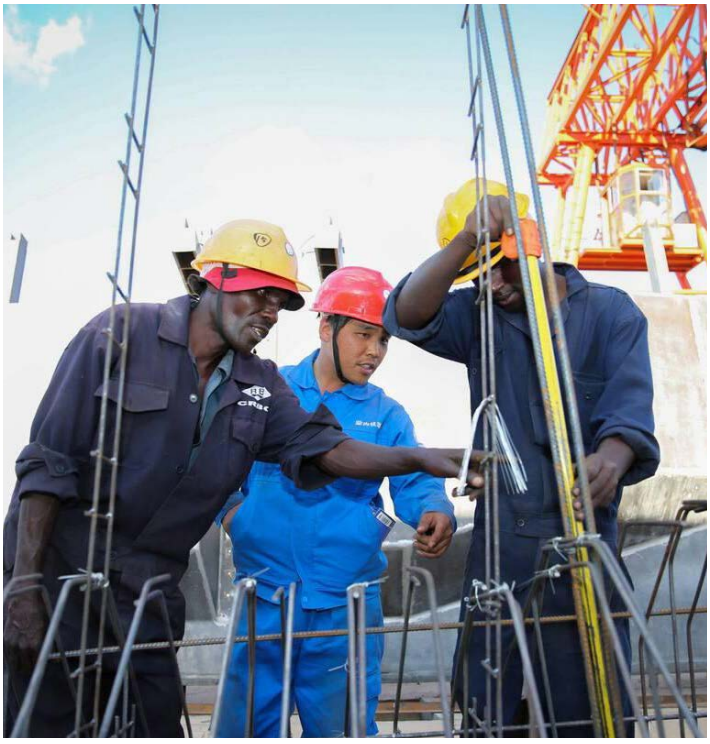
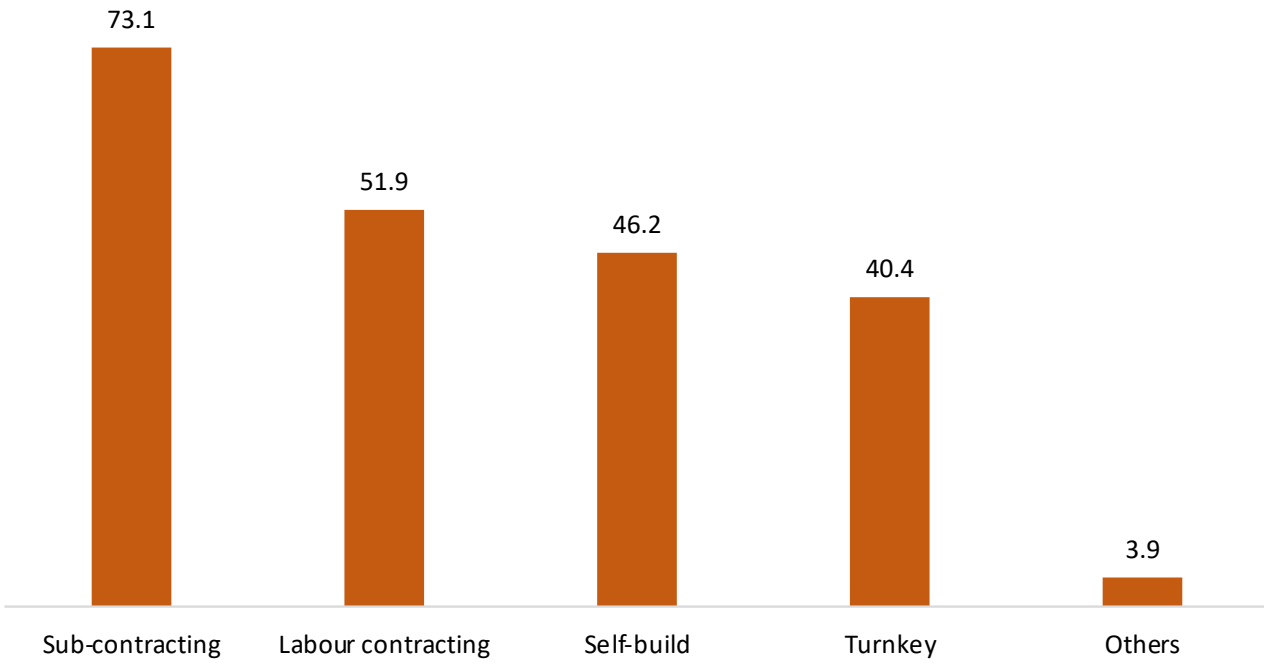


*Figure 8.5: Distribution of developers by usage of various forms of contracting in housing developments (%)*

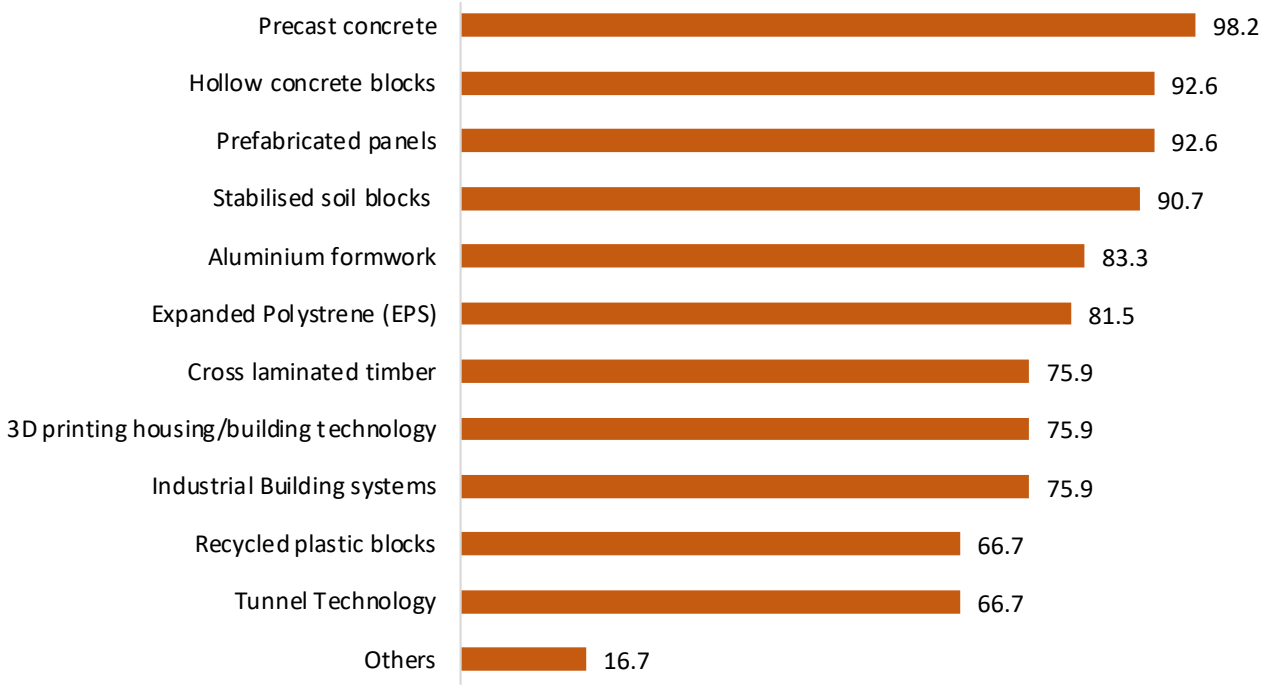



### 8.2.4 Alternative Building Technologies

Alternative Building Technologies (ABTs) are innovative construction methods and materials that differ from conventional building practices. ABTs focus on improving sustainability, efficiency, and cost-effectiveness in the construction process of buildings. The use of ABTs is necessitated by the increasing demand for housing units for the growing population and also hastens housing development. In addition, ABTs are also easier and cheaper to build compared to traditionally built houses using bricks and mortar.

The survey sought to establish whether housing developers were aware of these ABTs. As shown in Figure 8.6, 98.2, 92.6, 92.6, 90.7 and 83.3 per cent of developers are aware of precast concrete, hollow concrete blocks, and prefabricated panels, stabilized soil blocks and aluminum form works, respectively. Additionally, 66.7 per cent of developers are aware of recycled plastic blocks and tunnel technology.

*Figure 8.6: Awareness of alternative building technologies by housing developers (%)*

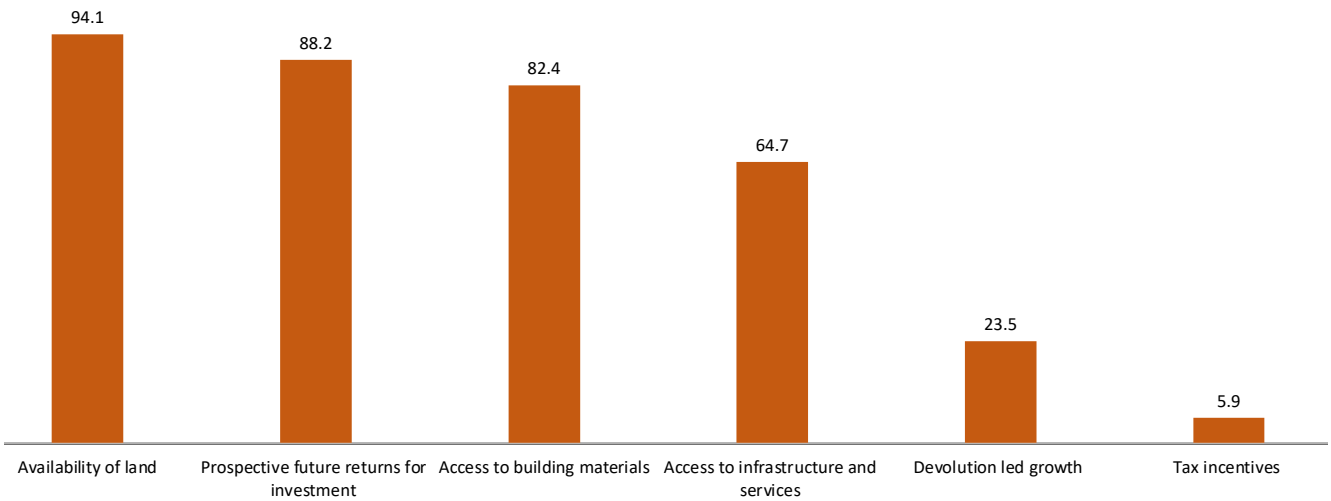



Stabilised soil blocks

### 8.2.5 Choice of Area for Housing Development

The survey sought to establish factors that are considered in the choice of area for housing development. Figure 8.7 shows that land availability, 94.1 per cent, future returns 88.2 per cent, access to materials 82.4 per cent, and access to infrastructure and services 64.7 per cent are the topmost factors that influence the choice of area for housing development. In addition, 23. per cent and 5.9 per cent of housing developers consider devolution led growth and the tax incentives in choosing areas for housing development.

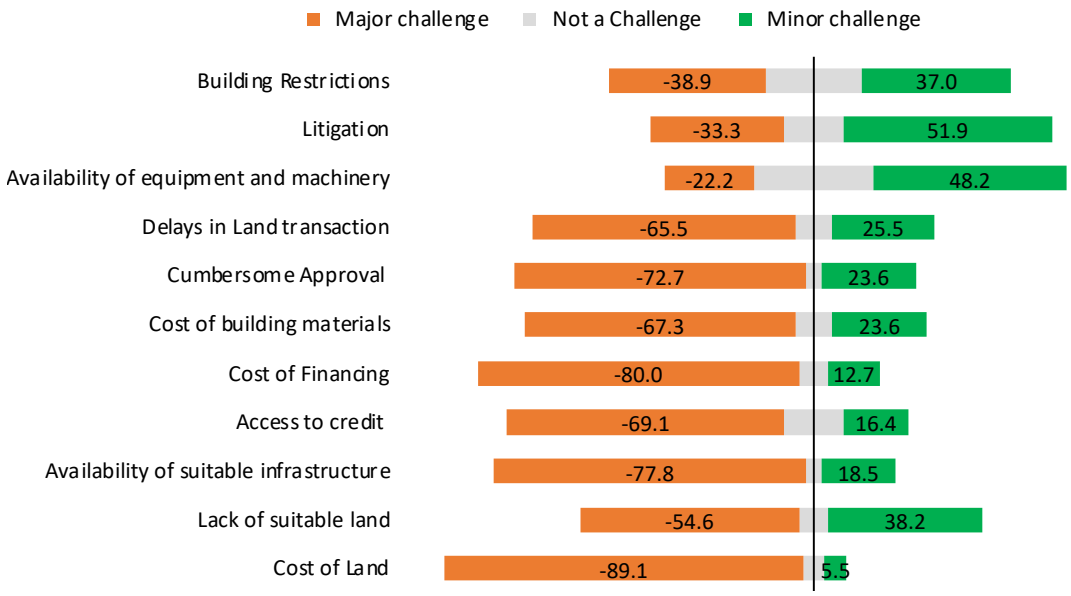
*Figure 8.7: Factors Influencing Choice of Area for Housing Development (%)*



### 8.2.6 Perceived Challenges in Housing Development in Kenya

The survey sought to find out the challenges in housing development from the developers' perspective. The cost of land in Kenya was reported to be a major challenge by 89.1 per cent of developers followed by cost of financing at 80.0 per cent, and unavailability of suitable infrastructure at 77.8 per cent. The cumbersome nature of approval processes from relevant authorities was also cited to be a challenge at 72.7 per cent as well as access to credit at 69.1 per cent and delays in land transaction at 65.5 per cent.

*Figure 8.8: Challenges to housing development in Kenya (%)*




### 8.2.7 Incentives to Housing Development

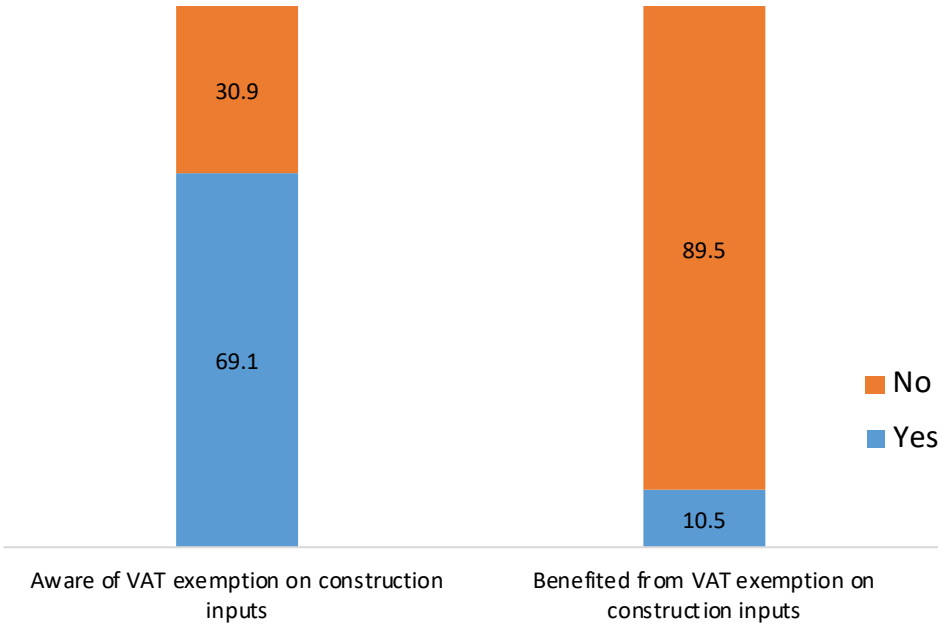
To meet the increasing demand for housing in Kenya, the government has put in place a number of interventions to spur growth of the housing development sector, which includes the affordable housing scheme in the Bottom-Up Transformation Agenda (BETA). The survey sought to assess the level of awareness of some of these incentives among housing developers and whether they have benefited from them.

#### 8.2.7.1 VAT exemption on all construction inputs under affordable housing programme

Under the affordable housing programme, the government has granted a VAT exemption on all construction inputs. As indicated in Figure 8.9, 69.1 per cent of housing developers reported that they are aware of the VAT exemption on construction inputs. However, only 10.5 per cent of the developers that were aware of the incentive, reported that they benefited from these VAT exemptions.

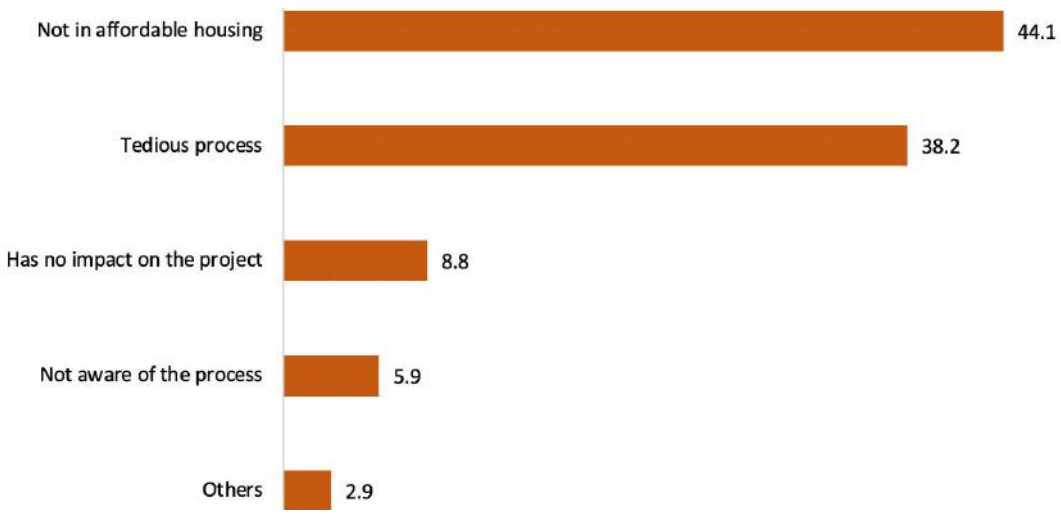
**About 69.1 per cent of housing developers are aware of VAT exemption on construction inputs. Of this, only 10.5 per cent have benefitted from the exemption.**

*Figure 8.9: Proportion of housing developers who are aware of VAT exemption on construction inputs and proportion of housing developers that have benefitted from the exemption*




Housing developers that are aware of the incentive of VAT exemption on construction inputs but have not benefited from the incentive were asked about reasons for not benefiting. As shown in Figure 8.10, 44.1 per cent of housing developers stated that they are not in the affordable housing scheme and therefore could not benefit from the VAT, while 38.2 per cent reported that the process of obtaining this VAT exemption is tedious. About 8.8 per cent of developers reported that VAT exemption on construction inputs has no impact on the project.

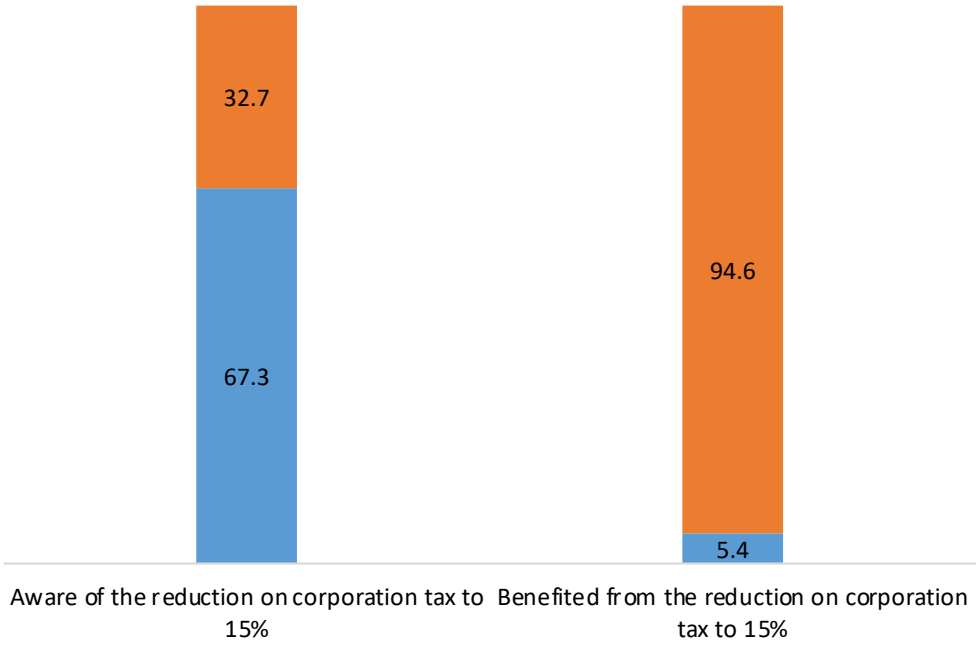
*Figure 8.10: Reasons why housing developers do not benefit from VAT exemption on all construction inputs under affordable housing scheme (%)*



### 8.2.7.2 Reduction of Corporation tax to 15 per cent in the year of income

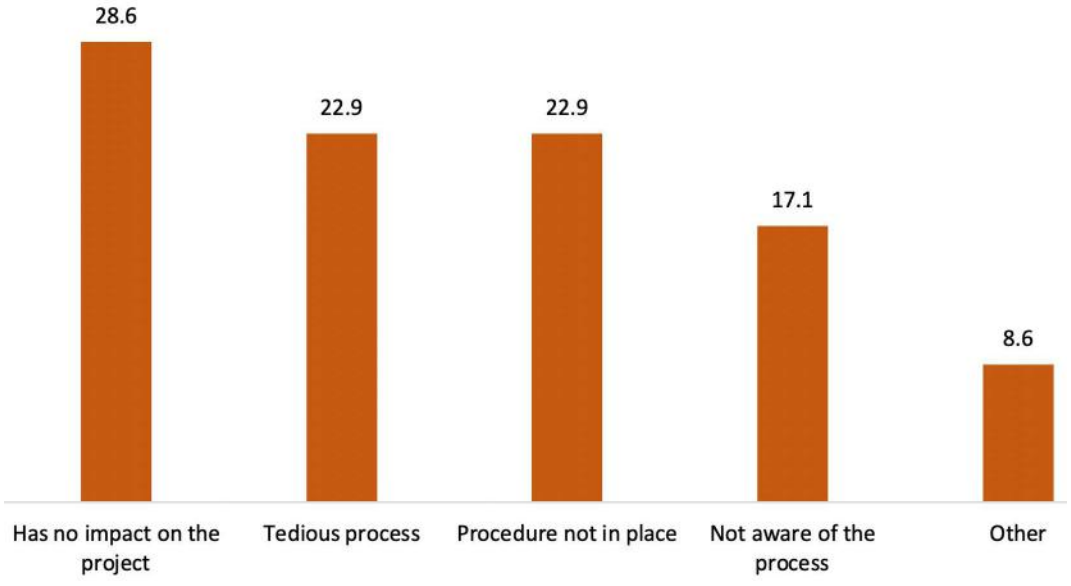
The Government reduced corporation tax to 15 per cent in the year of income for the construction of at least 100 residential units. Figure 8.11 shows that 67.3 per cent of housing developers are aware of this incentive, but only 5.4 per cent have benefited from it.

*Figure 8.11: Proportion of housing developers who are aware of the reduction on corporation tax to 15% in the year of income for construction of at least 100 residential units*




Reasons cited by housing developers for not benefiting from the incentive on reduction of corporation tax to 15 per cent include incentive, not having impact on projects at 28.6 per cent, tedious process to get the incentive and lack of proper procedure not being in place at 22.9 per cent as shown in Figure 7.14.

*Figure 8.12: Reasons for not benefitting from the reduction on corporation tax to 15% in the year of income by housing developers (%)*



## 8.3 Residential Property Prices

### 8.3.1 Average sale prices of residential properties

The average sale prices for residential properties are presented in **Table 8.1.** Residential properties in the market in 2023 were largely in urban areas and their prices varied depending on location, unique characteristics of properties such as number of bedrooms, gross floor areas, land size of stand-alone units, floor area of flats and apartments. Other attributes which influence property prices include environmental factors, safety levels and existing physical and social infrastructure such as sewerage and drainage systems, roads, public transport, health centers, education centers and other social services. The average property prices were weighted based on the number of properties of similar characteristics per region to remove the random noise in the prices.

As indicated in **Table 8.1,** the weighted national average sale price for a two-, three- and four and above -bedroom bungalow was KSh 14.1, KSh 19.5 and KSh 49.9 million, respectively. The sale price of a three-bedroom maisonette was KSh 20.9 million while that of a three-bedroom apartment and townhouse was KSh 12.4 million and KSh 17.3 million, respectively. The sale price of a three-bedroom maisonette, apartment and townhouse was KSh 20.9 million, KSh 13.5 and KSh 23.3 million, respectively. Across all categories of residential properties, the prices of properties increased with the size of the property given by the number of bedrooms. The prices of stand-alone properties such as bungalows, maisonette and town house were higher compared to the prices of flats and apartments.

**Table 8.1: Average sale price of residential properties**

| Type of Property | Weighted Average Sale Price (KSh) |
|---|---|
| Bungalow two bedroom | 14,152,209 |
| Bungalow three bedroom | 19,503,003 |
| Bungalow four and above bedroom | 49,969,590 |
| Masionette three bedroom | 20,883,333 |
| Masionette four and above bedroom | 95,979,797 |
| Flat/Apartment bedsitter/ studio | 4,730,475 |
| Flat/Apartment one bedroom | 6,440,393 |
| Flat/Apartment two bedroom | 7,874,312 |
| Flat/Apartment three bedroom | 13,491,787 |
| Flat/Apartment four and above bedroom | 46,407,688 |
| Town house-one bedroom | 14,050,000 |
| Town house-two bedroom | 17,349,939 |
| Town house-three bedroom | 23,260,606 |
| Town house-four and above bedroom | 61,144,495 |
| Town House-four and above bedrooms | 61,144,495 |

**The International Monetary Fund Financial Soundness Indicators (FSIs) Guide (IMF, 2019) identifies real estate markets as an important source of indicators relevant for both financial and non-financial sectors.**


### 8.3.2 Average sale prices of residential properties by region

The price for residential properties by type and region are shown in Table 8.2. for effective analysis, the data collected is subdivided into eleven regions based on geographic location, similar characteristics and prices. The regions include Mombasa consisting of all areas within Mombasa County; Kilifi consisting of all areas within Kilifi County; Other Coast consisting of Kwale, Lamu and Taita Taveta Counties; and Machakos; Kiambu and Kajiado Counties. Nairobi County is divided into four sub-regions consisting of Nairobi Upper; Nairobi Upper Middle; Nairobi Middle and Nairobi Lower. Nairobi Upper sub-region consists of areas such as Runda, Karen, Muthaiga, Lavington and similar areas. Nairobi Upper Middle region consists of areas such as Kilimani, Kileleshwa, Highridge, South B, Garden Estate, South C, Upper Hill, Westlands, Riverside, and other areas of similar status while Nairobi Middle region consists of areas like Kasarani, Donholm, Kamulu, Ruai, Buruburu, and Madaraka. Nairobi Lower region consists of areas such as Ngara, Makadara, Kawangware, and Kibra, among other areas of similar status. However, the survey collected fewer properties in Other Coast, Other Counties and Kilifi regions whose prices exhibited wide variations.

#### a) Bungalow

As shown in table 8.2, the average sale price of a two - bedroom bungalow was KSh 16.7 million in Mombasa, KSh 11.2 million in Nairobi Middle and lowest in Kajiado at KSh 2.9 million. Similarly, the price of a three-bedroom bungalow was highest in Nairobi Upper at KSh. 89.8 million followed by Nairobi Upper Middle region at KSh. 34.4 million and the lowest in Machakos at KSh 6.0 million. On the other hand, the price of a four and above bedroom bungalow was highest in Nairobi Upper region at KSh 91.4 million and lowest in Nairobi Lower at KSh 8.1 million.

### b) Apartment

The price for a four and above bedrooms apartment ranged between KSh 91.9 million in Nairobi Upper Region to KSh 7.6 million in Nairobi Lower. Among the regions in Nairobi, the price of a one-bedroom apartment ranged between KSh 5.9 million in Nairobi Lower to KSh 60.0 million in Nairobi Upper while the price for the same apartment was KSh 7.9 million, 4.2 million, 5.5 million and 2.2 million in Mombasa, Machakos, Kiambu and Kajiado respectively. A three-bedroom apartment fetched KSh 20.4 million in Mombasa, KSh 11.4 in Kajiado and KSh 14.9 million in Nairobi Middle region. The average sale price for a studio apartment was KSh 4.8 million in Nairobi Lower region, KSh 5.0 million in Kiambu and KSh 2.2 million in Machakos.

### c) Maisonette

The price for three-bedroom maisonette ranged from KSh 11.2 million in Kajiado to KSh 88.0 million in Nairobi Upper region. On average, a four-bedroom and above maisonette was priced between KSh 6.5 million in Nairobi Lower region and KSh 121.2 million in Nairobi Upper region.

### d) Town houses

The average sale price of a three-bedroom townhouse ranged from KSh 8.3 million in Nairobi Lower to KSh 83.6 million in Nairobi Upper region. Townhouses with at least four bedrooms were the most expensive, with an average price of between KSh 8.1 million in Nairobi Lower to KSh 97.0 million in Nairobi Upper.

**A three-bedroom apartment fetched KSh 20.4 million in Mombasa, KSh 11.4 in Kajiado and KSh 14.9 million in Nairobi Middle region.**

**Table 8.2: Average sale prices of residential properties by region**

| Type of Property | Kajiado | Kiambu | Machakos | Mombasa | Nairobi Lower | Nairobi Middle | Nairobi Upper Middle | Nairobi Upper |
|---|---|---|---|---|---|---|---|---|
| Bungalow two bedroom | 2,886,047 | .. | .. | 16,714,286 | 6,500,000 | 11,150,000 | .. | 66,333,333 |
| Bungalow three bedroom | 7,985,689 | 16,384,906 | 6,004,612 | 27,656,026 | 7,247,500 | 13,710,419 | 34,417,292 | 89,833,333 |
| Bungalow four and above bedroom | 10,641,785 | 39,565,705 | 17,044,737 | 57,781,884 | 8,133,333 | 14,454,651 | 35,754,888 | 91,442,652 |
| Flat/Apartment bedsitter/studio | .. | 5,000,000 | 2,150,000 | .. | 4,770,000 | .. | .. | .. |
| Flat/Apartment one bedroom | 2,200,000 | 5,498,366 | 4,219,444 | 7,866,216 | 5,854,471 | 13,165,194 | 21,924,000 | 60,000,000 |
| Flat/Apartment two bedroom | 6,864,619 | 12,383,440 | 6,004,492 | 12,412,609 | 7,383,965 | 13,426,535 | 23,945,112 | 68,000,000 |
| Flat/Apartment three bedroom | 11,383,504 | 15,032,768 | 6,952,981 | 20,431,008 | 7,400,000 | 14,909,241 | 26,570,127 | 80,510,808 |
| Flat/Apartment four and above bedroom | 26,357,143 | 25,941,667 | 12,100,000 | 40,915,254 | 7,550,000 | 15,743,902 | 29,238,826 | 91,903,043 |
| Masionette three bedroom | 11,200,000 | 14,700,000 | 14,500,000 | .. | .. | 13,533,333 | 31,333,333 | 88,000,000 |
| Masionette four and above bedroom | 17,586,932 | 58,678,571 | 23,150,000 | 96,056,818 | 6,500,000 | 15,090,909 | 42,097,368 | 121,204,508 |
| Town house-three bedroom | 8,436,633 | 25,453,571 | 9,150,000 | 25,967,667 | 8,325,000 | 12,793,333 | 30,425,000 | 83,571,429 |
| Town house-four and above bedroom | 41,878,717 | 49,462,209 | 28,946,154 | 54,575,000 | 8,075,000 | 14,480,000 | 35,125,676 | 97,006,447 |

*.. few observations*

# CHAPTER 09

# Built Environment Professionals

## 9.1 Introduction

Built Environment Professionals (BEPs) sit at the center of housing development through design, engineering, construction, surveying, management and planning of housing projects or spaces where people live, work and play as well as ensuring safety, conducive and healthy living environment. These professionals include valuers, architects, physical panners, engineers (civil/ structural/ mechanical/ electrical), building surveyors and land surveyors. The 2023/24 KHS sought to find out the role of BEPs in promoting housing development, affordability, competitiveness and promotion of general economic growth through reduced cost of housing. The survey also sought to establish ways and means of improving housing conditions and the challenges facing housing development in Kenya. Information on various housing aspects and regulations was collected from various professionals who participated in the survey and were drawn from registration and professional bodies.

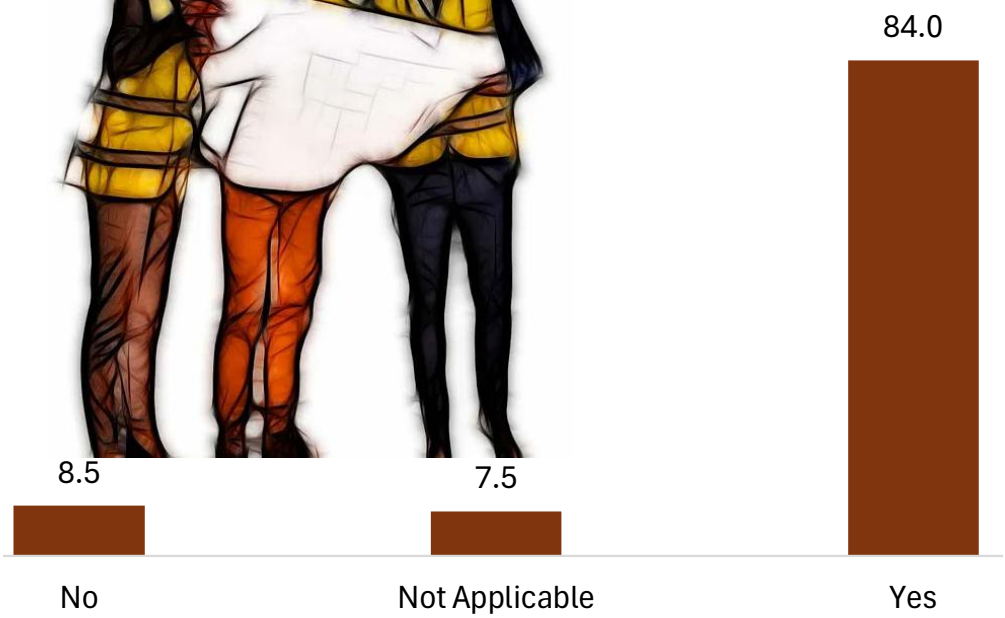
## Key Findings

- 82.5% of surveyed Built Environment Professionals advise their clients to use alternative building technologies and materials.
- Of the Built Environment Professionals that advise their clients on the usage of alternative building materials and technologies, 34.8% advise their clients to use solar energy systems
- 25.3% of Built Environment Professionals have clients who prefer to go through the building approval process.
- Lengthy approval process (41.7%) and cost (40.5%) and the top reasons why some people do not go through the building approval process.
- Lowering the cost of construction materials (53.2%) and provision of tax incentives and concessions (50.0%) are main ways to reduce the cost of housing construction.
- High cost of finance (23.3%), high cost of building materials (20.0%), high cost of land (17.8%) are the main challenges to housing development.
- The use of unqualified professionals for construction (72.3%), use of unqualified professionals for supervision (66.0%) and use of sub-standard materials (59.6%) are the top reasons why buildings under construction collapse.

## 9.2 Advisory Practices of Built Environment Professionals to Clients on Alternative Building Technologies and Materials

The use of alternative technology in construction enhances delivery of high-quality buildings and value for resources. The survey sought to establish whether Built Environment Professionals advise their clients on usage of alternative materials and technologies. As shown in Figure 9.1, among the Built Environment Professionals who responded to the survey, 84.0 per cent reported that they advise their clients to use alternative building technologies and materials.

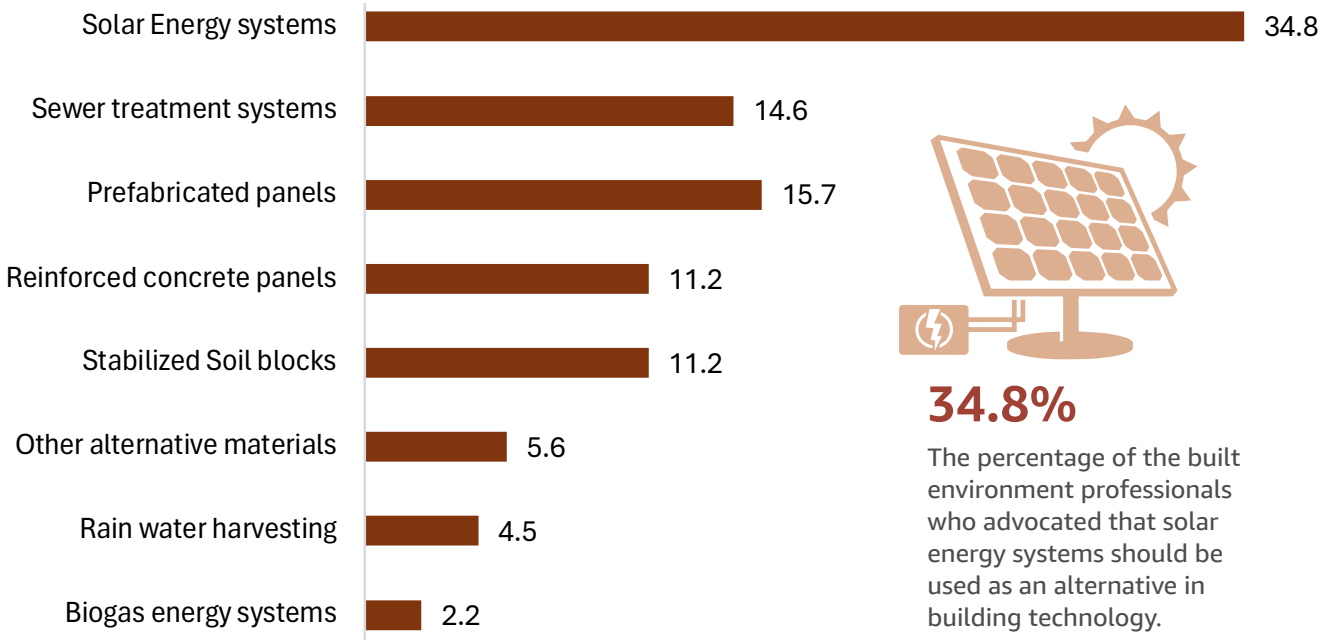
*Figure 9.1: Advisory Practices of Built Environment Professionals to Clients on Alternative Building Technologies and Materials (%)*




## 9.3 Alternative Building Technologies and Materials Advocated for use by Built Environment Professionals

Among the Built Environment Professionals that advise their clients on the usage of alternative building materials and technologies, 34.8 per cent advise their clients to use solar energy systems, 14.6 per cent advise their clients to use sewer treatment systems and 15.7 per cent advise their clients to use prefabricated panels. Further, 11.2 per cent advise their clients to use reinforced concrete panels and stabilized soil blocks. On the other hand, only 2.2 per cent of the Built Environment Professionals advise their clients to use biogas energy systems as an alternative energy source in housing development. This shows there is preference towards the use of solar energy systems compared to other alternative building materials and technologies.

*Figure 9.2: Alternative Building Technologies and Materials Advocated for use by the Built Environment Professionals (%)*





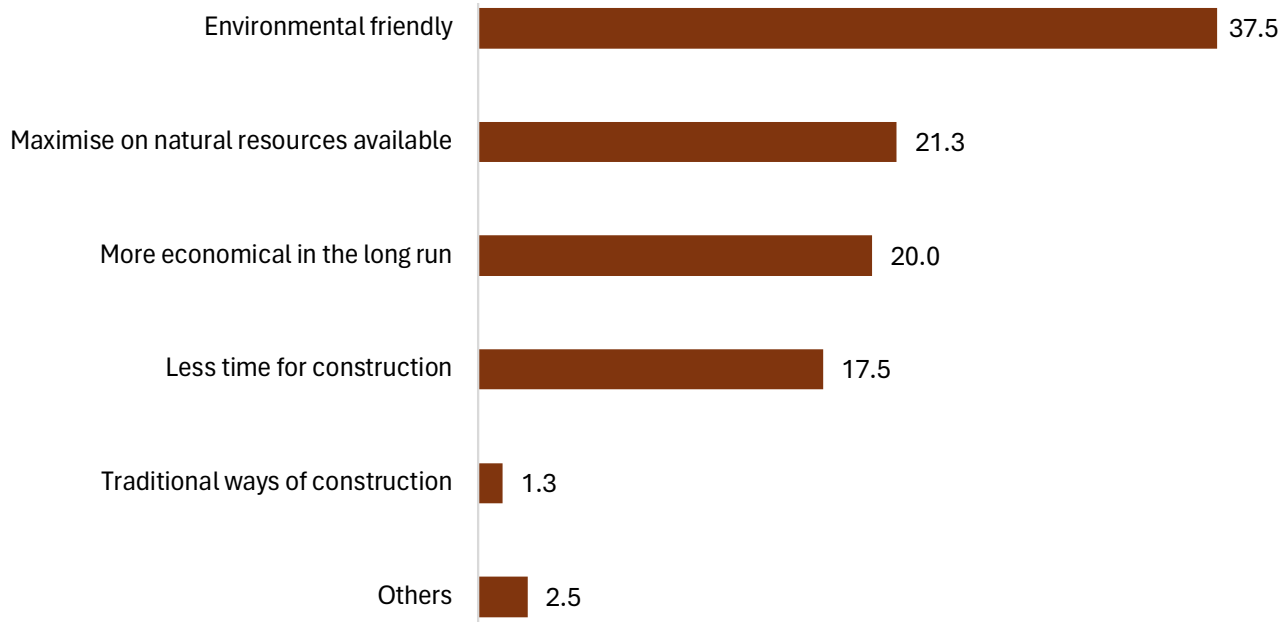

**34.8%**

The percentage of the built environment professionals who advocated that solar energy systems should be used as an alternative in building technology.

## 9.4 Reasons for Alternative Building Technologies and Materials

There are varied reasons why BEPs advise their clients to use different alternative building materials and technologies. As shown in Figure 9.3, 37.5 and 21.3 per cent of the Built Environment Professionals advise their clients to use alternative building materials and technologies since they are environmentally friendly and to maximize on the available natural resources, respectively. Further, 20.0 per cent of the professionals advocate the use of alternative building materials and technologies because they are more economical in the long run.

*Figure 9.3: Reasons for Use of Alternative Building Technologies and Materials (%)*

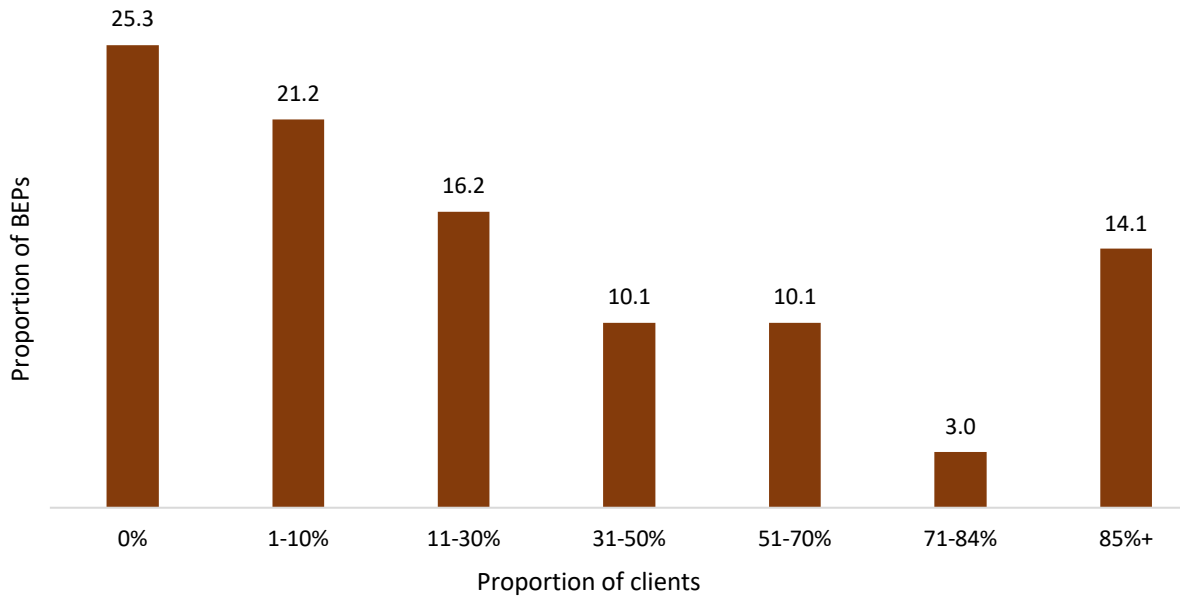


## 9.5 Adherence to Building Approval Process

The Physical and Land Use Planning Act 2019, Urban Areas and Cities Act, 2011, and the County Governments Act, 2012 put emphasis on development control to ensure all physical developments obtain the necessary development permits. Development control consists of managing or regulating the carrying out of any works on land or making any material changes in the use of any land or structures and ensuring that operations on land conform to spatial development plans. The approvals may be sought by individuals, groups, or corporate entities. These regulatory frameworks aim to ensure orderly physical and land use development, optimal land use, protection and conservation of the environment, enhance land administration, and uphold health and safety standards.

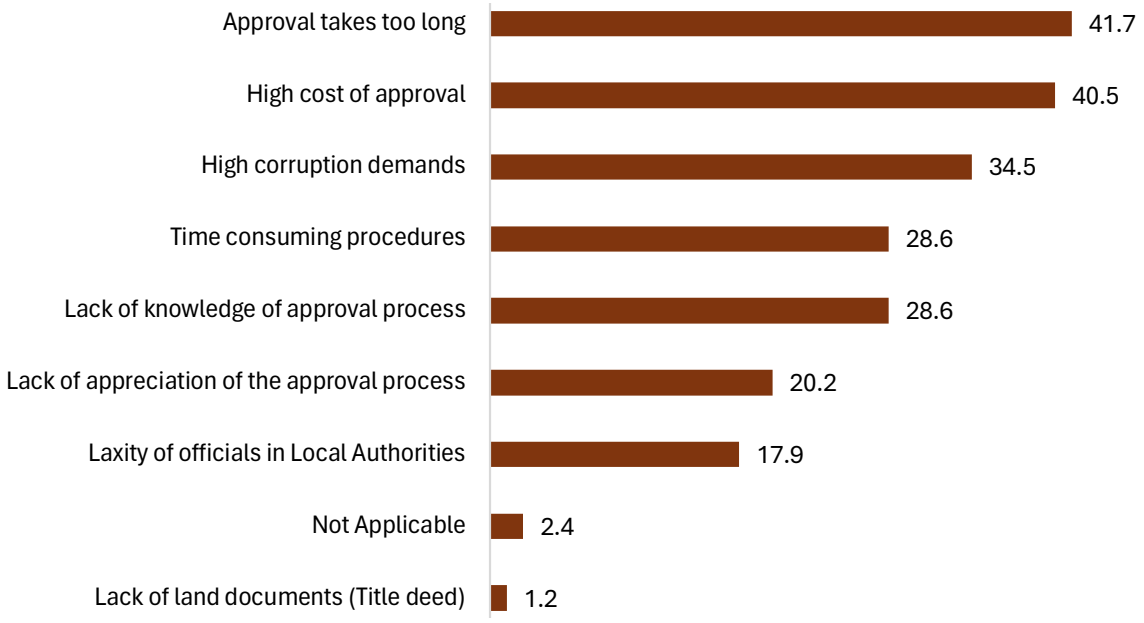
The survey sought to establish from the various Built Environment Professionals the proportion of their clients who do not prefer to go through the building approval process as stipulated by the various legislations and policies. The findings of the survey indicate that 25.3 per cent of the Built Environment Professionals reported that their clients prefer to go through the building approval process. On the other hand, 14.1 per cent of the BEPs have more than 85% clients who do not want to go through the approval process as shown in figure 9.4.

*Figure 9.4: Compliance with Building Approval Process by Clients of Built Environment Professionals (%)*



Among the clients of the Built Environment Professionals who do not prefer (decline) to go through the official building approval process, the Built Environment Professionals believe they do so because the approval process takes too long (41.7%), the approval process is costly (40.5%) and there is rampant corruption in the approval process (34.5%) as indicated in figure 9.5. Further, 28.6 per cent of the Built Environment Professionals believe that their clients decline to go through the official building approval process due to lack of knowledge of the approval process.

*Figure 9.5: Reasons not seeking official building approval (%)*



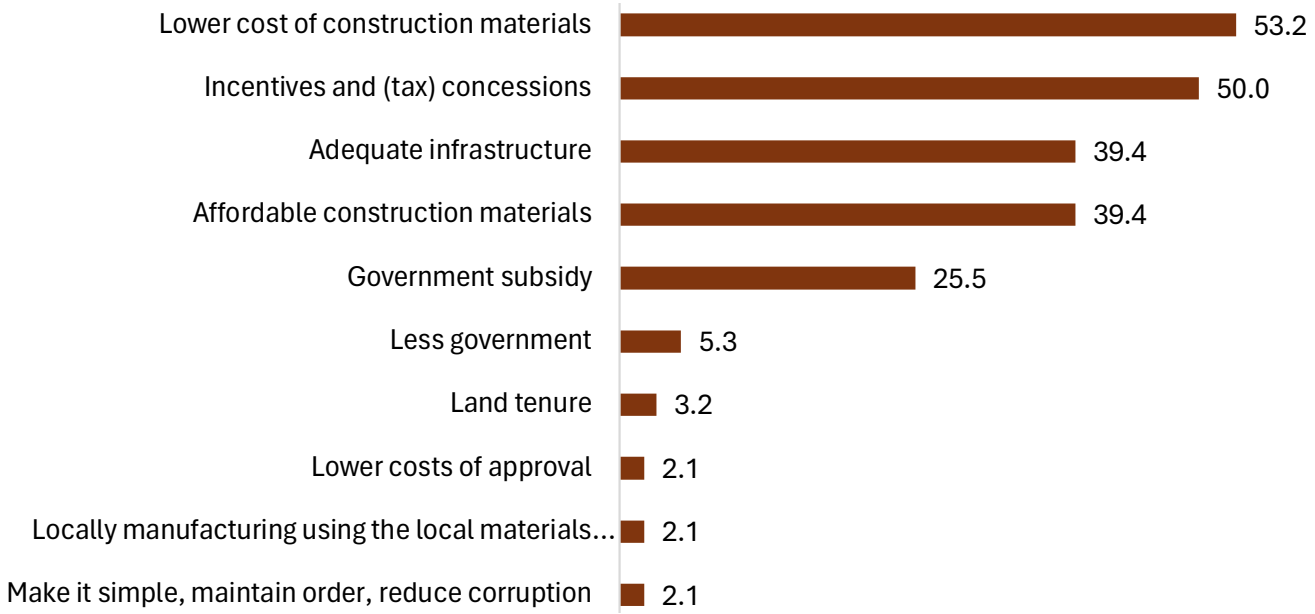

## 9.6 Steps to Reduce the Cost of Housing Construction

There is a mismatch between supply and demand of houses in Kenya, partly on account of high construction cost and the attendant sale or rent prices. Therefore, reducing the cost of housing development is crucial for addressing a wide range of issues, including affordability, increased supply, low demand for houses, economic growth, competitiveness, among other benefits. The survey collected information from the Built Environment Professionals on the steps that can be taken to reduce the cost of housing construction in Kenya. The results presented in figure 9.6 indicate that the top five steps to reduce the cost of housing construction are: lowering the cost of construction materials (53.2%), provision of tax incentives and concessions (50.0%), enhancing adequate infrastructure (39.4%), availing affordable construction materials (39.4%) and necessary government subsidies (25.5%).

**25.3%**
The proportion BEPs who reported that their clients prefer to go through the building approval process.

**52.2%**
The proportion of quantity Surveyors with indemnity cover.

*Figure 9.6: Views of Built Environment Professionals on steps to reduce the cost of housing construction (%)*




**12.9%**

The percentage of BEPs who were of the opinion that clear rules and regulations contribute to effectiveness of registration boards.

**50%**

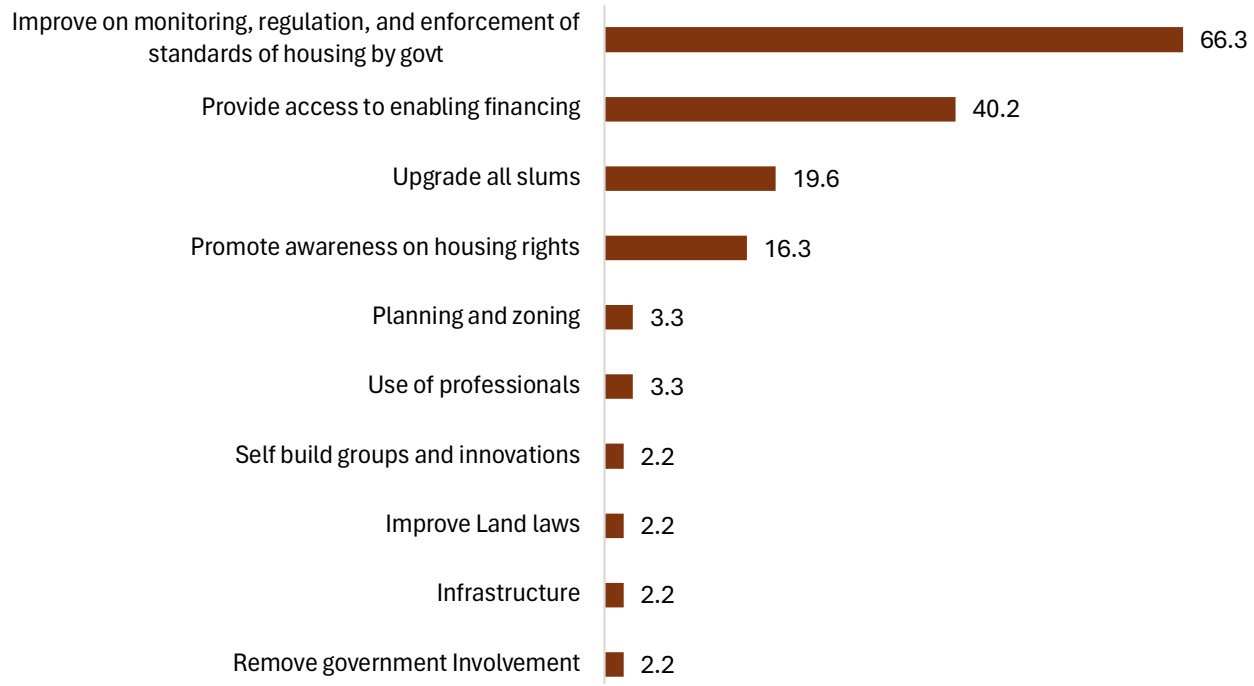
The Built Environment Professionals reported that incentives and tax concessions, could lower the housing development costs.

## 9.7 Steps to Improve Housing Conditions

Living in a low-quality house can pose health and safety concerns to the occupants. Due to unfavorable economic situations, people must choose between residing in a substandard house with lower cost or paying more for a modest home/ house. The quality of a house is in part dependent on the expertise of professionals, construction materials used and maintenance of the property, among other factors. The survey sought to collect information from Built Environment Professionals on their views on the steps that can be put in place to improve housing conditions, thus improving the quality of housing.

The findings in figure 9.7 indicate that the top four steps to improve housing conditions are: improving on monitoring, regulation and enforcement of standards of housing by the government (66.3%), providing access to enabling financing (40.2%), upgrading of all slums (19.6%) and promotion of awareness on housing rights (16.3%). This aligns well with the Government's programme on affordable housing that also seeks to upgrade slums and avail housing units to the population at affordable prices.

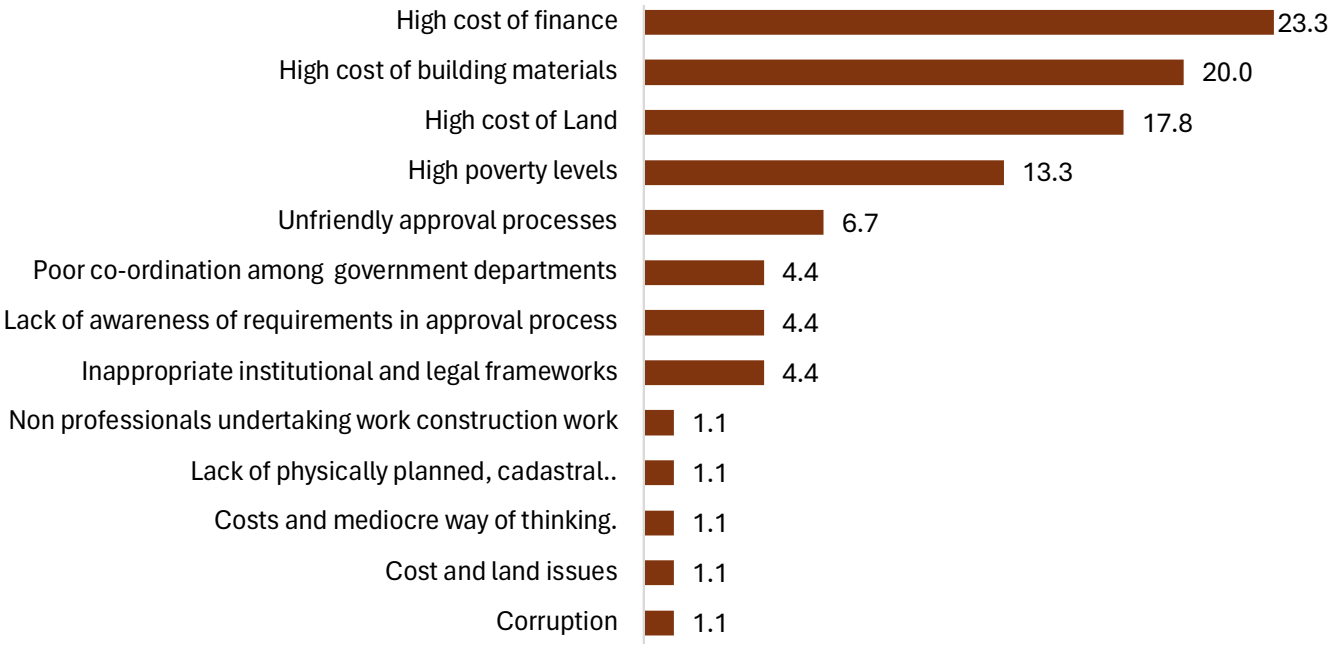
*Figure 9.7: Steps to improve housing conditions (%)*




## 9.8 Challenges Facing Housing Development

The housing sector has not realized its full potential, partly on account of several challenges that the sector continues to face. The survey sought to collect the views of Built Environment Professionals on the key challenges facing the sector. The results in figure 9.8 indicate that the Built Environment Professionals regard high cost of finance (23.3%) as the topmost challenge facing the housing sector in Kenya. These results corroborate with the findings in chapter 7 which indicate that affordability is the main issue on accessing housing finance. The other challenges identified by the professionals include high cost of building materials (20.0%), high cost of land (17.8%) and high poverty levels (13.3%), which reduce people's ability to purchase or develop houses.

*Figure 9.8: Challenges facing housing development (%)*




To overcome the challenges in housing development, the Built Environment Professionals indicated that there is need to reduce high interest rates (16.7%), create tax incentives (14.4%) and use alternative appropriate building technologies and materials (13.3%). Further, a review of the institutional and legal frameworks that govern housing development in Kenya (12.2%) and subsidizing cost of materials (11.1%) would ease the approval process and reduce the cost of building materials and construction projects thus promoting housing development in Kenya (table 9.1).

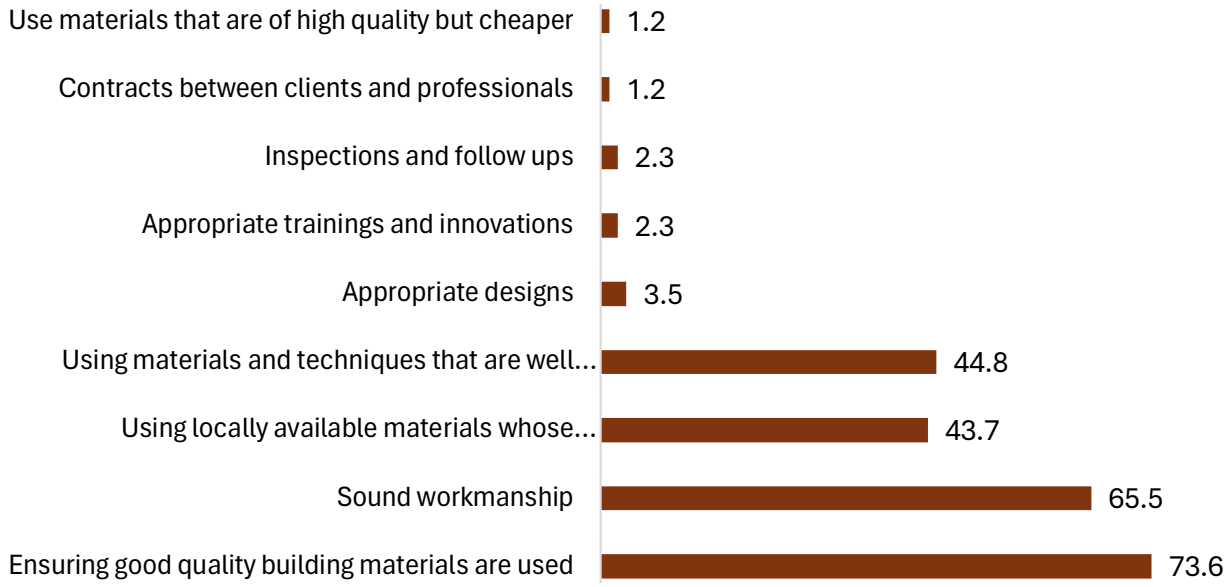
**Table 9.1: Measures to Overcome Challenges Facing Housing Development (%)**

| S/No. | Measures | Percentage |
|---|---|---|
| 1 | Reduce high interest rates | 16.7 |
| 2 | Create tax incentives | 14.4 |
| 3 | Use alternative appropriate building technologies and materials | 13.3 |
| 4 | Review institutional and legal frameworks | 12.2 |
| 5 | Subsidize cost of materials | 11.1 |
| 6 | Create a 'one-stop-shop' approval process | 7.8 |
| 7 | Set aside more land | 7.8 |
| 8 | Benchmark property development process | 2.2 |
| 9 | Increase household income | 2.2 |
| 10 | Promote awareness of approval requirements | 2.2 |
| 11 | Proper exposure of the people | 2.2 |
| 12 | Reduce land-related transfer costs | 2.2 |
| 13 | Create on-line approval facility | 1.1 |
| 14 | Empower Communities | 1.1 |
| 15 | Government should implement the infrastructure required | 1.1 |
| 16 | Mechanism to reduce poverty | 1.1 |
| 17 | Zero rate construction materials | 1.1 |

## 9.9 Ways to Reduce Maintenance Cost of Buildings/ Homes

The survey sought to establish from the Built Environment Professionals ways that can be put in place to reduce the cost of maintaining buildings or homes given that buildings depreciate over time thus reducing the quality of houses/ homes. The results presented in figure 9.9 indicate that ensuring use of good quality building materials (73.6%) and sound workmanship (65.5%) are the topmost ways to reduce the cost of maintenance of buildings or homes. Other ways to reduce maintenance cost include using materials and techniques that are well understood by local workmen/artisan (44.8%) and using locally available materials whose replacement parts are locally available (43.7%).

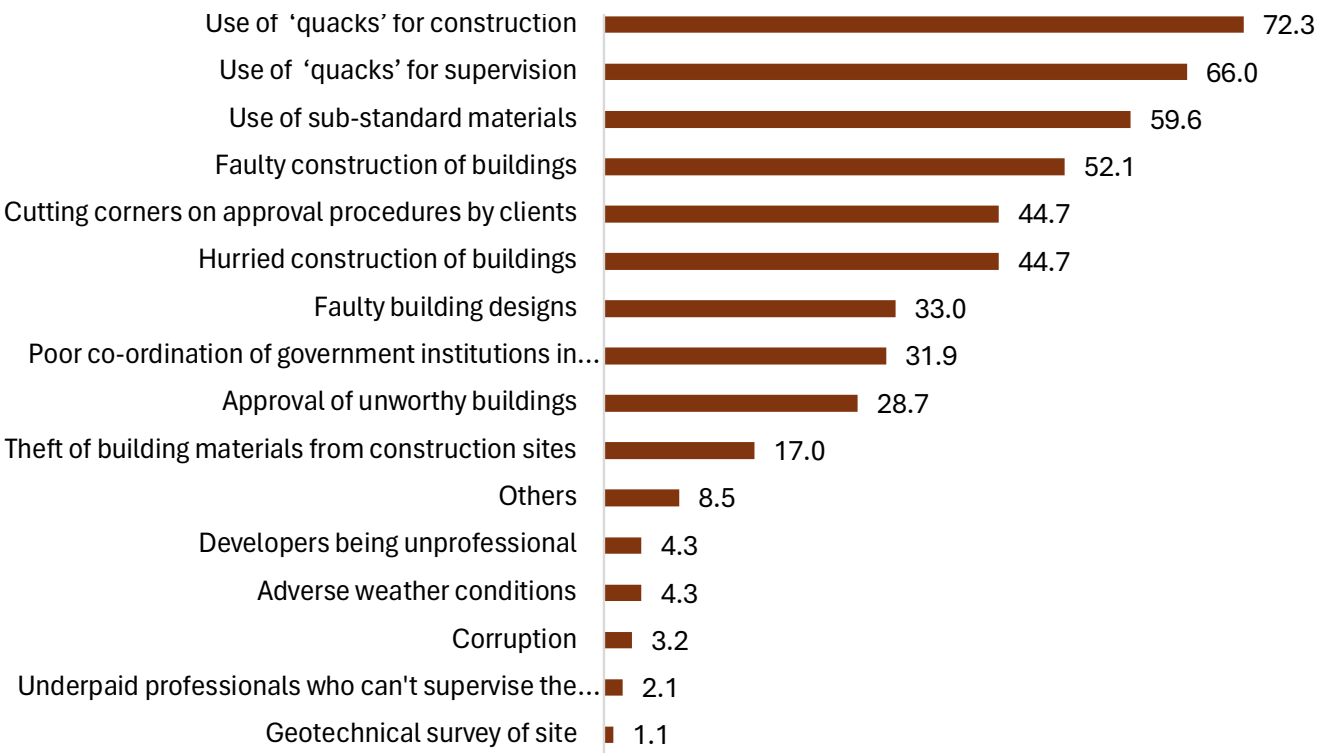
*Figure 9.9: Ways to Reduce Maintenance Cost of Buildings/Homes (%)*




## 9.10 Reasons for Collapse of Buildings under Construction

In the recent past, Kenya has recorded several cases of buildings under construction collapsing even after getting necessary approvals from the relevant authorities. The survey sought to get views of the Built Environment Professionals on why such buildings collapse. The results presented in figure 9.10 reveal that use of unqualified professionals for construction (72.3%), use of unqualified professionals for supervision (66.0%) and use of sub-standard materials (59.6%) are the top three reasons why buildings under construction collapse. Other reasons include hurried construction (44.7%) and faulty building designs (33.0%) among others.

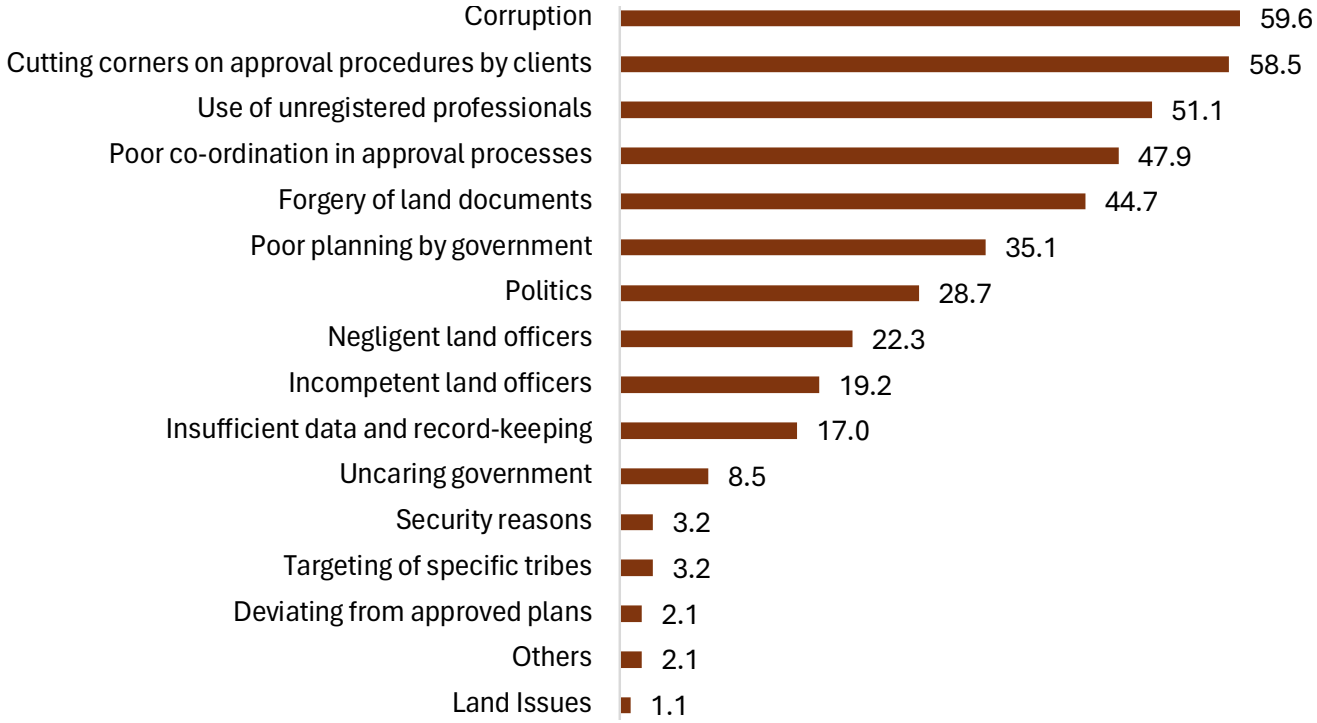
*Figure 9.10: Reasons why buildings under construction collapse (%)*



## 9.11 Reasons why Approved Buildings Get Demolished by the Government

Despite buildings undergoing all the necessary steps in the approval process, some buildings still get demolished by the relevant authorities. The survey sought to find out from the Built Environment Professionals why this happens, and the results are presented in figure 9.11. The results indicate that corruption (59.6%), cutting corners on approvals procedures by clients (58.5 %), use of unregistered professionals (51.1%) and poor coordination in the approval process (47.9%) as the main reasons buildings get demolished by authorities despite undergoing the necessary approvals.

*Figure 9.11: Reasons why buildings get demolished by the Government (%)*



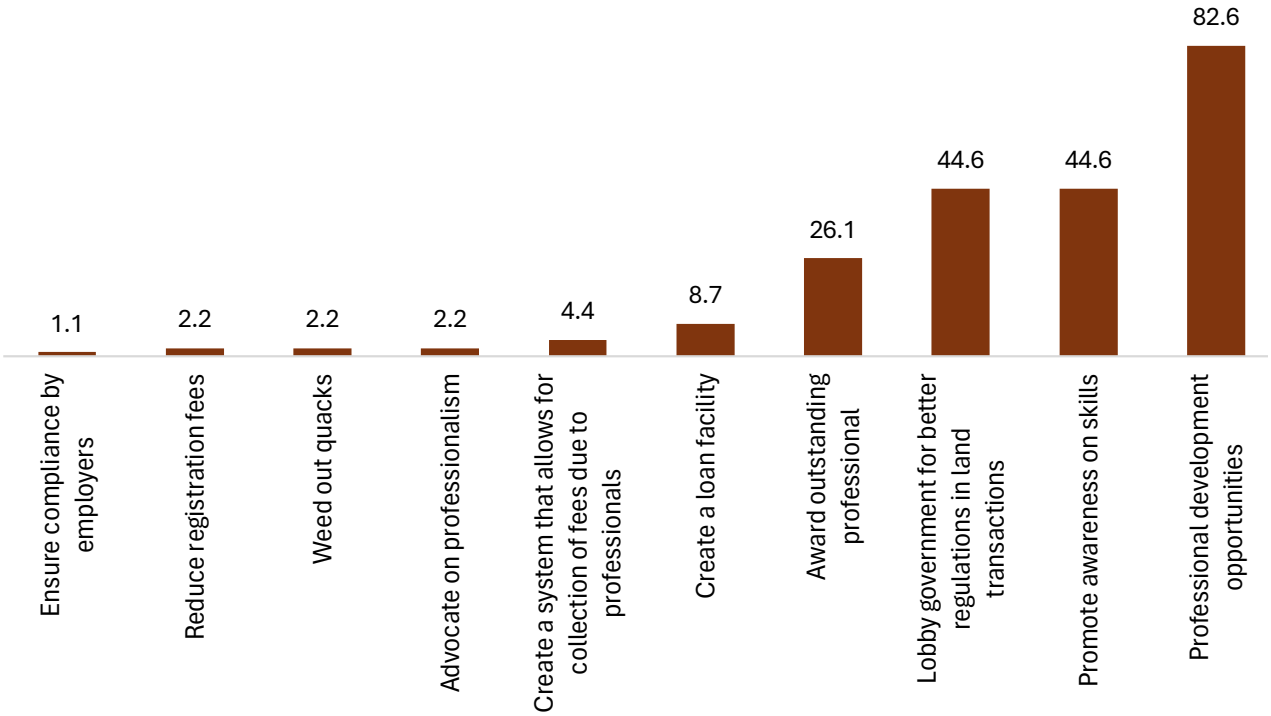

## 9.12 Professional Bodies for BEPs

Professional bodies in any sector play a pivotal role in maintaining the integrity and progression of various fields, providing access to sector-specific resources, relevant certifications or professional qualifications, lobbying for interests within the sector, professional advice, work experience and job opportunities, events and networking, and recognition of professionalism. The survey asked the Built Environment Professionals the benefits they derive from their professional bodies. The results in Figure 9.12 show that 76.9 per cent of BEPs consider registration and licensing of professionals as the greatest benefit while 65.9 per cent consider direction in professional practice as one of the benefits. Networking at 1.1 per cent was considered the least important benefit of professional bodies.

*Figure 9.12: Benefits Received by BEPs from Professional Bodies (%)*


Further, the survey sought the opinions of BEPs on how they can be served better by their professional bodies. The results in figure 9.13 indicate that availing professional development opportunities is the most significant way the professional bodies can serve them better at 82.6 per cent, followed by promoting awareness in skills and lobbying government for better regulations in land transaction both at 44.6 per cent.

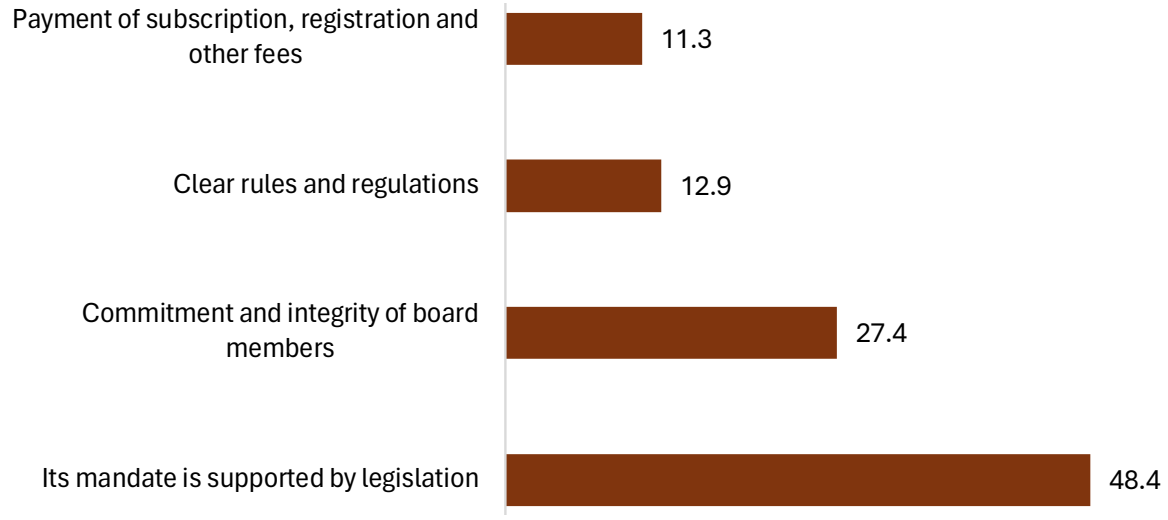
*Figure 9.13: How Professional Bodies can Serve BEPs Better (%)*

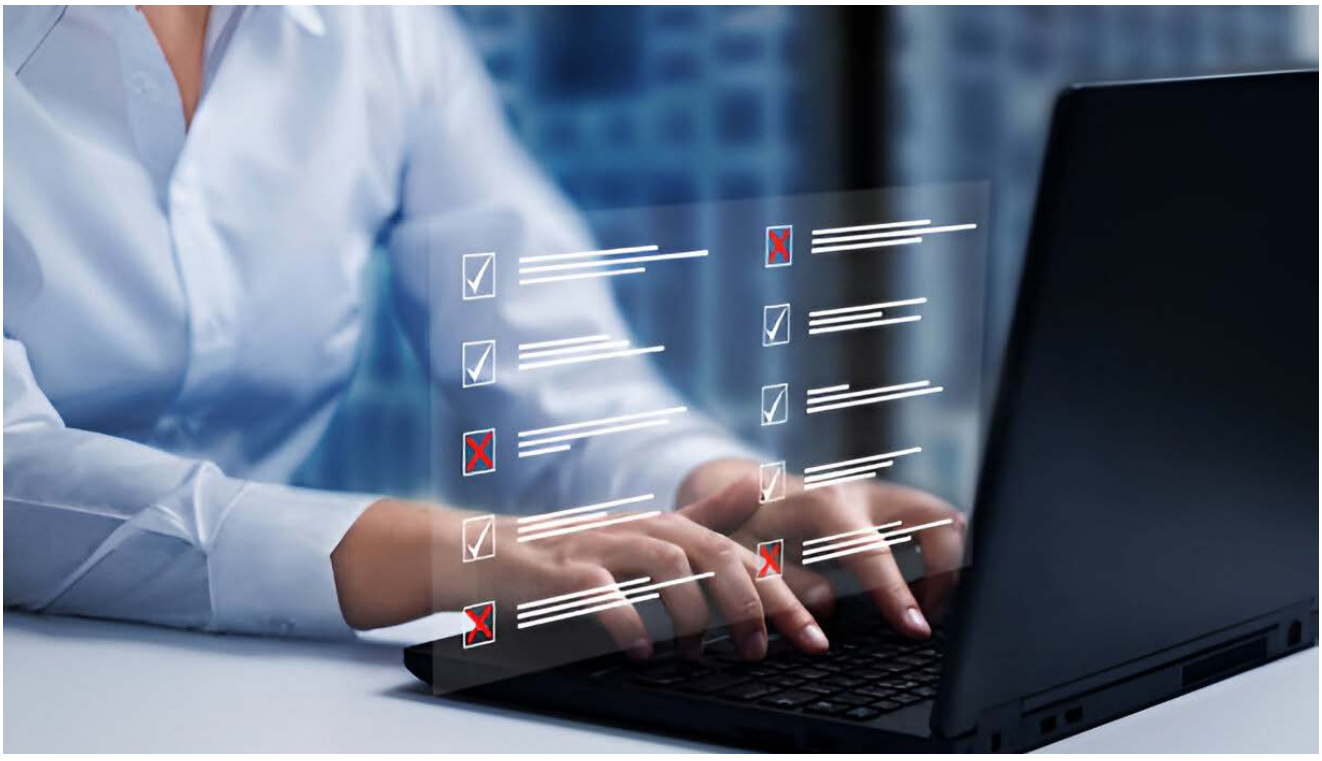


## 9.13 Effectiveness of Registration Boards for BEPs

Registration Boards within the construction and building industry assist in regulating the registered professionals through training, registration and enhancement of discipline and ethical practices among members. Out of the professionals who took part in the survey, 70.8 per cent reported that their registration boards are effective in enforcement of regulations and discipline. This is on account of their mandates being supported by relevant legislations (48.4%), commitment and integrity of board members (27.4%) as well as having in place clear rules and regulations (12.9%) as shown in figure 9.14.

*Figure 9.14: Reasons for Effective Registration Boards (%)*



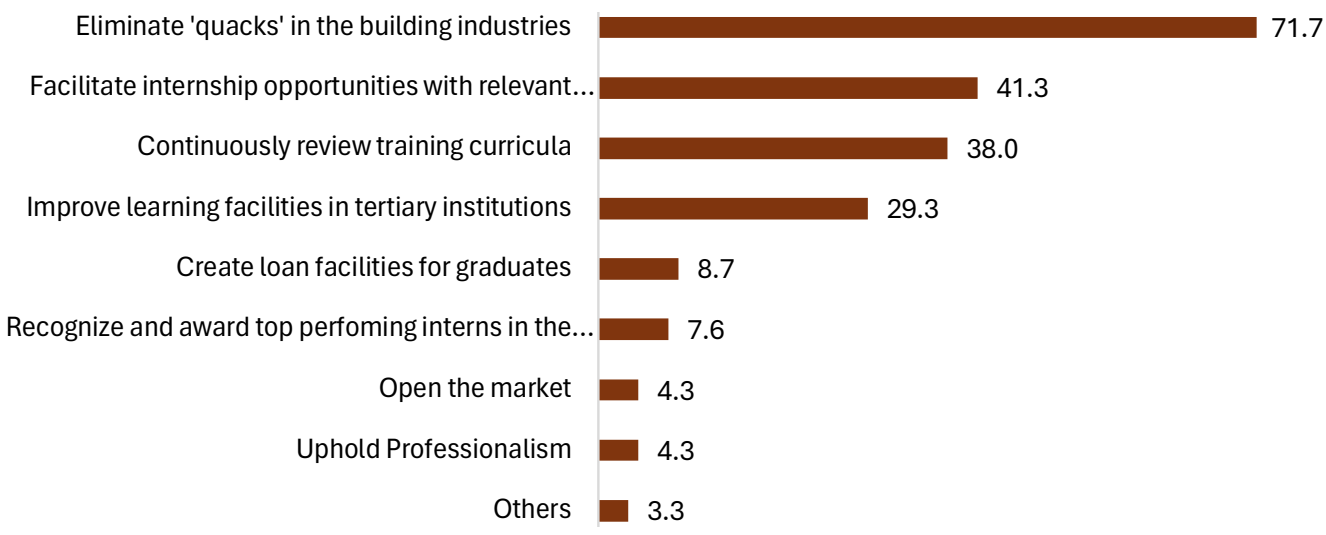



Among the BEPs who reported that their registration boards were not effective, 41.9 per cent believe strengthening enabling institutional and legal frameworks (41.9%) and integrity of board members (9.7%) are the surest ways to enhance effectiveness of their registration boards as shown in Figure 9.15.

*Figure 9.15: Measures to Enhance Effectiveness of Registration Boards of BEPs (%)*


To better the performance of the professionals in the housing sector and support housing development, the survey sought to establish what can be done to help housing sector professionals deliver better in housing production. As shown in figure 9.16, instilling professionalism through elimination of unqualified professionals/ quacks (71.7%), offering internship opportunities to junior professionals (41.3%) and continuous review of the training curricula (38.0%) would equip professionals with the necessary skills and knowledge to deliver on housing

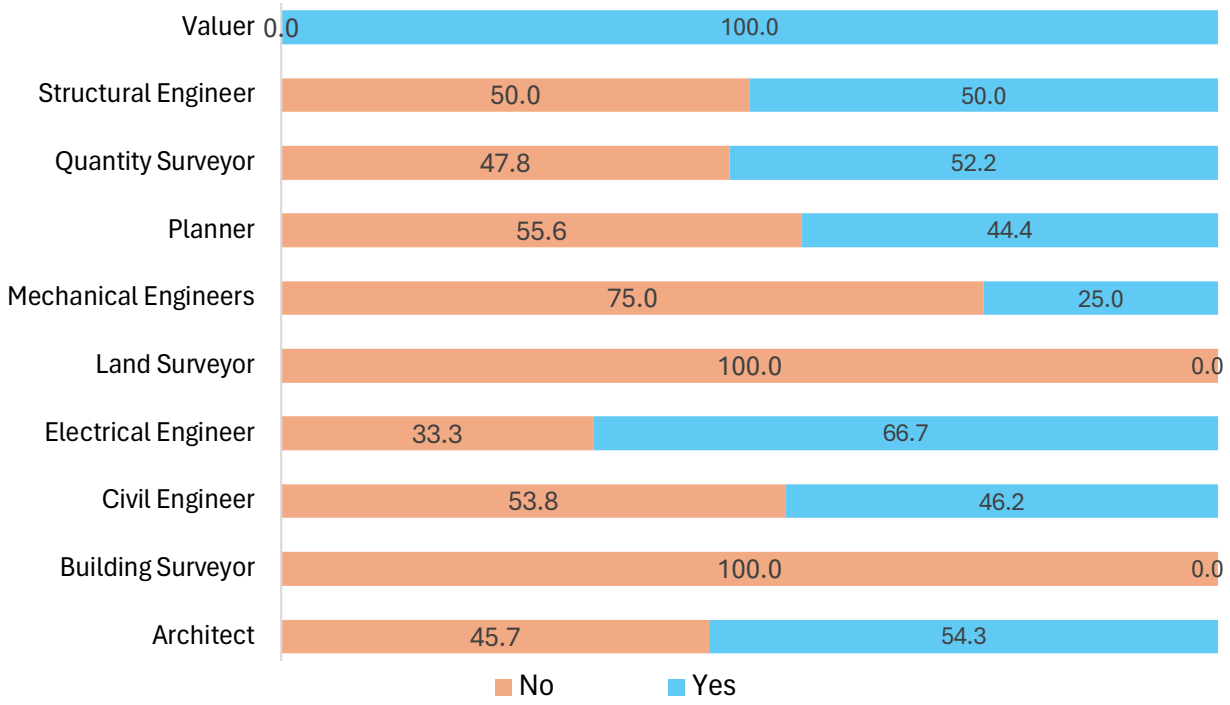
*Figure 9.16: Ways to improve service delivery of housing sector professionals (%)*



## 9.14 Professional Fees Structure and Indemnity Cover

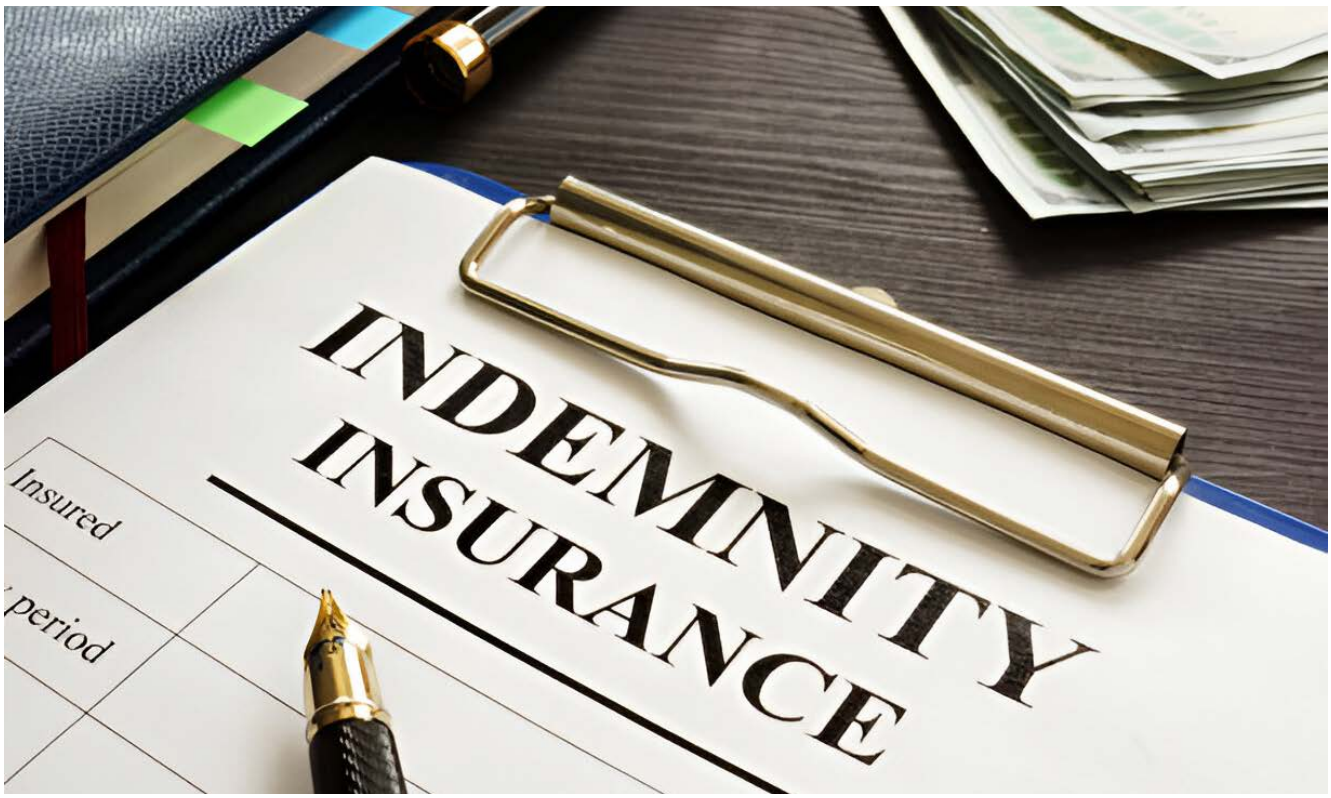
Indemnity cover is designed to protect professionals and businesses from financial losses due to claims made against them for negligence, errors, or omission in the provision of their services. The survey sought to know the proportion of professionals who take indemnity cover to cushion themselves from losses occasioned by the above-mentioned factors. The survey results show that all valuers who were enumerated have indemnity cover while none of Land Surveyors and Building Surveyors have indemnity cover as indicated in figure 9.17.

*Figure 9.17: Proportion of BEPs with Indemnity Cover*

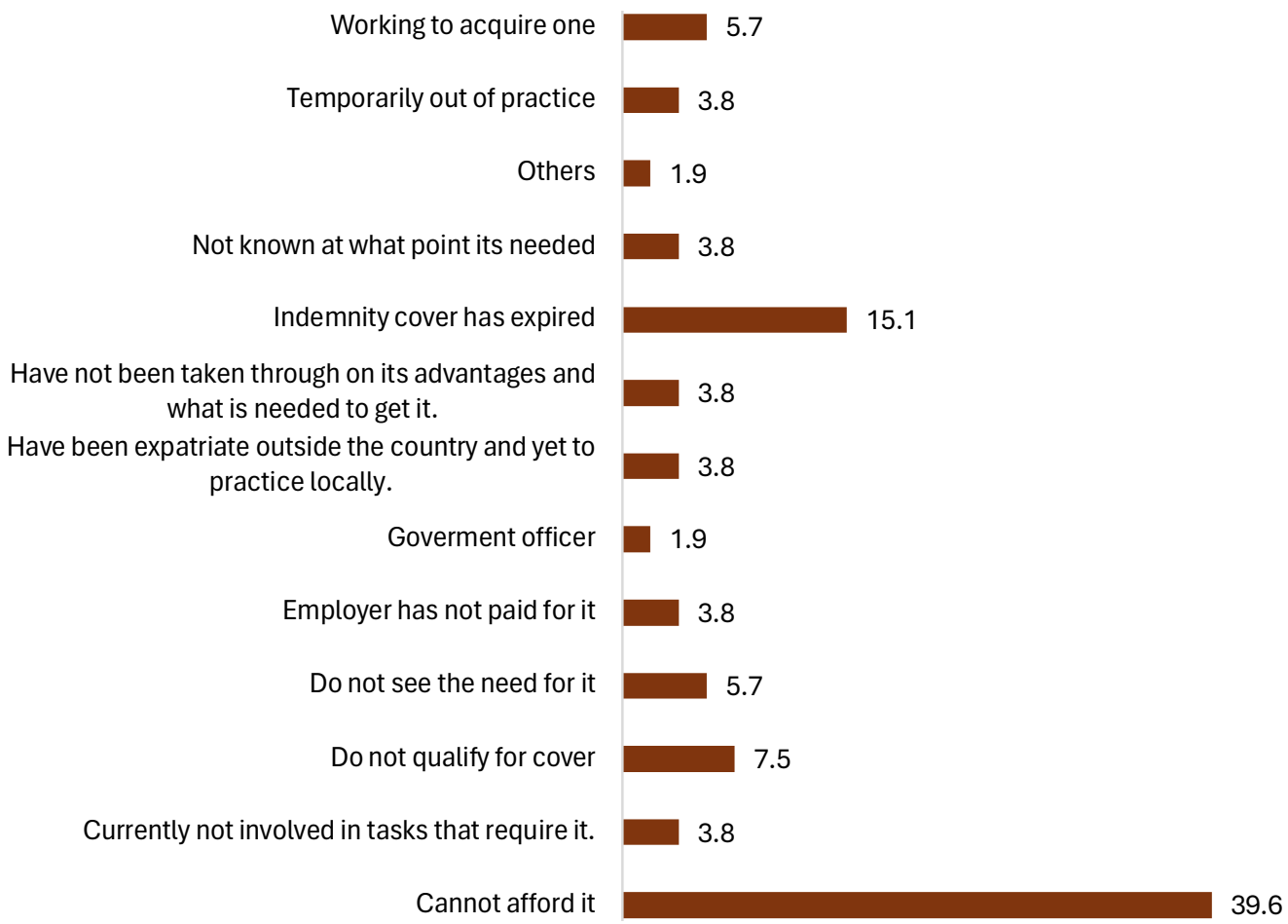



The Built Environment Professional who did not have indemnity cover highlighted various reasons. The most common reason that BEPs gave for not taking indemnity cover lack of affordability (39.6%). Other reasons include expiry of existing cover (15.1%), lack of qualification for the cover (7.5%) while 5.7 per cent of BEPs indicated they are working to acquire one.

**Indemnity cover is designed to protect professionals and businesses from financial losses due to claims made against them for negligence, errors, or omission in the provision of their services.**



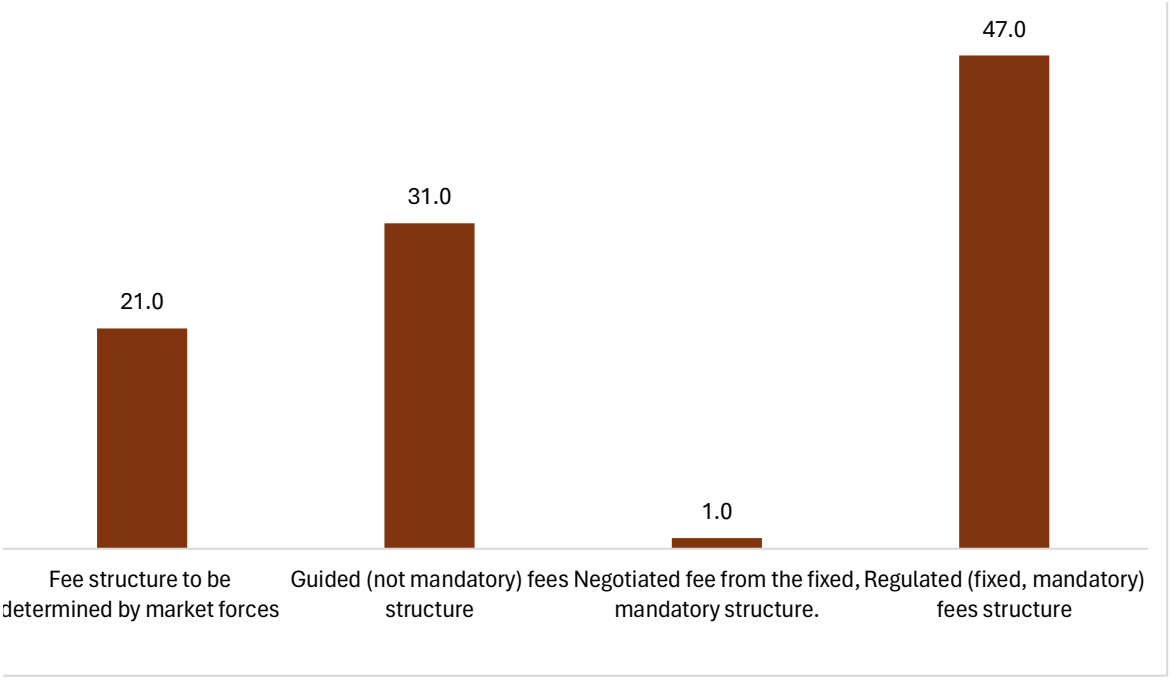

*9.18: Barriers to Indemnity Cover Adoption among Built Environment Professionals*



## 9.15 Preferred Fee Structure

A professional fee is payment made to experts for their services and reflects the cost of their expertise, time and efforts in delivering a specialized service. The 2023/2024 KHS sought to establish the preferred fee structure by Built Environment Professionals. As shown in figure 9.19, 47.0 per cent of BEPs prefer regulated (fixed, mandatory) fee structure, 31.0 per cent prefer guided (not mandatory) fee structure while 21.0 per cent prefer a fee structure where the fee is determined by market forces. A paltry 1.0 per cent prefer negotiated fee from fixed, mandatory structure.

*Figure 9.19: Distribution of Built Environment Professionals by Preferred Fee Structure (%)*




# CHAPTER 10

# Institutional and Regulatory Framework

## Key Findings

- Counties recorded Housing Building Plan Approvals rate of 99.6 per cent in 2023, an improvement from the 81.2 per cent recorded in 2022.
- The number of applications for change of user from residential to other uses increased by 13 per cent to 2,300 in 2023.
- The total number of slums across the country stands at 392 with 38.1 per cent of the counties reporting the existence of slums within their jurisdictions.
- The most significant intervention by counties in improving informal/slum settlements is regularization of tenure as indicated by 90.9 per cent of the responses by the counties.
- There were 6,994 housing construction license applications to NEMA with 5,472 of them (78.2 per cent) getting approval in 2023. In 2022, NEMA received a total of 7,186 license applications countrywide, out of which 5,472 (74.3 per cent) applications were approved and licensed.
- A total of 142,290 land transfer applications were received across the country in 2023. Out of these applications received, 120,370 were successfully processed, indicating an overall processing rate of approximately 84.60 Per cent.
- Samburu, Laikipia and Trans Nzoia processed all land transfer applications received in 2023.

## 10.1 Introduction

The high rate of urbanization in Kenya has led to increased demand for housing development, and real estate activities. This necessitates the need for a robust legal and institutional framework in order to realize the right to adequate housing as enshrined in Article 43 (1b) of the Constitution of Kenya (CoK) 2010. This chapter presents information on land use planning, development control and professionals therein, housing development, and allocation of resources for housing.

## 10.2 County Governments

### 10.2.1 Housing Building Plan Approval

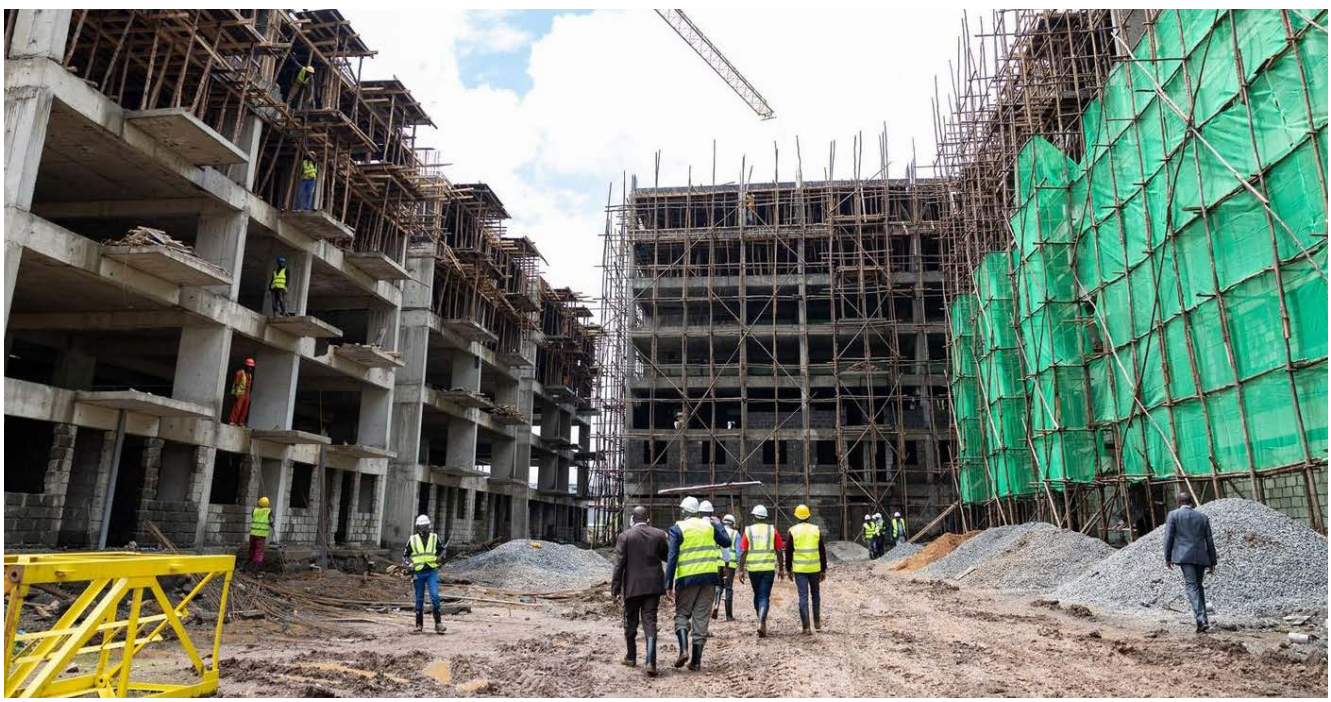
Development control encompasses both procedural framework and operational necessity in overseeing physical developments across urban, semi-urban, and rural areas, as stipulated by the Physical and Land Use Planning Act 2019, Urban Areas and Cities Act, 2011, and the County Governments Act, 2012. These Acts require that all physical developments acquire development permits, which may be sought by individuals, groups, or corporate entities.

These regulatory frameworks aim to ensure orderly physical and land use development, optimal land use, protect and conserve the environment, enhance land administration, and uphold health and safety standards. Moreover, regulatory bodies generate revenue through their oversight of development activities.

Development of formal housing, especially in urban and semi-urban areas, plays a crucial role in economic activities. Developers are required to apply for development approvals and follow the approved project plans on land designated for housing. This process includes zoning land for residential purposes and other uses, securing the required approvals, and executing projects in accordance with the development control plans.

The survey collected data from County Governments on the number of applications and approvals for building plans, change of user, and extension of user. The survey observed that development control by county governments emphasize the coordination of the housing building plan approval process. This includes managing applications for changes in land use, extensions of existing uses, and addressing various challenges in development control. Effective development control ensures that urban growth is managed sustainably and efficiently, benefiting both the community and the environment.

In total, 11,142 and 15,436 applications for approval of building plans were made across the country in 2023 and 2022, respectively. A total of 12,356 and 13,347 applications were approved in 2023 and 2022, respectively, as shown in Table 10.1. Nairobi City County government received and approved the highest number of applications for building plans (3,312) in 2022. Machakos county government recived and approved the highest number of applications, that is, 1,600 and 1,500 respectively, in 2023.



### Table 10.1: Number of Building Plans Applications Received and Approved

| | Number of Building Plans Applications received | | Number of Building Plans Approved | |
|---|---|---|---|---|
| **County** | **2022** | **2023** | **2022** | **2023** |
| Mombasa | 695 | 762 | 450 | 600 |
| Kwale | .. | .. | .. | .. |
| Kilifi | 9 | .. | .. | 686 |
| Tana River | .. | .. | .. | .. |
| Lamu | 70 | 80 | 60 | 70 |
| Taita-Taveta | .. | .. | .. | .. |
| Garissa | 53 | 47 | 40 | 32 |
| Wajir | 21 | 23 | 21 | 14 |
| Mandera | 6 | 4 | 5 | 4 |
| Marsabit | 3 | 3 | 3 | 3 |
| Isiolo | 16 | 13 | 12 | 10 |
| Meru | 34 | 18 | 34 | 18 |
| Tharaka-Nithi | 121 | 143 | 113 | 137 |
| Embu | 176 | 161 | 150 | 139 |
| Kitui | 40 | 50 | 40 | 50 |
| Machakos | 1,100 | 1,600 | 1,030 | 1,500 |
| Makueni | 180 | 200 | 162 | 181 |
| Nyandarua | 376 | 296 | 323 | 268 |
| Nyeri | 256 | 229 | 256 | 229 |
| Kirinyaga | 170 | 173 | 150 | 167 |
| Murang'a | 400 | 500 | 392 | 490 |
| Kiambu | .. | .. | 830 | 1,256 |
| Turkana | 33 | 39 | 30 | 38 |
| West Pokot | 21 | 30 | 21 | 28 |
| Samburu | 12 | 10 | 16 | 17 |
| Trans Nzoia | 90 | 59 | 90 | 59 |
| Uasin Gishu | 937 | 788 | 937 | 788 |
| Elgeyo-Marakwet | 51 | 44 | 48 | 44 |
| Nandi | 54 | 98 | 36 | 67 |
| Baringo | 90 | 110 | 85 | 100 |
| Laikipia | 235 | 261 | 225 | 250 |
| Nakuru | 1,168 | 636 | 968 | 577 |
| Narok | 264 | 194 | 258 | 186 |
| Kajiado | 661 | 483 | 610 | 470 |
| Kericho | 2,022 | 30 | 10 | 15 |
| Bomet | 40 | 45 | 40 | 45 |
| Kakamega | 523 | 592 | 523 | 592 |
| Vihiga | 404 | 284 | 381 | 269 |
| Bungoma | 296 | 326 | 296 | 326 |
| Busia | 394 | 462 | 372 | 401 |
| Siaya | 58 | 71 | .. | 60 |
| Kisumu | 522 | 684 | 519 | 592 |
| Homabay | 240 | 300 | 240 | 300 |
| Migori | 168 | 202 | 159 | 192 |
| Nyamira | 115 | 132 | 100 | 126 |
| Nairobi City | 3,312 | 960 | 3,312 | 960 |
| **Total** | **15,436** | **11,142** | **13,347** | **12,356** |

*.. Data not available*

Information on building plan approval by type of building is presented in Table 10.2. Survey results show that approval for applications received for the category "Housing Only" were the highest in 2022 and 2023, accounting for 61.4 per cent and 67.9 per cent, respectively.

**Table 10.2: Building Plans Applications Received and Approved by Building Type**

| | "Building applications received" | | "Building applications approved" | |
|---|---|---|---|---|
| | 2022 | 2023 | 2022 | 2023 |
| **Total (Number)** | **15,436** | **11,142** | **13,347** | **12,356** |
| Housing Only | 61.4 | 67.9 | 53.0 | 57.8 |
| Commercial Only | 15.2 | 16.8 | 13.8 | 13.5 |
| Warehousing | 3.0 | 3.4 | 2.7 | 2.8 |
| Others | 8.0 | 11.1 | 7.5 | 8.5 |
| Mixed Use | 12.5 | 0.8 | 23.0 | 17.4 |

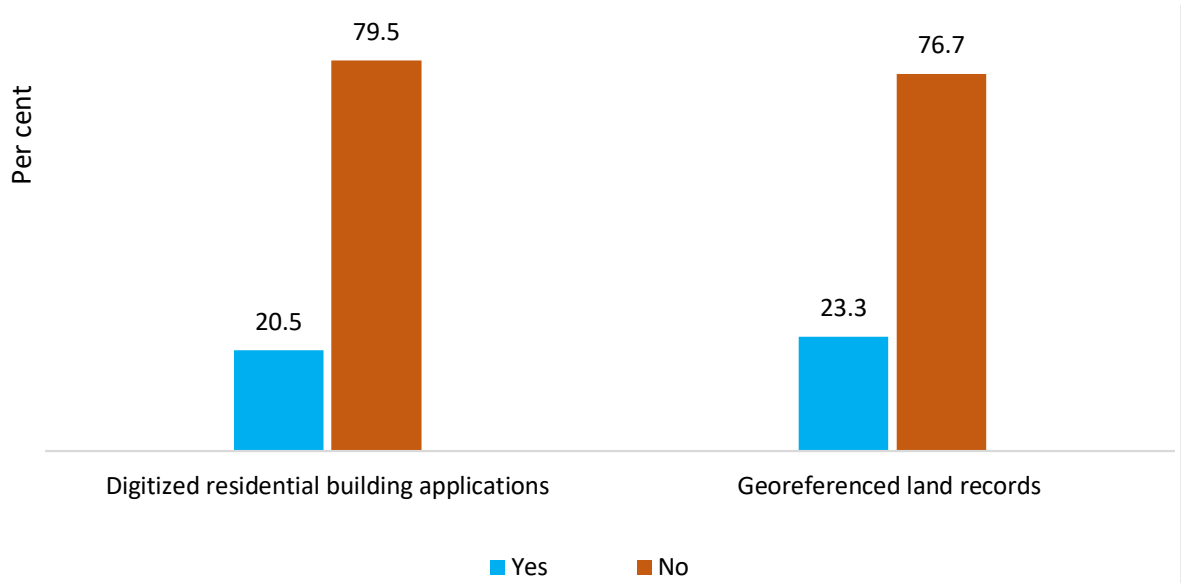
### 10.2.2 Digitization of Building Applications

The digitization of building applications ensures modernizing and streamlining of the construction and development approval processes. It has the potential to increase productivity, increase efficiency, improve service provision, and enable a more sustainable building application process. Digitization of the application and approval process also enhances accountability, transparency, and accessibility.

The Land Act of 2012 requires that all land be georeferenced and authenticated. Georeferencing enables accurate property identification and registration of land titles. It also helps with identification of property for valuation and laying out of service infrastructure such as water and sewerage systems, and roads. Georeferenced maps also eliminate the disparity that usually appears between sizes of parcels of land laid on the ground and those stated on title deeds.

The survey collected data from county governments on digitization of building applications and georeferencing of land records. As shown in Figure 10.1, 20.5 per cent of the counties reported that they have digitized residential building applications while 23.3 per cent of counties have georeferenced land records.

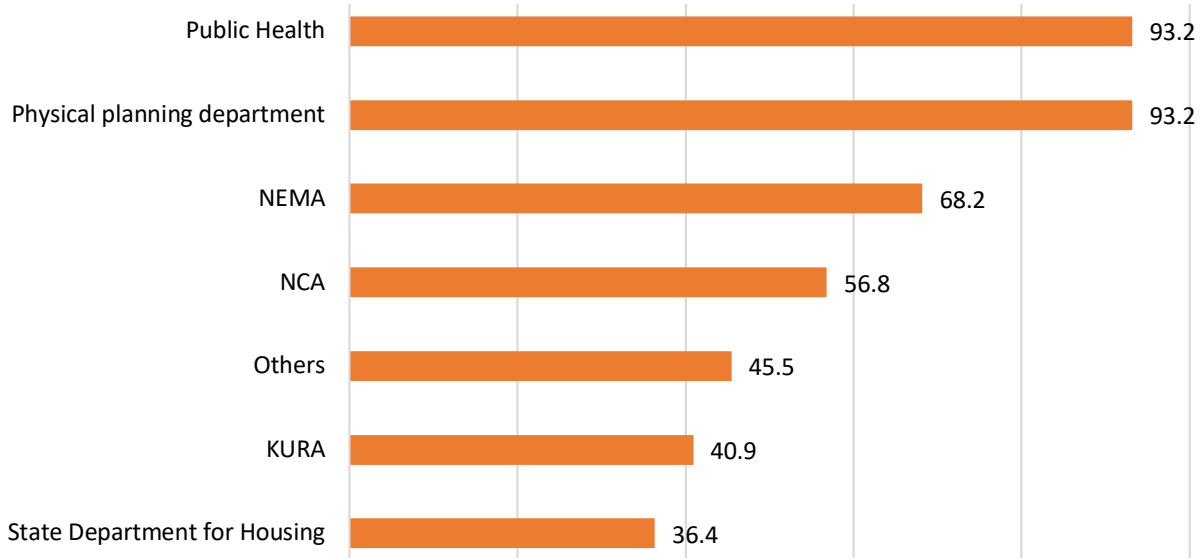
*Figure 10.1: Proportion of Counties that have Digitized Residential Building Applications and Georeferenced Land Records*



### 10.2.3 Institutions consulted by County Governments for Residential Building Applications

An effective institutional and regulatory framework is crucial for policy formulation and implementation towards delivery of housing services. County Governments work in collaboration with other Ministries, Departments, and Agencies (MDAs) such as the State Departments for Housing, Public Health, Physical Planning, the National Environmental Management Authority (NEMA), National Construction Authority (NCA), Kenya Urban Roads Authority (KURA), and others to ensure all applications conditions and considerations are met before any approvals. The Departments for Public Health and Physical Planning Department were consulted by most counties as shown in Figure 10.2.

*Figure 10.2: Institutions Consulted in Residential Building Applications by Counties (%)*




### 10.2.4 Duration for Obtaining Building Approvals

County governments are responsible for controlling all types of development within their areas of jurisdiction. When a development application is submitted, it can be approved as presented, approved with conditions requiring amendments to architectural designs, or rejected for specific reasons such as conflict over ownership or existing Zoning regulations, use of unregistered professionals, failure to clear annual land rates, or others. Survey findings indicate that county Governments take between 1 and 50 days to approve building plans. Thirty counties took 14 days and below to grant building approval as shown in Table 10.3.

**Table 10.3: Duration for Obtaining Building Approvals**

| County | Number of days |
|---|---|
| Mombasa | 30 |
| Kwale | .. |
| Kilifi | 30 |
| Tana River | .. |
| Lamu | 30 |
| Taita-Taveta | 14 |
| Garissa | 4 |
| Wajir | 14 |
| Mandera | 7 |
| Marsabit | 1 |
| Isiolo | 7 |
| Meru | 10 |
| Tharaka-Nithi | 14 |
| Embu | 14 |
| Kitui | 14 |
| Machakos | 14 |
| Makueni | 30 |
| Nyandarua | 21 |
| Nyeri | 21 |
| Kirinyaga | 14 |
| Murang'a | 30 |
| Kiambu | 30 |
| Turkana | 3 |
| West Pokot | 2 |
| Samburu | 5 |
| Trans Nzoia | 30 |
| Uasin Gishu | 7 |
| Elgeyo-Marakwet | 30 |
| Nandi | 14 |
| Baringo | 6 |
| Laikipia | 21 |
| Nakuru | 50 |
| Narok | 30 |
| Kajiado | 14 |
| Kericho | 7 |
| Bomet | 3 |
| Kakamega | 30 |
| Vihiga | 14 |
| Bungoma | 5 |
| Busia | 14 |
| Siaya | 14 |
| Kisumu | 30 |
| Homabay | 4 |
| Migori | 14 |
| Nyamira | 4 |
| Nairobi City | 14 |
| **Total** | **16** |

*.. Data not available*

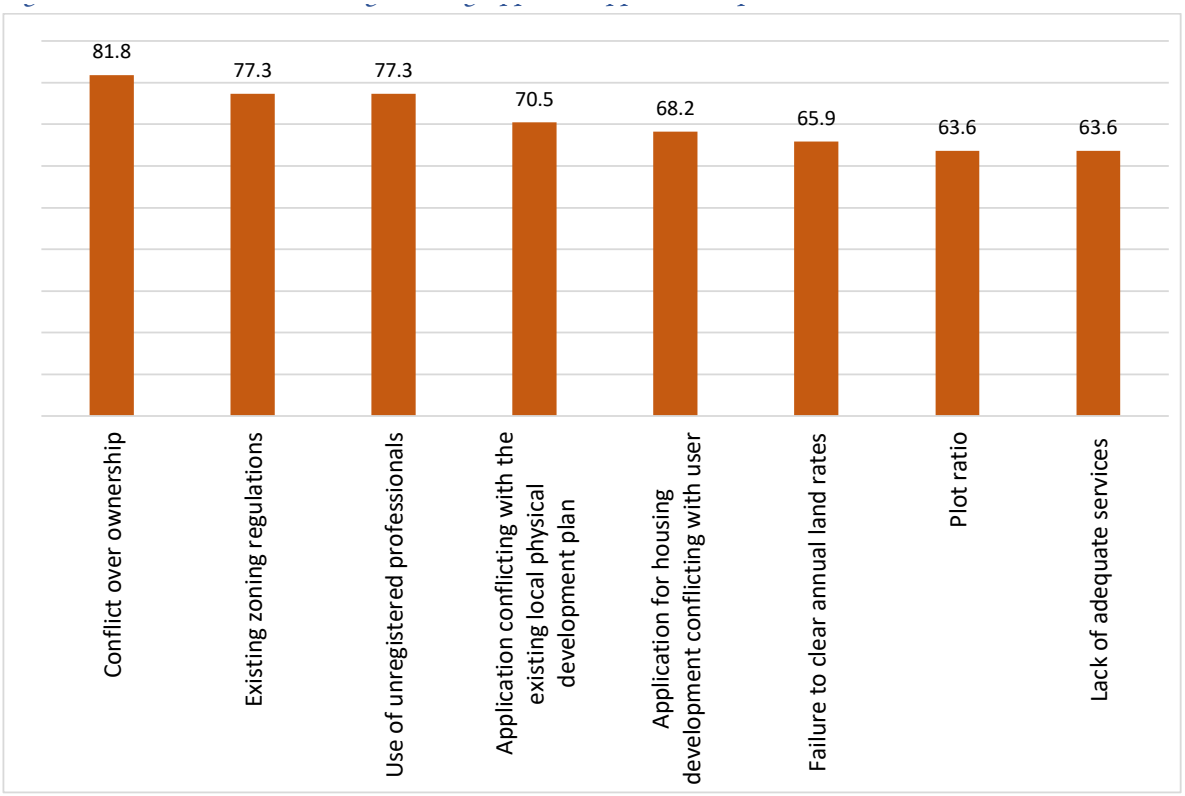
### 10.2.5 Reasons for Rejecting Building Approval

The survey sought to find out reasons why county governments reject applications for housing developments as shown in Figure 10.3. The most common reason for rejecting approval for housing development was conflict over land ownership at 81.8 per cent. Other common reasons for rejecting approval are conflict with existing zoning regulations and use of unregistered professionals, each at 77.3 per cent. The plot ratio and lack of adequate services ranked lowest in the list of reasons at 63.6 per cent for rejecting approvals.

**81.8%**
Housing development approvals were declined due to conflict over land ownership.

**77.3%**
Other common reasons for rejecting approval are conflict with existing zoning regulations and use of unregistered professionals.

*Figure 10.3: Reasons for Rejecting Building Approval Applications (%)*

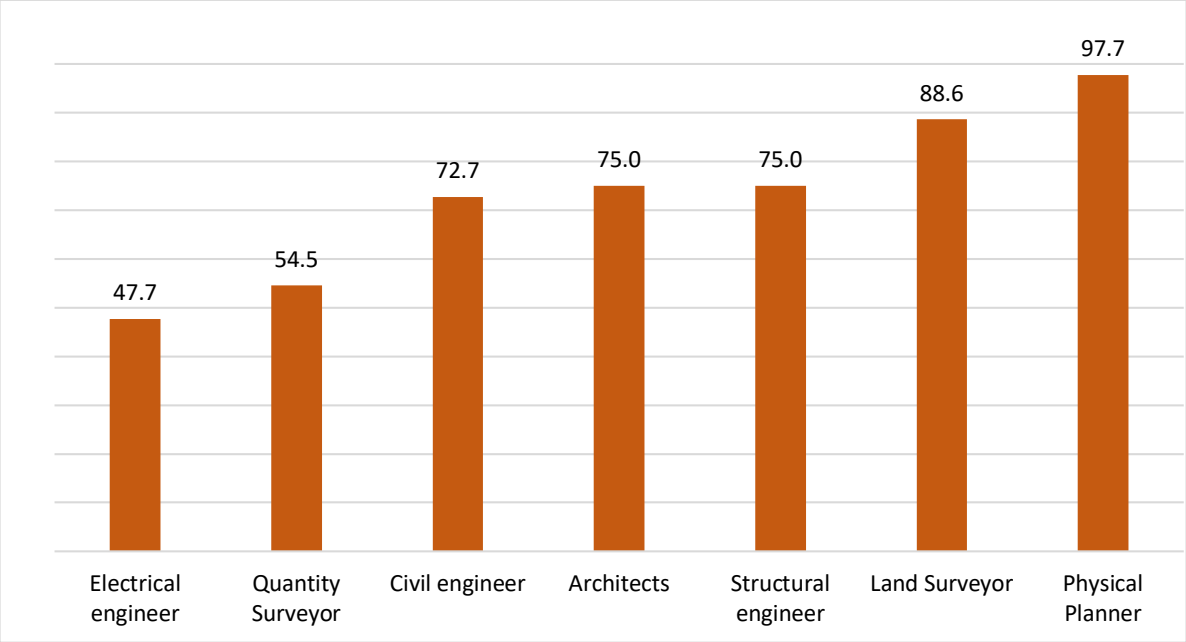



### 10.2.6 Built Environment Professionals at County Governments

The building construction industry is a wide industry that encompasses many professionals. These professionals in the county governments are responsible for ensuring developers maintain adequate standards and review building or planning permit applications. The survey sought to establish whether county governments have the required built environment professionals.

The findings of the survey in Figure 10.4 indicate that 97.7 per cent of the counties have physical planners, 88.6 per cent have land surveyors, 75.0 per cent have structural engineers and architects. In addition, 72.7 per cent have civil engineers, 54.5 per cent quantity surveyors, and 47.7 per cent electrical engineers amongst their staff.

*Figure 10.4: Proportion of Counties with Built Environment Professionals in their Staff Establishment*




### 10.2.7 Approval of Change of User and Extension of User

Article 40 of the Constitution of Kenya, 2010 gives citizens the right to own land or property albeit with certain restrictions, one of them being that the land can only be used for the specific use approved by the authorities in the Local Physical Land Use Development Plans and as stipulated in the ownership documents. The specific uses that are usually approved include residential, commercial, agricultural, industrial, quarry and even national heritage uses. The county governments are responsible for approving change of user. This involves the change of user of a property from one category to another or the extension of user.

#### 10.2.7.1 Factors considered in approving change of user and extension of user applications.

The survey sought to establish the factors county governments consider when determining approvals for applications for change of user or extension of user. As shown in Figure 10.5, 93.2 per cent of counties consider local physical and land use development plans in determining approvals for the change or extension of user. Further, it is estimated that 90.9 per cent of counties consider area zoning regulations and the existing use of the land before approval of change of user. On the other hand, only 36.4 per cent of counties consider emerging technologies as a determinant in the approval of change of user or extension of user applications.

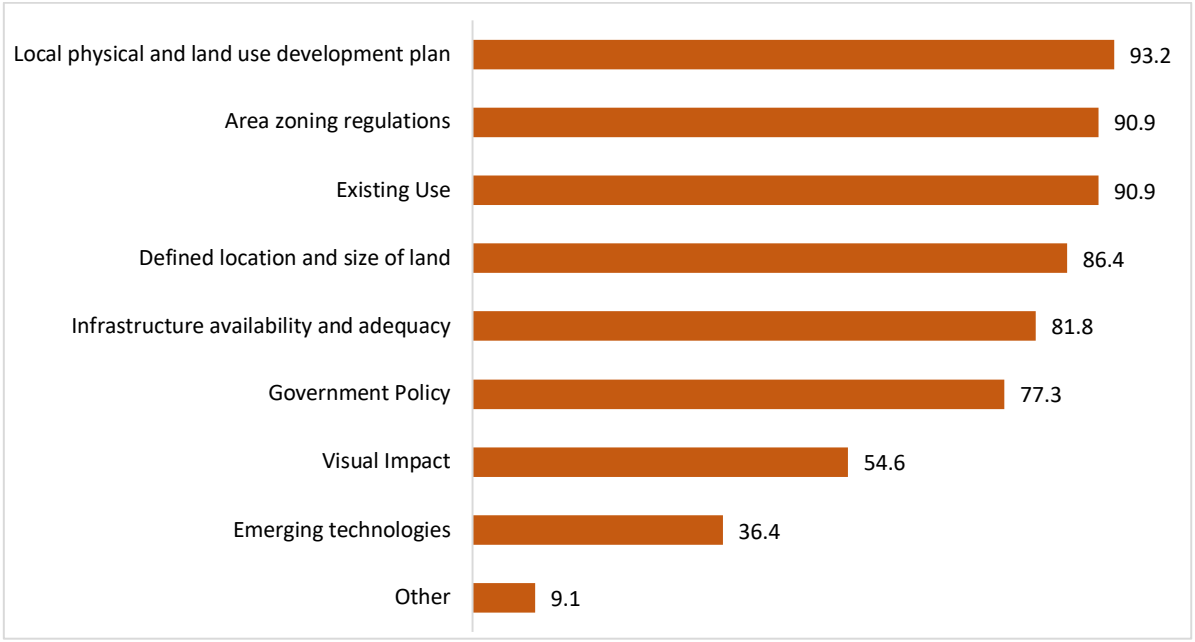
**90.9%**

The percentage most counties consider area zoning regulations and the existing use of the land before approval of change of user.

**93.2%**

Percentage of counties that consider local physical and land use development plans in determining approvals for the change or extension of user

*Figure 10.5: Proportion of Counties by Factors Considered in Approving Change of User or Extension of User Applications*

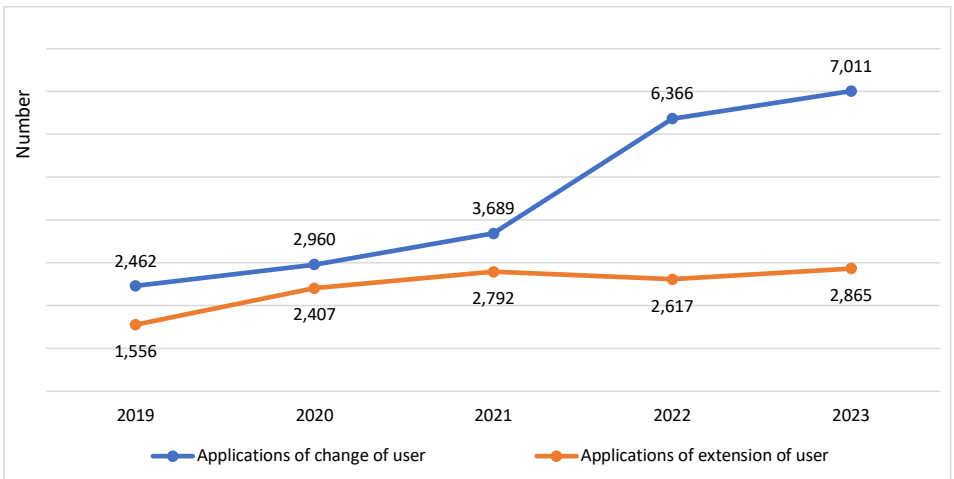



### 10.2.7.2 Number of Applications for Change of User and Extension of User Received

County Governments are mandated by law to undertake land use plans which entails designating, evaluating, zoning and organizing the present and future use and development of land in all their jurisdiction. The main land uses in Kenya are commercial, residential, industrial and agricultural. The survey sought to establish the number of change of user and extension of user as well as their trends since they affect housing development and delivery.

Figure 10.6 indicates that there has been an increase in the applications for change of user and extension of user over the years. The number of change of user applications increased from 2,462 in 2019 to 7,011 in 2023. The number of applications for extension of user increased from 1,556 in 2019 to 2,865 in 2023. Over the reference period, the number of change of user applications has been higher than the number of applications for extension of user. The number of applications for change of user and extension of user by county is indicated in Table 10.4.

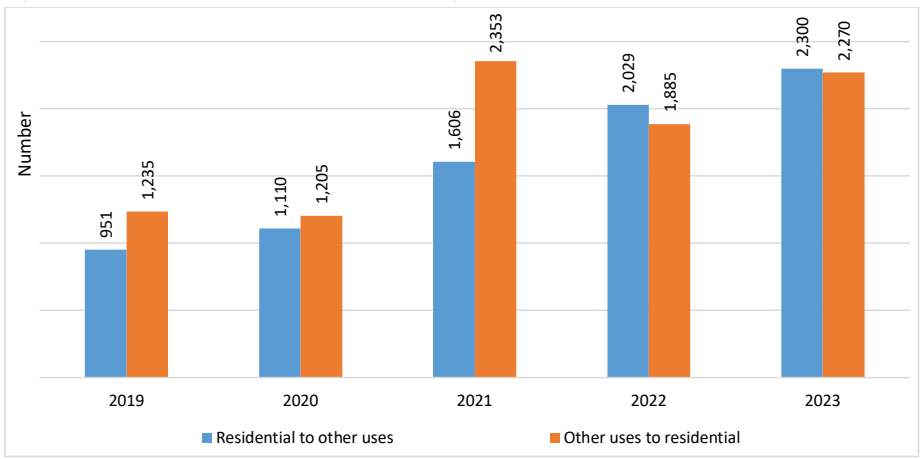
*Figure 10.6: Total Number of Applications for Change of User and Extension of User*

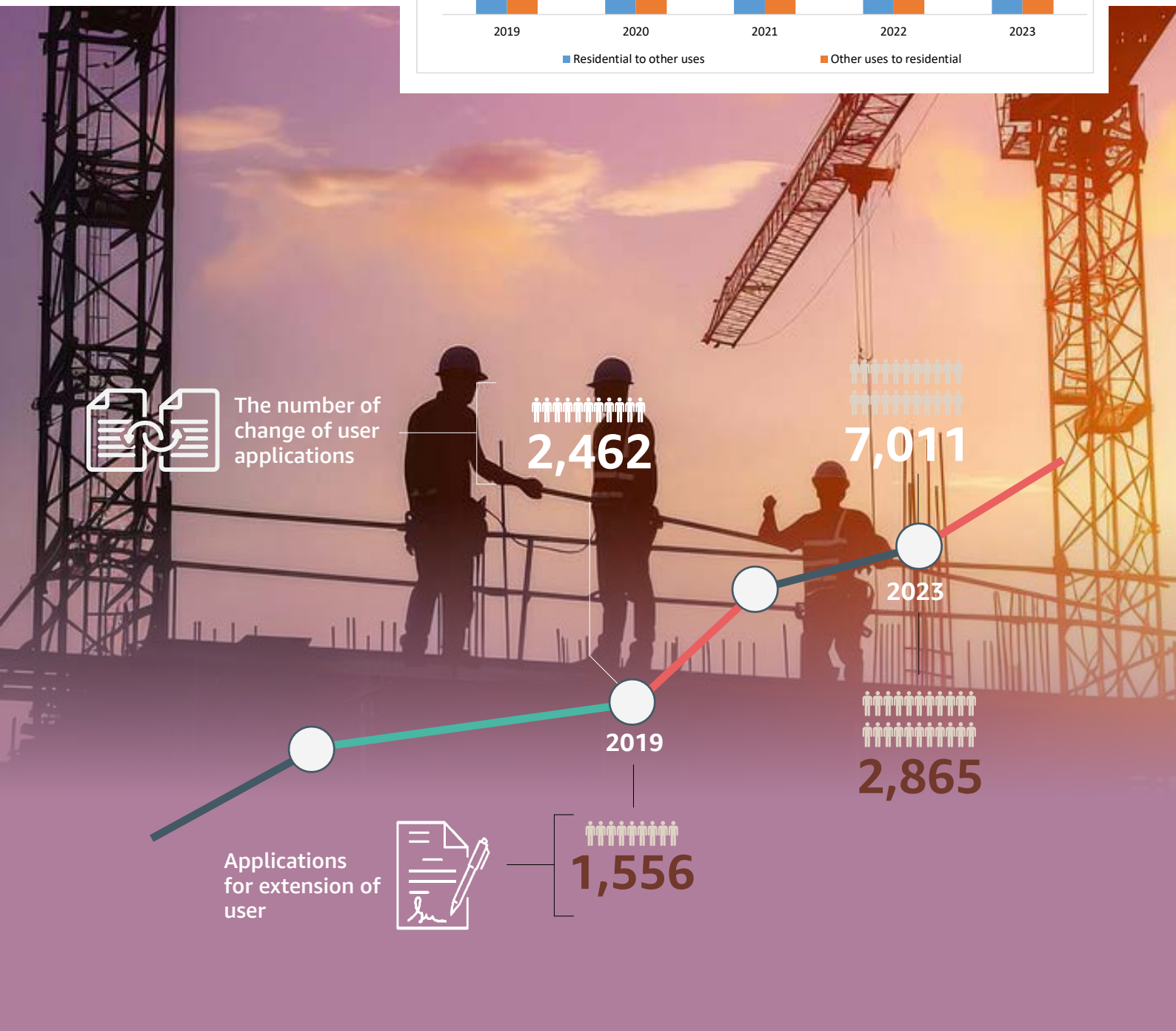


### 10.2.7.3 Total Number of Applications for Change of User by Purpose

There have been more applications for change of user from residential to other uses compared to applications for change of user from other uses to residential in 2022 and 2023. (Figure 10.7).

*Figure 10.7: Total Number of Applications of Change of User Applications by Purpose*



## Table 10.4: Number of Applications Received for Change of User by County

| | 2019 | | 2020 | | 2021 | | 2022 | | 2023 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Residential to other uses | Other uses to residential | Residential to other uses | Other uses to residential | Residential to other uses | Other uses to residential | Residential to other uses | Other uses to residential | Residential to other uses | Other uses to residential |
| Mombasa | .. | .. | .. | .. | 23 | 21 | 16 | 23 | 32 | 39 |
| Kwale | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Kilifi | .. | 3 | .. | 2 | 6 | .. | .. | .. | 4 | 22 |
| Tana River | .. | .. | .. | 2 | 2 | 1 | 3 | 3 | 3 | .. |
| Lamu | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. |
| Taita-Taveta | 5 | 47 | 5 | 55 | 2 | 56 | 3 | 52 | .. | 23 |
| Garissa | 74 | 14 | 84 | 12 | 103 | 8 | 100 | 13 | 73 | 43 |
| Wajir | 1 | .. | 2 | .. | 1 | .. | 1 | .. | 1 | .. |
| Mandera | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 |
| Marsabit | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Isiolo | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. |
| Meru | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Tharaka-Nithi | .. | 3 | .. | 4 | .. | 5 | .. | 4 | .. | 6 |
| Embu | 10 | 10 | 9 | 6 | 7 | 2 | 22 | 5 | 16 | 3 |
| Kitui | 8 | 7 | 10 | .. | 13 | 4 | 12 | 8 | 8 | .. |
| Machakos | 61 | 96 | 54 | 127 | 83 | 133 | 105 | 157 | 109 | 189 |
| Makueni | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Nyandarua | .. | 34 | .. | 74 | .. | 96 | 10 | 115 | 8 | 94 |
| Nyeri | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Kirinyaga | .. | .. | .. | .. | .. | .. | 74 | .. | 101 | .. |
| Murang'a | .. | .. | .. | .. | .. | .. | .. | .. | 95 | 5 |
| Kiambu | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Turkana | .. | .. | .. | .. | .. | 1 | 2 | .. | 1 | 2 |
| West Pokot | 2 | 1 | 3 | 2 | .. | .. | 1 | 1 | 2 | 2 |
| Samburu | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. |
| Trans Nzoia | 2 | 3 | 6 | 6 | 10 | 10 | .. | 1 | 14 | 12 |
| Uasin Gishu | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Elgeyo-Marakwet | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 3 |
| Nandi | 14 | 8 | 22 | 12 | 16 | 16 | 7 | 4 | 10 | 2 |
| Baringo | 2 | 3 | 4 | 6 | 1 | 11 | 3 | 5 | 1 | 1 |
| Laikipia | 2 | .. | 4 | 1 | 5 | 3 | 4 | 2 | 7 | 3 |
| Nakuru | 120 | 500 | 80 | 120 | 60 | 90 | 150 | 650 | 98 | 692 |
| Narok | .. | 40 | .. | 48 | .. | 56 | .. | .. | .. | 56 |
| Kajiado | 15 | 5 | 20 | 5 | .. | .. | 30 | 10 | 18 | 2 |
| Kericho | 10 | 12 | 10 | 3 | 9 | 10 | 4 | 5 | 1 | 9 |
| Bomet | 2 | 17 | 19 | 3 | 2 | 18 | 1 | 19 | 2 | 21 |
| Kakamega | .. | .. | .. | .. | .. | .. | .. | .. | 11 | 1 |
| Vihiga | .. | .. | .. | .. | .. | .. | 1 | .. | 5 | 2 |
| Bungoma | 6 | 4 | 5 | 6 | 4 | 19 | 2 | 2 | 3 | 3 |
| Busia | .. | .. | .. | .. | .. | .. | .. | .. | 70 | 12 |
| Siaya | .. | .. | 7 | 8 | 14 | 16 | 19 | 21 | 23 | 22 |
| Kisumu | .. | .. | 50 | 7 | .. | .. | .. | .. | .. | .. |
| Homabay | .. | 5 | .. | 8 | .. | 10 | .. | 15 | .. | 20 |
| Migori | .. | 4 | .. | 4 | .. | 6 | .. | 8 | 1 | 10 |
| Nyamira | 2 | 4 | 1 | .. | .. | 3 | .. | 1 | 1 | 2 |
| Nairobi City | 615 | 415 | 715 | 683 | 1,245 | 1,758 | 1,458 | 758 | 1,582 | 967 |
| **Total** | **951** | **1,235** | **1,110** | **1,205** | **1,606** | **2,353** | **2,029** | **1,885** | **2,300** | **2,270** |

*.. Data not available*

### 10.2.8 Completion Certificates

This survey sought to understand whether county governments monitor the construction process to completion levels and whether they are satisfied that the plans are implemented as approved.

**2,137**

The number of completion certificates issued in 2023.

#### 10.2.8.1 Completion Certificate Applications Received and Completion Certificates Issued by Type of Building

As indicated in Table 10.5, there were a total of 2,990 and 2,930 completion certificates applications in 2022 and 2023, respectively. Out of these applications, a total of 1,750 and 2,137 completion certificates were issued in 2022 and 2023, respectively. Most completion certificate applications received and issued were for residential housing only, followed by commercial buildings.

**Table 10.5: Number of Completion Certificate Applications Received and Issued, by Type of Building**

| | Number of completion certificate applications received | | Number of completion certificates issued | | Proportion of completion certificates issued | |
|---|---|---|---|---|---|---|
| | 2022 | 2023 | 2022 | 2023 | 2022 | 2023 |
| Number | | | | | | |
| Commercial Only | 351 | 546 | 288 | 347 | 82.1 | 63.6 |
| Housing Only | 2,263 | 1,768 | 1,145 | 1,380 | 50.6 | 78.1 |
| Mixed Use | 214 | 429 | 204 | 327 | 95.3 | 76.2 |
| Warehousing | 162 | 187 | 113 | 83 | 69.8 | 44.4 |
| **Total** | **2,990** | **2,930** | **1,750** | **2,137** | **58.5** | **72.9** |
| **Proportion** | | | | | | |
| Commercial Only | 11.7 | 18.6 | 16.5 | 16.2 | | |
| Housing Only | 75.7 | 60.3 | 65.4 | 64.6 | | |
| Mixed Use | 7.2 | 14.6 | 11.7 | 15.3 | | |
| Warehousing | 5.4 | 6.4 | 6.5 | 3.9 | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | | |
| Mixed Use | 12.5 | 0.8 | 23.0 | 17.4 | | |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | | |

#### 10.2.8.2 Completion Certificate Applications Received and Issued by County

Machakos, Homa Bay, and Nairobi City counties received most of the applications with 1500, 520, and 428 applications, respectively in 2023 as indicated in Table 10.6. The number of completion certificates issued in both years is highest in the same counties.

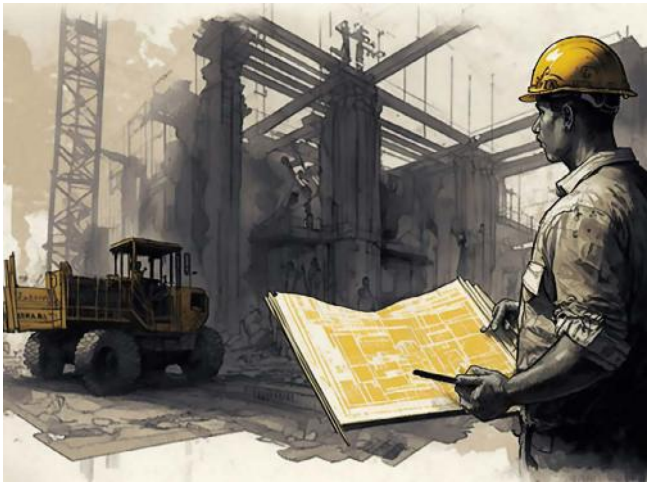


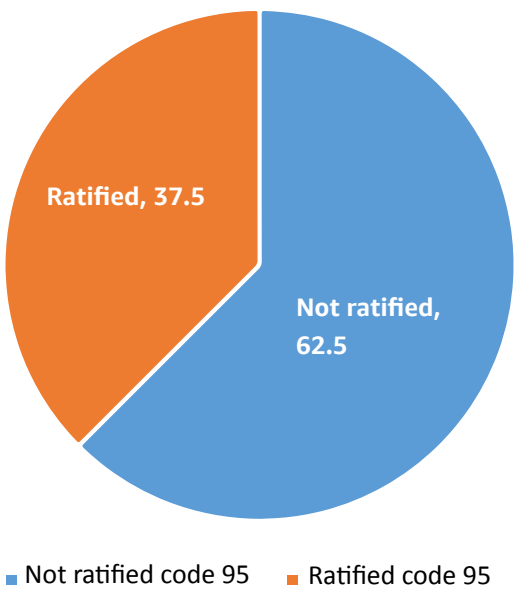
Table 10.6: Completion Certificate Applications Received and Issued, by County

| | Number of completion certificate applications received | | Number of completion certificates issued | |
|---|---|---|---|---|
| | 2022 | 2023 | 2022 | 2023 |
| Mombasa | .. | .. | .. | .. |
| Kwale | .. | .. | .. | .. |
| Kilifi | .. | .. | .. | .. |
| Tana River | 14 | 23 | 10 | 20 |
| Lamu | .. | .. | .. | .. |
| Taita-Taveta | .. | .. | .. | .. |
| Garissa | .. | .. | .. | .. |
| Wajir | .. | .. | .. | .. |
| Mandera | 1 | 2 | 1 | 2 |
| Marsabit | .. | .. | .. | .. |
| Isiolo | 1 | .. | 1 | .. |
| Meru | 34 | 18 | 34 | 18 |
| Tharaka-Nithi | .. | .. | .. | .. |
| Embu | .. | .. | .. | .. |
| Kitui | 7 | 7 | 7 | 7 |
| Machakos | 1,030 | 1,500 | 331 | 720 |
| Makueni | .. | .. | .. | .. |
| Nyandarua | .. | .. | .. | .. |
| Nyeri | .. | .. | .. | .. |
| Kirinyaga | 1 | 2 | .. | .. |
| Murang'a | .. | .. | .. | .. |
| Kiambu | .. | .. | .. | .. |
| Turkana | 23 | 29 | 23 | 29 |
| West Pokot | .. | .. | .. | .. |
| Samburu | .. | .. | .. | .. |
| Trans Nzoia | 61 | 46 | 131 | 141 |
| Uasin Gishu | .. | .. | .. | .. |
| Elgeyo-Marakwet | 48 | 44 | 42 | 55 |
| Nandi | 96 | 164 | 65 | 147 |
| Baringo | .. | .. | .. | .. |
| Laikipia | .. | .. | .. | .. |
| Nakuru | .. | .. | .. | .. |
| Narok | .. | .. | .. | .. |
| Kajiado | 71 | 73 | 70 | 73 |
| Kericho | 3 | 6 | 3 | 3 |
| Bomet | 25 | 26 | 20 | 25 |
| Kakamega | .. | .. | .. | .. |
| Vihiga | .. | .. | .. | .. |
| Bungoma | 30 | 39 | 30 | 39 |
| Busia | .. | .. | .. | .. |
| Siaya | .. | .. | .. | .. |
| Kisumu | .. | .. | .. | .. |
| Homabay | 400 | 520 | 384 | 519 |
| Migori | .. | .. | .. | .. |
| Nyamira | 12 | 3 | 12 | 3 |
| Nairobi City | 1133 | 428 | 586 | 336 |
| **Total** | **2,990** | **2,930** | **1,750** | **2,137** |
| *.. Data not available* | | | | |

### 10.2.9 Ratification of Building Code

Development in the building industry is a dynamic process. With passage of time, new materials and technologies become available, design methods are refined and innovative building systems and technologies are introduced. As a result, Code 95 was introduced in 1995 to promote housing standards and procedures, promote cost effective buildings, promote innovative designs, encourage use of local materials and put emphasis on performance rather than specific construction materials and therefore these by-laws play a critical role in the built environment. As shown in Figure 10.8, only 37.5 per cent of counties have ratified Code 95.

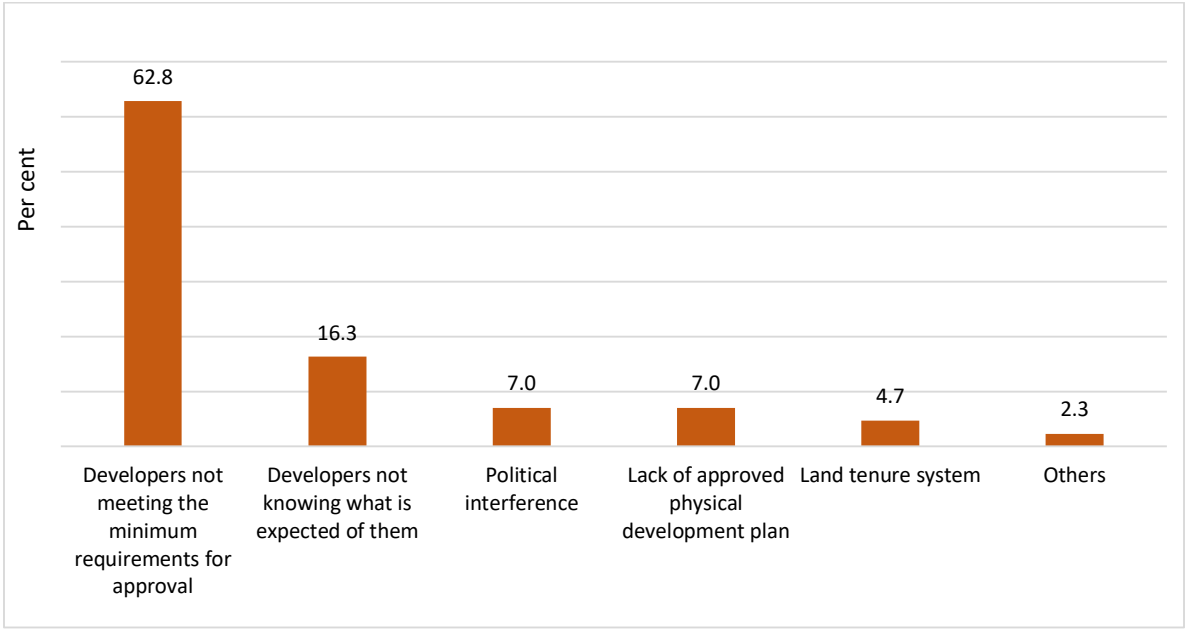
*Figure 10.8: Proportion of Counties that have Ratified Building Code 95 (revised building by-laws)*



### 10.2.10 Challenges in Building Approval Process

County governments recognize the importance of supporting housing development in meeting housing needs of the increasing population. The survey findings highlight the main challenges counties face while approving applications for residential development. As shown in Figure 10.9, 62.8 per cent of counties identified 'developers not meeting the minimum requirements for approval' as the most significant challenge. A further 16.3 per cent of the counties identified failure by 'developers to know what is expected of them' in applications for approvals as a challenge in approval process.

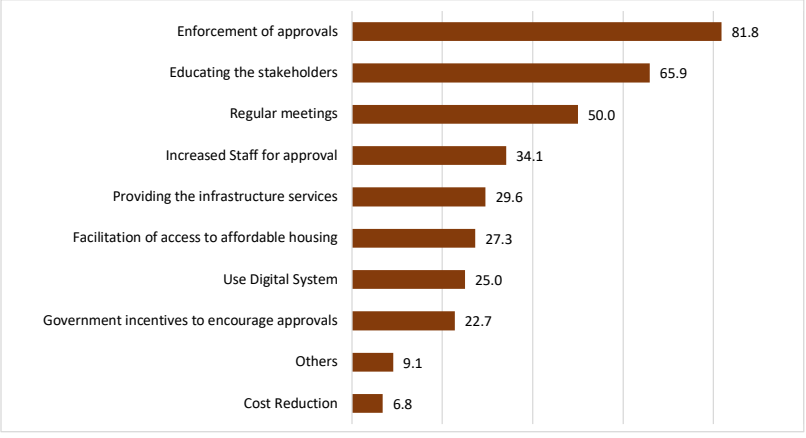
*Figure 10.9: Main Challenges Encountered by Counties in Residential Building Approvals process*




### 10.2.11 Measures to Address Challenges in Approval of Residential Buildings

The survey sought to find the use of various measures to address challenges faced by counties in approving residential building applications. About 82 per cent of counties reported enforcement of approvals as a measure to address these challenges. Stakeholder education and holding regular meetings were cited by 65.9 per cent and 50.0 per cent of counties, respectively as measures put in place to address the challenges they face while approving applications for buildings. (Figure 10.10)

*Figure 10.10: Proportion of Counties by Measures put in place to Address Challenges in Residential Buildings Approval*



### 10.2.12 Slum/Informal Settlements Improvement

Slums/informal settlements are usually a product of inadequate housing due to rapid rural to urban migration, economic stagnation, high unemployment rate and poor planning among others. The total number of slums reported across the counties stand at 392 as shown in Table 10.7, with 38.1 per cent of the counties reporting the existence of slums within their jurisdictions.

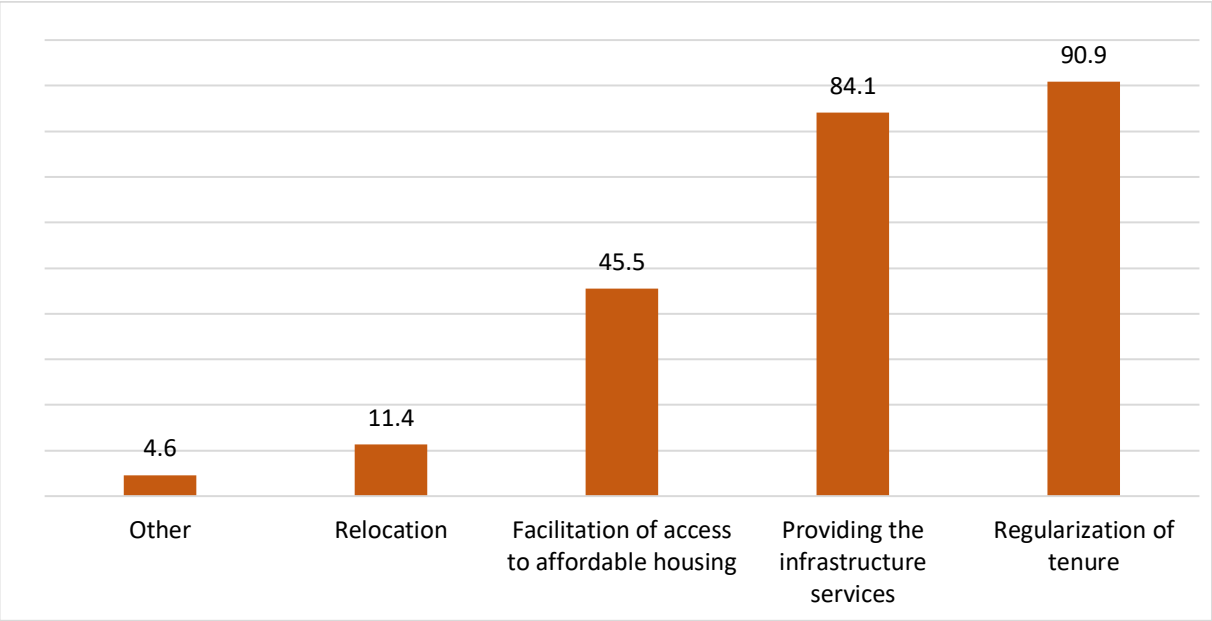
**Table 10.7: Proportion of Counties with Informal Settlements/Slums, and their Number by Type of Jurisdiction Area**

| Jurisdiction Area | Proportion of counties with informal settlements/slums | Number of informal settlements/ slums |
|---|---|---|
| Market Centre | 30.6 | 183 |
| Town | 30.6 | 34 |
| Municipality | 76.3 | 154 |
| City | 13.5 | 21 |
| **Total** | **38.1** | **392** |

Figure 10.11 shows the measures taken by counties to improve informal/slum settlements. The most significant intervention by counties in improving informal/slum settlements is regularization of tenure as indicated by 90.9 per cent of the responses by the counties.

The main target of regularization of tenure is usually unallocated public land, such as untitled land. 84.1 per cent of counties provide infrastructure services to slums and informal settlements as a way of improving those areas, 45.5 per cent of the counties facilitate housing while 11.4 per cent relocate the slum residents.

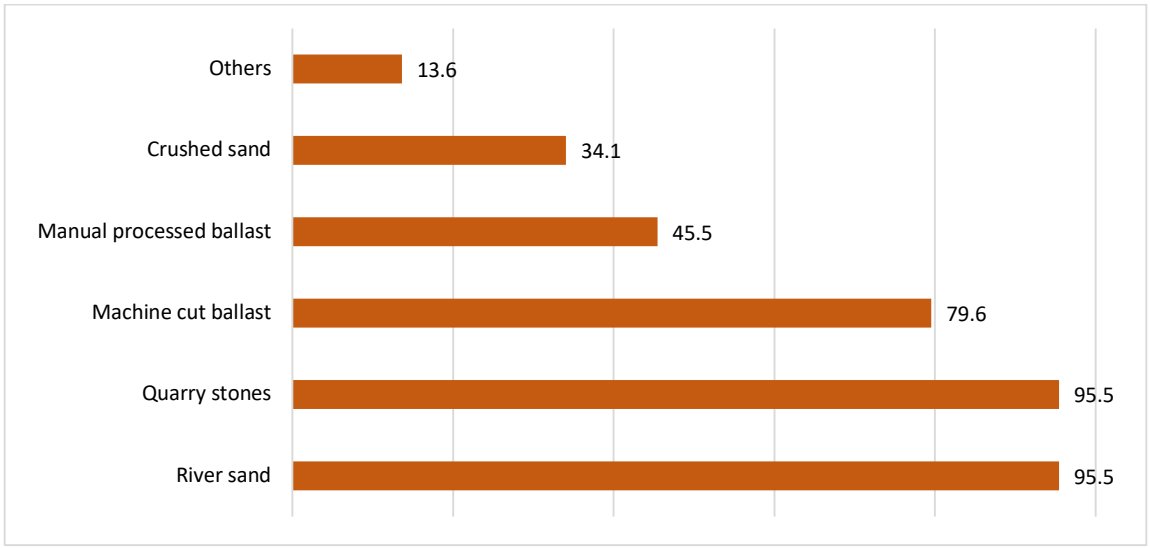
*Figure 10.11: Proportion of Counties by Measures Taken to Improve Informal/Slum Settlements*




### 10.2.13 Raw Materials for Foundation and Walling

The survey sought to find out the type of raw materials used at counties for foundation and walling. As seen in Figure 10.12 below, 95.5 per cent of the counties responded that river sand and quarry stones are the most used raw materials for foundation and walling. Further, 79.6 per cent of counties reported that the use of machine cut ballast, 45.5 per cent use manual processed ballast and 34.1 per cent use crushed sand as raw materials for foundation and walling.

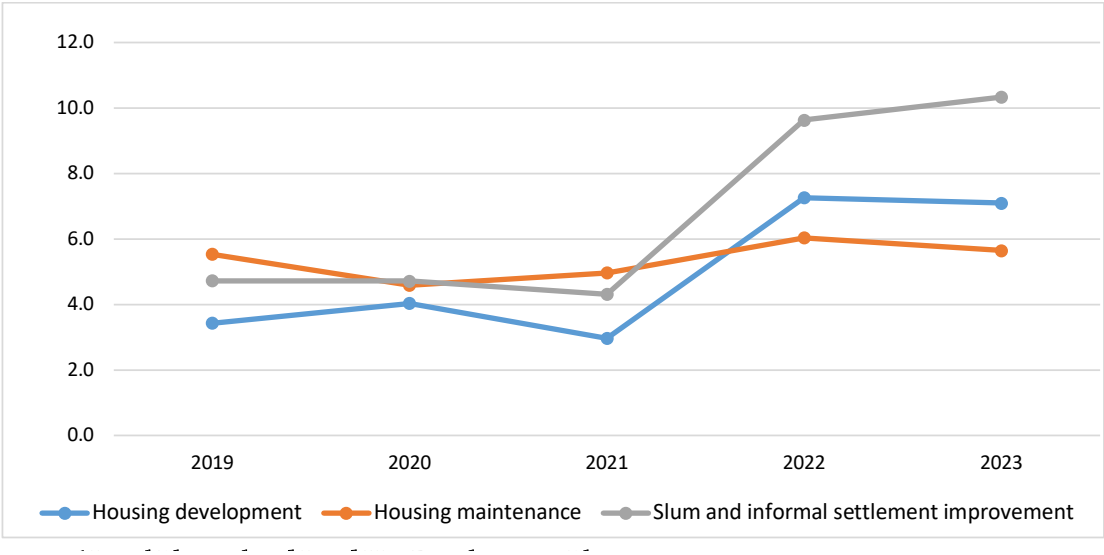
*Figure 10.12: Proportion of Counties Raw materials Commonly Used for Foundation and Walling*




### 10.2.14 County Government Budget Devoted to Housing

The survey sought to establish the proportion of the county governments' budget that is devoted to development and maintenance of county housing stock as well as improving the informal/slum settlements. Budgetary allocation for housing development and slum and informal settlement improvement has more than doubled from 2019 with an allocation of 3.4 per cent and 4.7 per cent, respectively to 7.1 per cent and 10.3 per cent, respectively in 2023 as indicated in Figure 10.13. No substantial change in budgetary allocation was recorded for housing maintenance.

*Figure 10.13: Proportion of County Government Budget Devoted to Housing*



### 10.2.15 Local Physical and Land Use Development Plans

The Physical and Land Use Planning Act, 2019 defines local physical and land use development plans as plans for the area or part thereof of a city, municipality, town or urban center and includes a plan with reference to any rural area, trading or market center. These jurisdiction areas are required to follow the regulations stipulated in the Physical and Land Use Planning Act, 2019 when coming up with their development plans.

Table 10.8 shows the number of local physical and land use development plans developed by various jurisdiction areas vis a vis the development that have been approved. Out of the total 794 development plans, only 348 of them have been approved, which is less than half of them. Towns have the most development plans at 630 with only 235 of them having been approved.

**Table 10.8: Number of Local Physical and Land Use Development plans by jurisdiction area**

| Jurisdiction Area | Total number of local physical and land use development plans | Number of approved local physical and land use development plans |
|---|---|---|
| Town | 630 | 235 |
| Municipality | 116 | 86 |
| City | 48 | 27 |
| **Total** | **794** | **348** |

Table 10.9 presents the number of local physical and land use development plans by jurisdiction area and county. The towns in Baringo County reported to have the most development plans with a total of 145. All the city development plans were approved except for Nairobi which had 126 development plans and 79 were approved.

### Table 10.9: Number of Local Physical and Land Use Development Plans by Jurisdiction Area and County

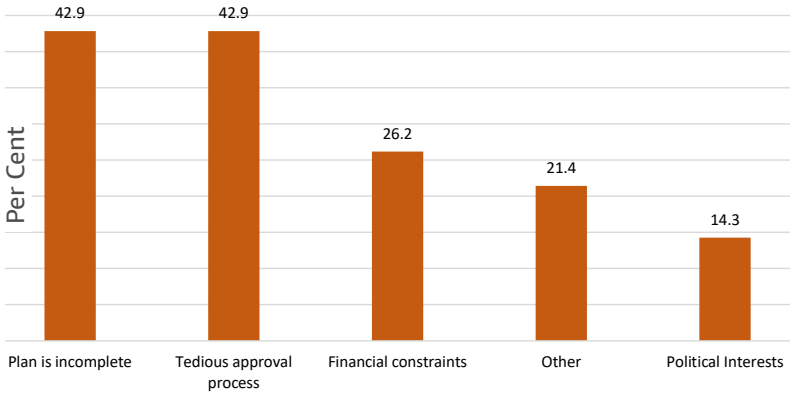
| | Town | | Municipality | | City | |
|---|---|---|---|---|---|---|
| | Total number of local physical and land use development plans | Number of approved local physical and land use development plans | Total number of local physical and land use development plans | Number of approved local physical and land use development plans | Total number of local physical and land use development plans | Number of approved local physical and land use development plans |
| Mombasa | .. | .. | .. | .. | .. | .. |
| Kwale | .. | .. | .. | .. | .. | .. |
| Kilifi | 30 | 5 | 5 | 5 | .. | .. |
| Tana River | .. | .. | .. | .. | .. | .. |
| Lamu | .. | .. | 1 | 1 | .. | .. |
| Taita-Taveta | 3 | 3 | 1 | 1 | .. | .. |
| Garissa | 8 | .. | 5 | .. | .. | .. |
| Wajir | 7 | .. | 1 | 1 | .. | .. |
| Mandera | 3 | 1 | .. | .. | .. | .. |
| Marsabit | 2 | 2 | 4 | 2 | .. | .. |
| Isiolo | .. | .. | 7 | 1 | .. | .. |
| Meru | .. | .. | .. | .. | .. | .. |
| Tharaka-Nithi | 1 | 1 | 1 | 1 | .. | .. |
| Embu | .. | .. | .. | .. | .. | .. |
| Kitui | .. | .. | 2 | 2 | .. | .. |
| Machakos | 20 | 20 | 4 | 4 | .. | .. |
| Makueni | 23 | 23 | 2 | 2 | .. | .. |
| Nyandarua | 4 | .. | 1 | .. | .. | .. |
| Nyeri | .. | .. | .. | .. | .. | .. |
| Kirinyaga | .. | .. | .. | .. | .. | .. |
| Murang'a | 3 | .. | 1 | .. | .. | .. |
| Kiambu | .. | .. | .. | .. | .. | .. |
| Turkana | 7 | .. | 2 | .. | .. | .. |
| West Pokot | 15 | 3 | 2 | .. | .. | .. |
| Samburu | 30 | 5 | 1 | 1 | .. | .. |
| Trans Nzoia | 73 | 24 | 1 | 1 | .. | .. |
| Uasin Gishu | 30 | 17 | 1 | 1 | .. | .. |
| Elgeyo-Marakwet | 67 | 7 | 1 | 1 | .. | .. |
| Nandi | 1 | .. | 2 | 1 | .. | .. |
| Baringo | 145 | 20 | 1 | 1 | .. | .. |
| Laikipia | 40 | 11 | 2 | 2 | .. | .. |
| Nakuru | 29 | 29 | 4 | 2 | 1 | 1 |
| Narok | 11 | 11 | 2 | 2 | .. | .. |
| Kajiado | 5 | 5 | 3 | 3 | .. | .. |
| Kericho | 4 | 2 | 2 | 2 | .. | .. |
| Bomet | 4 | 4 | 5 | 5 | .. | .. |
| Kakamega | 3 | 3 | 2 | 2 | .. | .. |
| Vihiga | .. | .. | .. | .. | .. | .. |
| Bungoma | 10 | 1 | 2 | 2 | .. | .. |
| Busia | 10 | 10 | 2 | 2 | .. | .. |
| Siaya | .. | 4 | .. | 3 | .. | .. |
| Kisumu | .. | .. | .. | .. | 1 | 1 |
| Homabay | 1 | 1 | 3 | 2 | .. | .. |
| Migori | .. | .. | .. | .. | .. | .. |
| Nyamira | 3 | 1 | 1 | 1 | .. | .. |
| Nairobi City | .. | .. | .. | .. | 126 | 79 |
| **Total** | **592** | **213** | **74** | **54** | **128** | **81** |

*.. Data not available*

### 10.2.16 Reasons for Low Approval of Local Physical and Land Use Development Plans

Counties provided reasons for low approval rates of development plans. Incomplete and tedious approval processes were each cited by 42.9 per cent while financial constraints were cited by 26.2 per cent of counties. Political interests were cited by 14.3 per cent of counties as a reason for not approving development plans as shown in Figure 10.14.

*Figure 10.14: Reasons Why Counties do not Approve Local Physical and Land use Development Plans*




### 10.2.17 Area of Approved Development Plans

The survey sought to determine the area of planned land as well as land designated for residential purposes and their approval status as at 2024. Figure 10.15 below shows the reported area of land in hectares that has been approved for local physical and land use development plans and residential land use by jurisdiction. For towns, 1,731,500 hectares of the land planned for local physical and land use development plans have been approved and 67,500 hectares were approved for residential land use. For cities, 29,700 hectares of the land planned for local physical and land use development plans and 9,700 hectares of land planned for residential land use was approved. For municipalities, 307,700 hectares of the land planned for local physical and land use development plans and 180,900 hectares of land planned for residential land use was approved.

*Figure 10.15: Area of Approved Local Physical and Land Use Development Plans and Residential land use by jurisdiction*

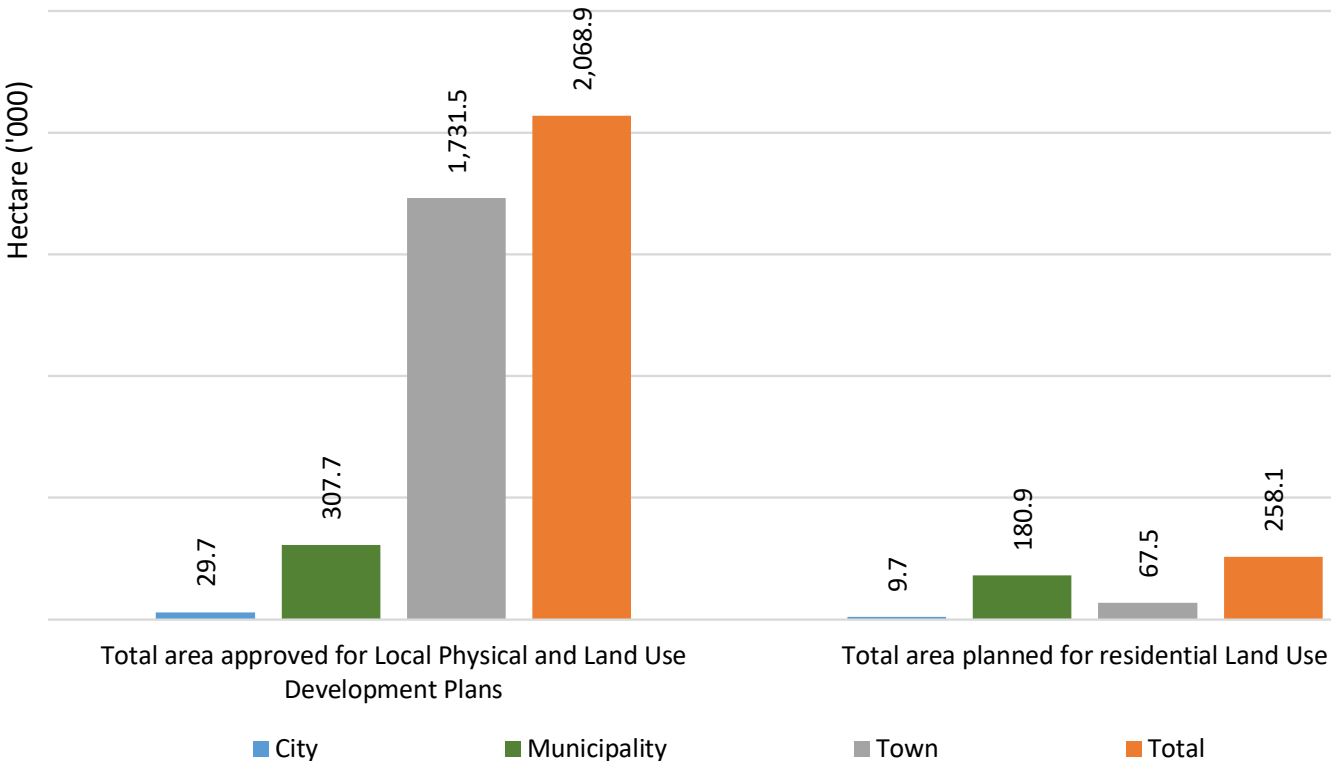
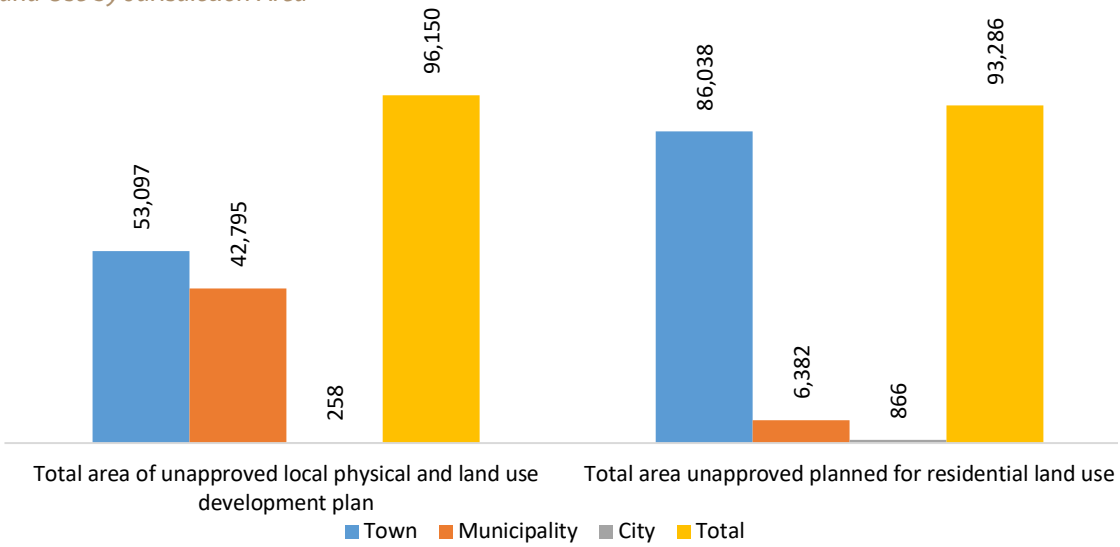


Figure 10.16 shows the area of land in hectares that has not been approved for local physical and land use development plans and residential land use. For towns, 53,097 hectares of the land planned for local physical and land use development plans and 86,038 hectares of land planned for residential land use was unapproved. For cities, 258 hectares of the land planned for local physical and land use development plans and 866 hectares of land for residential land use was unapproved. For municipalities, 42,795 hectares of the land planned for local physical and land use development plans while 6,382 hectares of land planned for residential land use was unapproved.

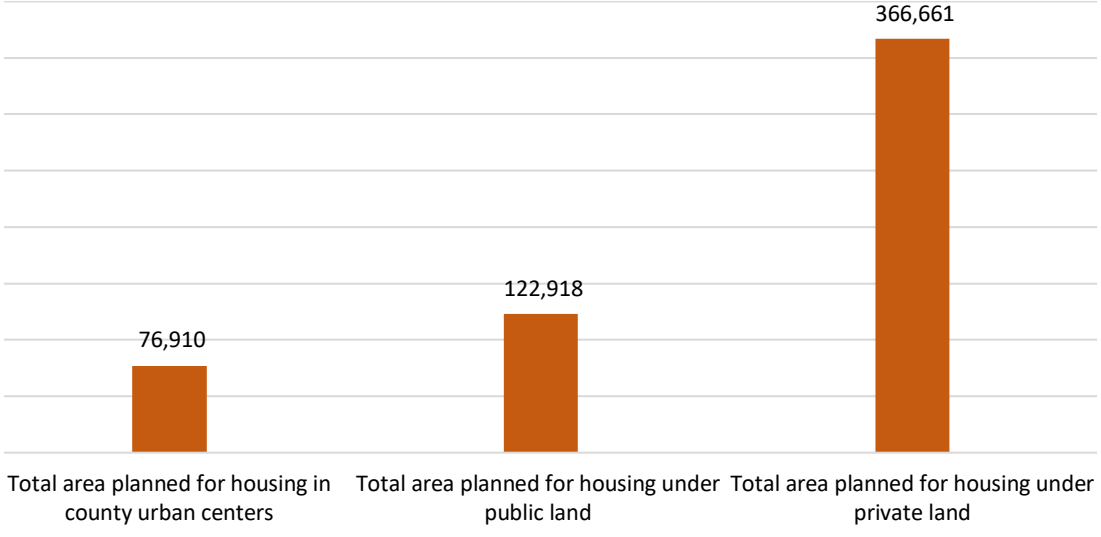
*Figure 10.16: Area of Unapproved Local Physical and Land Use Development Plans and Residential Land Use by Jurisdiction Area*




### 10.2.18 Area Planned for Housing

Figure 10.17 shows the total area of land that has been planned for housing in urban centers, under public and private land. Private land has the most hectares planned for housing at 366,661 hectares followed by public land at 122,918 hectares. The land in urban centers planned for housing stood at 76,910 hectares.

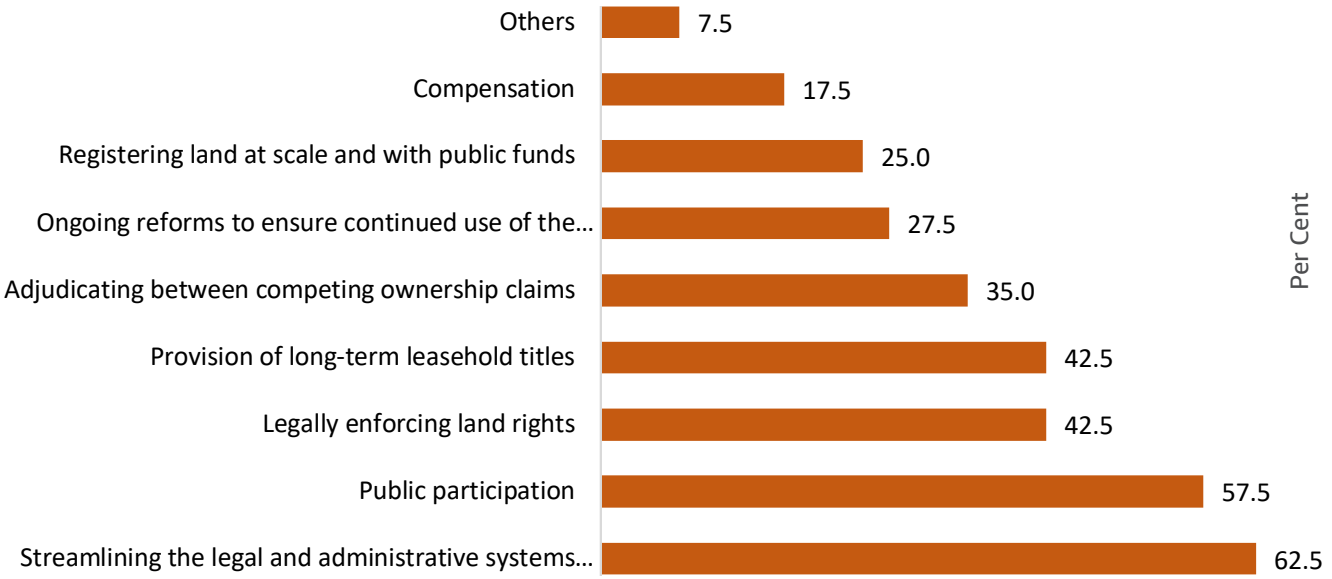
*Figure 10.17: Total Area (hectares) Planned for Housing in County Urban Centers, Under Public and Private Land*

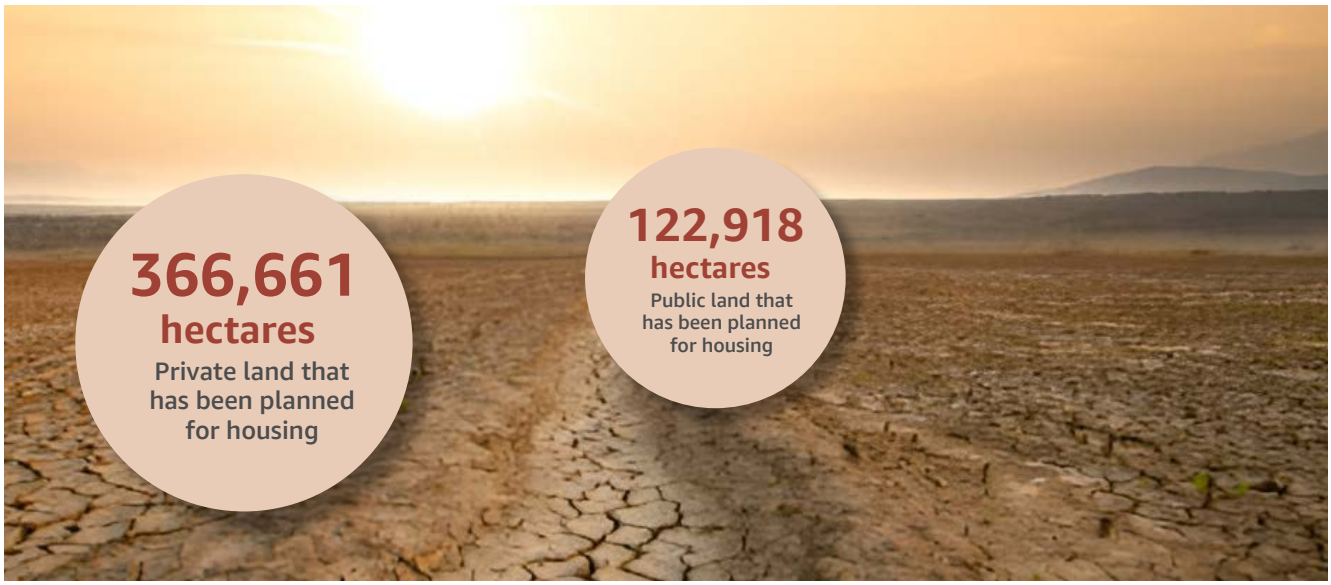


### 10.2.19 Freehold Titles and Residential Housing Development in Urban Areas

Freehold land is land that is held in perpetuity and is free from any holding charges. However, ownership of freehold land does not mean that the owner can carry out unplanned development. It is therefore the duty of the county governments to release any freehold land for the purpose into which owners intend to use it for. In this survey, county governments were asked the steps they have taken to release urban land under freehold title for residential housing development. As can be seen in Figure 10.18, 62.5 per cent of counties are streamlining the legal and administrative systems that govern land as a way of releasing the land under freehold title. 57.5 per cent of counties have taken the public participation route. 42.5 per cent of counties provide long-term leasehold titles and legally enforce land rights in order to release urban land under freehold for residential housing development. 35.0 per cent of counties take the step of adjudicating disputes over ownership claims. Only 17.5 per cent of counties report that they compensate land owners in a bid to release the urban freehold land for housing development.

*Figure 10.18: Steps taken by county governments to facilitate release of urban land under freehold title for residential housing development*




### 10.2.20 Control measures for development in areas planned for residential housing development

It is no secret that some areas that have been set aside for residential housing development have been used for other purposes. This not only disrupts the local physical and land use development plans of the jurisdiction area, but it also reduces land meant for housing development. This survey sought to find out the measures counties are planning to take to curb this problem. Table 10.10 shows that 83.3 per cent of counties plan to regulate development on land. 81.0 per cent of counties plan to prepare development control tools such as area zoning and transportation planning and granting development approval or rejection. Only 38.1 per cent of counties plan to do environmental audits and monitoring to control developments in areas meant for residential housing.

**Table 10.10: Measures Taken by County Governments to Control Development in Areas Planned for Residential Housing Development**

| No. | Measure | Percentage |
|---|---|---|
| 1 | Regulate development on land | 83.3 |
| 2 | Preparation of development control tools e.g. Area zoning plans, action plans, transport plans etc | 81.0 |
| 3 | Granting development approval or rejection | 81.0 |
| 4 | Guide development to align to policies, standards and to achieve the desired outcome | 78.6 |
| 5 | Processing Applications | 78.6 |
| 6 | Promoting orderly development and esthetics | 76.2 |
| 7 | Provision and implementation of an approved physical and land use development plan | 66.7 |
| 8 | Managing and coordinating housing development activities within the county | 59.5 |
| 9 | Public participation | 57.1 |
| 10 | Protecting and maintaining space meant for housing development | 57.1 |
| 11 | Optimal usage | 50.0 |
| 12 | Efficiently use of land | 50.0 |
| 13 | Environmental audit and monitoring | 38.1 |
| **14** | **Others** | **2.4** |

## 10.3 Water and Sewerage Service Providers

The enactment of the Water Act 2002 created new institutions (water companies) to manage water resources in Kenya. The Companies took over the provision of water and sewerage services from their respective municipal councils and subsequently the Counties after the promulgation of the Constitution of Kenya 2010. Their main mandate is to provide water and sewerage services, and for development and management of the related infrastructure and facilities, within their water supply jurisdiction.

### 10.3.1 Water Connection

In the year 2023 and 2022 Water and Sewerage Service Providers (WSSPs) in the country received a total of 78,220 and 80,484 water connection applications, respectively as shown in Table 10.11. This comprised a total of 52,774 and 62,328 residential buildings water connection applications for the year 2023 and 2022 respectively and a total of 9,686 and 13,658 mixed use water applications in 2023 and 2022 respectively. WSSPs in Kiambu received more license applications for water connection where a total of 9,592 and 9,877 applications were received in 2023 and 2022, respectively.

## Table 10.11: Number of Applications for Water Connections Received in 2022 and 2023 by County and Type of Building

| | Number of applications received for water connection | | Number of applications received for water connection for residential buildings | | Number of applications received for water connection for mixed use buildings | |
|---|---|---|---|---|---|---|
| | 2022 | 2023 | 2022 | 2023 | 2022 | 2023 |
| Mombasa | 1,600 | 1,820 | 1,220 | 1,430 | 380 | 450 |
| Kwale | 1,518 | 1,208 | 1,502 | 1,168 | 16 | 20 |
| Kilifi | 3,086 | 1,757 | .. | .. | .. | .. |
| Tana River | 160 | 75 | 123 | 65 | 5 | 3 |
| Lamu | 50 | 50 | 40 | 10 | .. | .. |
| Taita-Taveta | 1,933 | 1,640 | 1,754 | 1,544 | 179 | 96 |
| Garissa | 300 | 382 | 258 | 320 | 42 | 62 |
| Wajir | 102 | 426 | 102 | 426 | .. | .. |
| Mandera | 910 | 840 | 893 | 158 | 684 | 6 |
| Marsabit | 80 | 200 | 18 | 50 | .. | .. |
| Isiolo | 345 | 457 | 344 | 450 | 1 | 7 |
| Meru | 1,475 | 1,480 | 1,212 | 1,013 | 255 | 241 |
| Tharaka-Nithi | 1,273 | 1,069 | 1,131 | 218 | .. | .. |
| Embu | 4,491 | 4,166 | 4,255 | 3,971 | 236 | 195 |
| Kitui | 629 | 569 | 371 | 338 | 258 | 231 |
| Machakos | 1,132 | 1,039 | 797 | 571 | 170 | 152 |
| Makueni | 450 | 420 | 285 | 291 | .. | .. |
| Nyandarua | 981 | 786 | 803 | 661 | 96 | 89 |
| Nyeri | 4,485 | 5,000 | 3,725 | 4,185 | 304 | 259 |
| Kirinyaga | 1,856 | 1,302 | 148 | 1,158 | - | - |
| Murang'a | 7,119 | 7,059 | 6,349 | 5,178 | 721 | 842 |
| Kiambu | 9,877 | 9,592 | 7,202 | 6,572 | 2,195 | 2,227 |
| Turkana | 256 | 576 | 215 | 526 | 41 | 50 |
| West Pokot | 652 | 232 | 637 | 5 | .. | .. |
| Samburu | 180 | 220 | 12 | 28 | 168 | 192 |
| Uasin Gishu | 2,681 | 2,682 | 2,598 | 2,576 | 83 | 106 |
| Elgeyo-Marakwet | 8,280 | 8,580 | 5,880 | 6,140 | 1,200 | 1,220 |
| Nandi | 387 | 261 | 327 | 126 | .. | .. |
| Baringo | 737 | 833 | 730 | 801 | 7 | 32 |
| Laikipia | 2,963 | 2,104 | 2,868 | 1,139 | 27 | 19 |
| Nakuru | 3,542 | 2,802 | 3,083 | 2,392 | 414 | 395 |
| Narok | 58 | 43 | 12 | 9 | 31 | 28 |
| Kajiado | 479 | 562 | 466 | 533 | 170 | 29 |
| Kericho | 422 | 354 | 275 | 231 | 147 | 123 |
| Bomet | 852 | 767 | 639 | 574 | 213 | 192 |
| Kakamega | 2,148 | 3,440 | 1,464 | 1,814 | 224 | 201 |
| Vihiga | .. | 251 | .. | 250 | .. | .. |
| Bungoma | 1,539 | 1,448 | 1,397 | 1,404 | 142 | 38 |
| Busia | 397 | 456 | 204 | 351 | 193 | 105 |
| Siaya | 1,683 | 979 | 1,625 | 939 | 251 | 270 |
| Kisumu | 2,991 | 3,440 | 2,056 | 977 | 2 | .. |
| Homabay | 1,052 | 352 | 1,005 | 227 | 47 | 125 |
| Migori | 89 | 786 | 69 | 726 | 20 | 60 |
| Nairobi City | 5,244 | 5,715 | 4,234 | 1,229 | 4,736 | 1,621 |
| **Total** | **80,484** | **78,220** | **62,328** | **52,774** | **13,658** | **9,686** |

*.. Data not available*

### 10.3.2 Sewer Connection

WSSPs in the country received a total of 12,600 and 12,621 sewer connection applications in the year 2023 and 2022 respectively as shown in Table 10.12. There was a total of 8,552 residential buildings sewer connection applications in the year 2022 and a total of 7,167 mixed use sewer connection applications in 2023.

**Table 10.12: Number of Applications Received for Sewer Connection and Proportion of Sewer Coverage by county**

| | Number of applications received for sewer connection | Number of applications received for sewer connection | Number of applications received for sewer connection for residential buildings | Number of applications received for sewer connection for mixed use buildings | Percentage of sewer coverage | Percentage of sewer coverage |
|---|---|---|---|---|---|---|
| | 2022 | 2023 | 2022 | 2023 | 2022 | 2023 |
| Mombasa | 5 | 101 | 5 | 4 | 29.0 | 31.0 |
| Kwale | .. | .. | .. | .. | .. | .. |
| Kilifi | .. | .. | .. | .. | .. | .. |
| Tana River | .. | .. | .. | .. | .. | .. |
| Lamu | .. | .. | .. | .. | .. | .. |
| Taita-Taveta | .. | 2 | .. | .. | .. | 2.0 |
| Garissa | 53 | 44 | 53 | 44 | 26.0 | 25.0 |
| Wajir | .. | .. | .. | .. | .. | .. |
| Mandera | .. | .. | .. | .. | .. | .. |
| Marsabit | .. | .. | .. | .. | .. | .. |
| Isiolo | 27 | 24 | 20 | 6 | 18.0 | 21.0 |
| Meru | 9 | 11 | 9 | 1 | 2.3 | 2.3 |
| Tharaka-Nithi | .. | .. | .. | .. | .. | .. |
| Embu | 1,817 | 543 | 1,705 | 47 | 14.0 | 14.0 |
| Kitui | 3 | 4 | 1 | 3 | 2.5 | 2.5 |
| Machakos | 113 | 123 | 74 | 18 | 7.9 | 9.9 |
| Makueni | .. | .. | .. | .. | .. | .. |
| Nyandarua | 495 | 224 | 297 | 104 | .. | .. |
| Nyeri | 801 | 813 | 461 | 515 | 20.3 | 21.3 |
| Kirinyaga | .. | .. | .. | .. | .. | .. |
| Murang'a | 400 | 510 | 100 | 300 | 4.8 | 5.0 |
| Kiambu | 601 | 1,531 | 374 | 718 | 3.6 | 18.3 |
| Turkana | .. | .. | .. | .. | .. | .. |
| West Pokot | .. | .. | .. | .. | .. | .. |
| Samburu | .. | .. | .. | .. | .. | .. |
| Uasin Gishu | 180 | 200 | 162 | 20 | 32.0 | 32.0 |
| Elgeyo-Marakwet | 1,200 | 1,220 | .. | .. | .. | .. |
| Nandi | 11 | 13 | 9 | 9 | 1.0 | 1.0 |
| Baringo | .. | .. | .. | .. | .. | .. |
| Laikipia | 406 | 408 | 246 | 55 | 25.0 | 25.0 |
| Nakuru | 651 | 702 | 447 | 235 | 19.3 | 20.7 |
| Narok | 62 | 51 | 4 | 6 | 1.0 | 2.0 |
| Kajiado | .. | .. | .. | .. | .. | .. |
| Kericho | 120 | 70 | 80 | 20 | 17.0 | 17.0 |
| Bomet | 120 | 130 | 90 | 98 | 15.0 | 17.0 |
| Kakamega | 200 | 312 | 140 | 148 | 6.5 | 7.0 |
| Vihiga | .. | .. | .. | .. | .. | .. |
| Bungoma | .. | .. | .. | .. | .. | .. |
| Busia | 36 | 32 | 22 | 15 | 2.0 | 2.0 |
| Siaya | 12 | 16 | 10 | 9 | 4.0 | 4.0 |
| Kisumu | 77 | 103 | 27 | 50 | 62.3 | 62.3 |
| Homabay | 30 | 28 | 14 | 16 | 47.0 | 52.0 |
| Migori | .. | .. | .. | .. | .. | .. |
| Nairobi City | 5,192 | 5,385 | 4,202 | 4,726 | 27.5 | 34.0 |
| **Total** | **12,621** | **12,600** | **8,552** | **7,167** | **8.6** | **10.3** |

*.. Data not available*

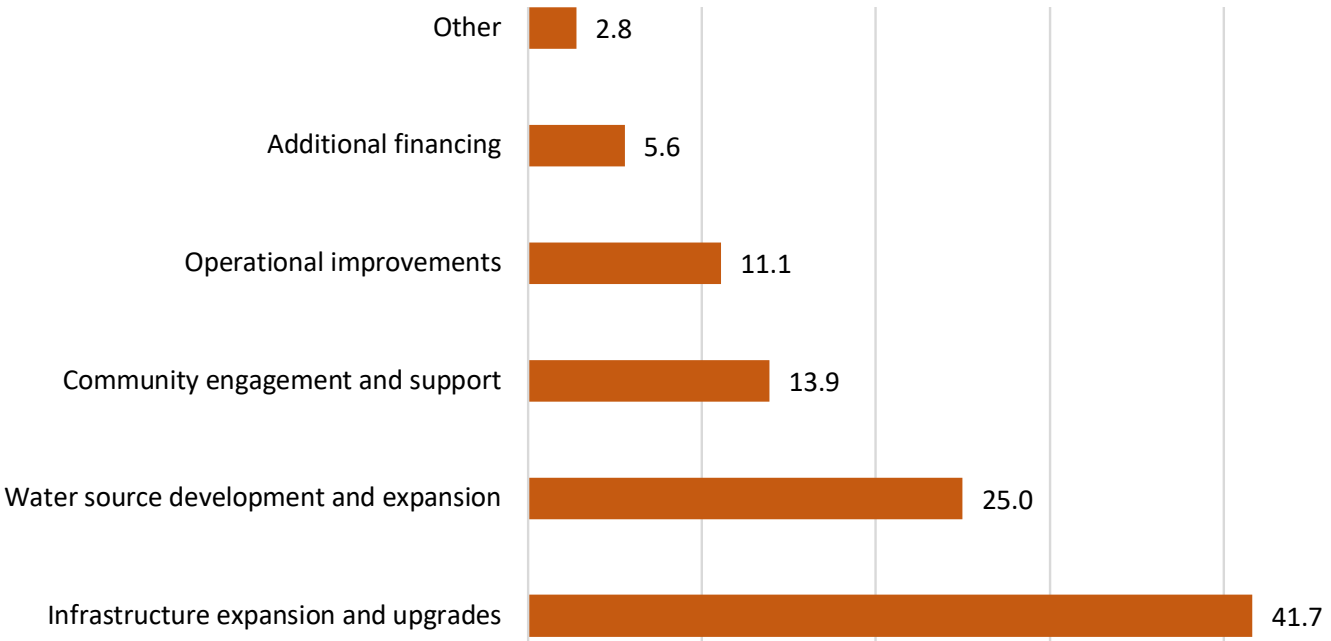
### 10.3.3 Plans to increase water and sewerage coverage to residential neighbourhoods

An increase in water and sewerage coverage in residential areas is instrumental in improving the quality of lives of the population. Therefore, increase of water and sewerage is of paramount importance to WSSPs and this survey explores the plans they have put in place to achieve this goal.

#### 10.3.3.1 Plans to increase water coverage

Survey findings indicate that 41.7 per cent of WSSPs chose to expand and upgrade infrastructure, 25.0 per cent will use water source development and expansion, 13.9 per cent plan to rely on community engagement and support and 11.1 per cent of WSSP plan to improve their operations in order to increase water coverage. Only 5.6 per cent of WSSP have additional financing as part of their plans to increase water coverage. This is shown in Figure 10.19.

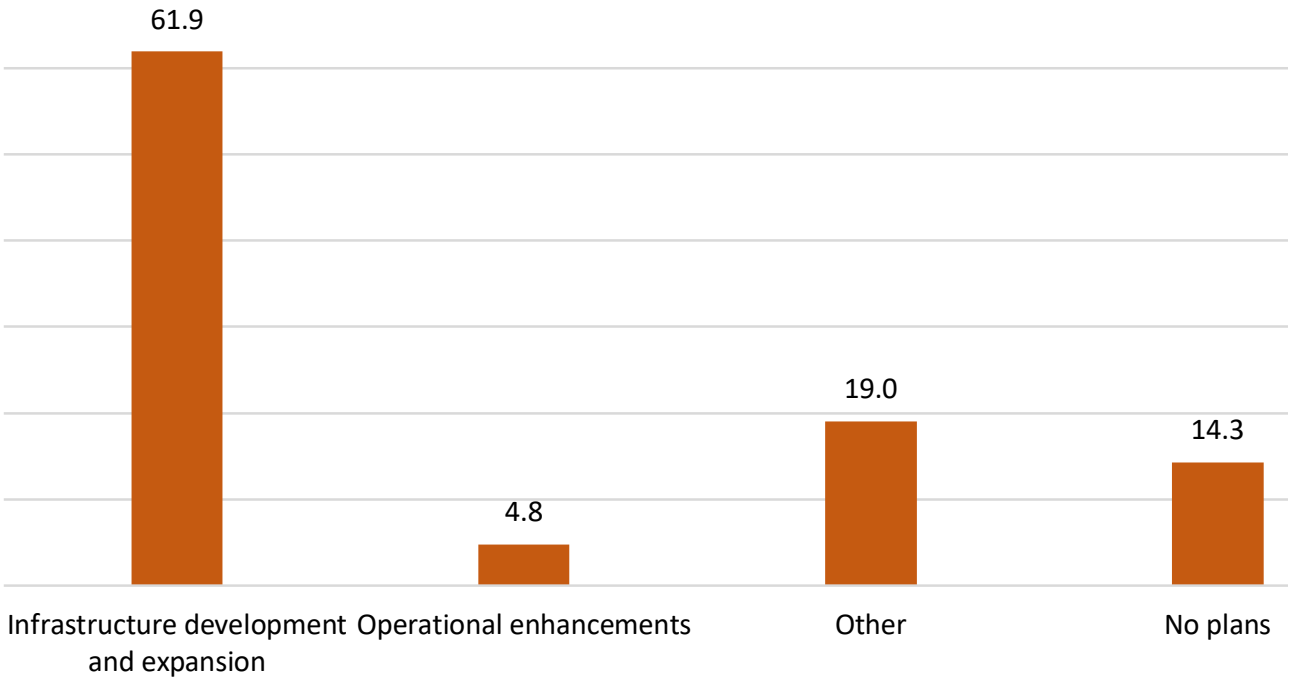
*Figure 10.19: Plans to increase water coverage, per cent*




#### 10.3.3.2 Plans to increase sewer coverage

To increase sewer coverage, 61.9 per cent of WSSPs planned to use infrastructure development and expansion while 4.8 per cent plan to use operational enhancements. However, 14.3 per cent of WSSPs reported that they have no plans put in place to increase sewer coverage as shown in figure 10.20.

*Figure 10.20: Plans by Water and Sewerage Service Providers to increase sewer coverage, per cent*




### 10.3.4 Time taken and cost for residential and water connection.

Table 10.13 shows that the charges for water connection were different for various providers per county. The average cost for water and sewer connection was KSh 6,473 and KSh 6,085, respectively. Machakos County has the highest cost for water connection at KSh 21,700 while Meru has the highest cost for sewer connection at KSh 25,133. On the other hand, the cost for water and sewer connection is lowest in Wajir and Mombasa Counties at KSh 1,000 and KSh 1,900, respectively.

The survey result shows that once an application has been made and all the requirements are met it takes counties an average of 2 and 6 days to connect sewerage and water, respectively. However, across counties it takes between 1 day and 24 days to connect water and between 1 day and 21 days to connect sewerage.

### Table 10.13: Time Taken and Cost for Residential Water and Sewer connection

| | Time taken to get water connection (Days) | Time taken to get sewer connection (Days) | "Cost for water connection (KSh)" | "Cost for sewer connection (KSh)" |
|---|---|---|---|---|
| Mombasa | 5 | 5 | 2,500 | 1,900 |
| Kwale | 10 | .. | 10,000 | .. |
| Kilifi | 5 | .. | 10,000 | .. |
| Tana River | 2 | .. | 5,000 | 5,000 |
| Lamu | 3 | .. | 5,000 | .. |
| Taita-Taveta | 21 | 21 | 2,500 | 2,500 |
| Garissa | 7 | 7 | 2,500 | 3,000 |
| Wajir | 1 | .. | 1,000 | .. |
| Mandera | 8 | .. | 12,000 | .. |
| Marsabit | 4 | .. | 8,700 | .. |
| Isiolo | 3 | 3 | 5,200 | 2,500 |
| Meru | 5 | 2 | 2,500 | 25,133 |
| Tharaka-Nithi | 10 | .. | 10,000 | 12,100 |
| Embu | 2 | .. | 12,470 | 5,000 |
| Kitui | 18 | 11 | 15,500 | 13,500 |
| Machakos | 4 | 3 | 21,700 | 10,800 |
| Makueni | 5 | .. | 13,000 | .. |
| Nyandarua | 5 | 1 | 11,000 | 7,500 |
| Nyeri | 7 | 2 | 2,500 | 2,500 |
| Kirinyaga | 11 | .. | 10,000 | .. |
| Murang'a | 8 | 0 | 2,500 | 2,500 |
| Kiambu | 4 | 3 | 2,500 | 5,000 |
| Turkana | 3 | .. | 2,000 | .. |
| West Pokot | 3 | .. | 3,200 | .. |
| Samburu | 2 | .. | 4,500 | .. |
| Uasin Gishu | 14 | 3 | 5,000 | 5,000 |
| Elgeyo-Marakwet | 5 | .. | 4,000 | .. |
| Nandi | 14 | 1 | 5,715 | 2,500 |
| Baringo | 6 | .. | 2,600 | .. |
| Laikipia | 5 | 8 | 10,004 | 5,634 |
| Nakuru | 4 | 6 | 5,585 | 5,313 |
| Narok | 5 | 7 | 5,000 | 5,000 |
| Kajiado | 3 | 0 | 6,695 | .. |
| Kericho | 3 | 1 | 5,000 | 5,000 |
| Bomet | 24 | 3 | 2,500 | 2,500 |
| Kakamega | 7 | 4 | 1,600 | 2,500 |
| Vihiga | 7 | .. | 5,000 | .. |
| Bungoma | 7 | 7 | 5,000 | 7,500 |
| Busia | 1 | 1 | 2,000 | 5,500 |
| Siaya | 7 | 7 | 5,000 | 7,500 |
| Kisumu | 3 | 3 | 12,550 | 5,000 |
| Homabay | 2 | 2 | 5,000 | 5,000 |
| Migori | 1 | .. | 8,800 | .. |
| Nairobi City | 7 | 4 | 10,000 | 7,500 |
| **Total** | **6** | **2** | **6,473** | **6,085** |

*.. Data not available*

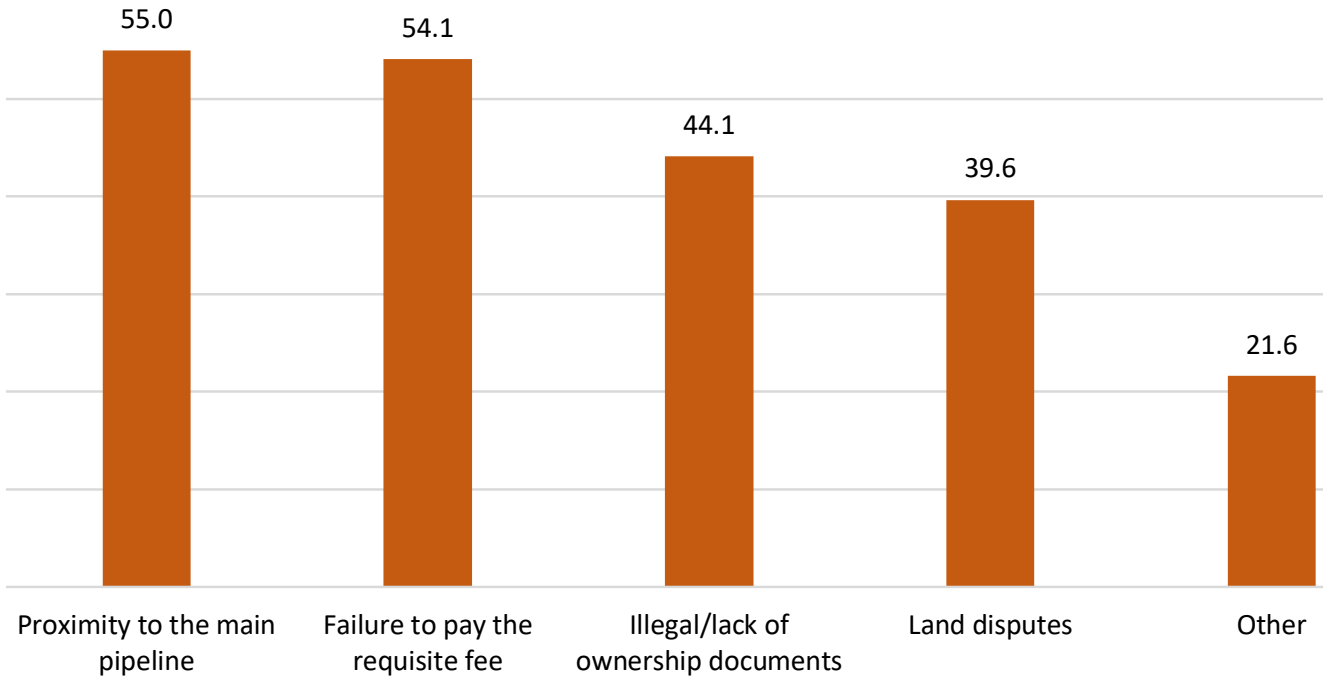
### 10.3.5 Approval for Water and Sewerage Connection

When a development application is submitted, it can be approved as presented, approved with conditions requiring amendments, or rejected for specific reasons.

#### 10.3.5.1: Reasons for Declining Approval for Water and Sewerage Connections

The survey sort to establish why approval for most water and sewerage connections are declined. The findings indicate that 55.0 per cent of the requests are declined because they are far from the main pipeline, 54.1 per cent fail to pay the requisite fee, 44.1 per cent lack ownership documents while 39.6 per cent is due to land disputes as shown in Figure 10.21.

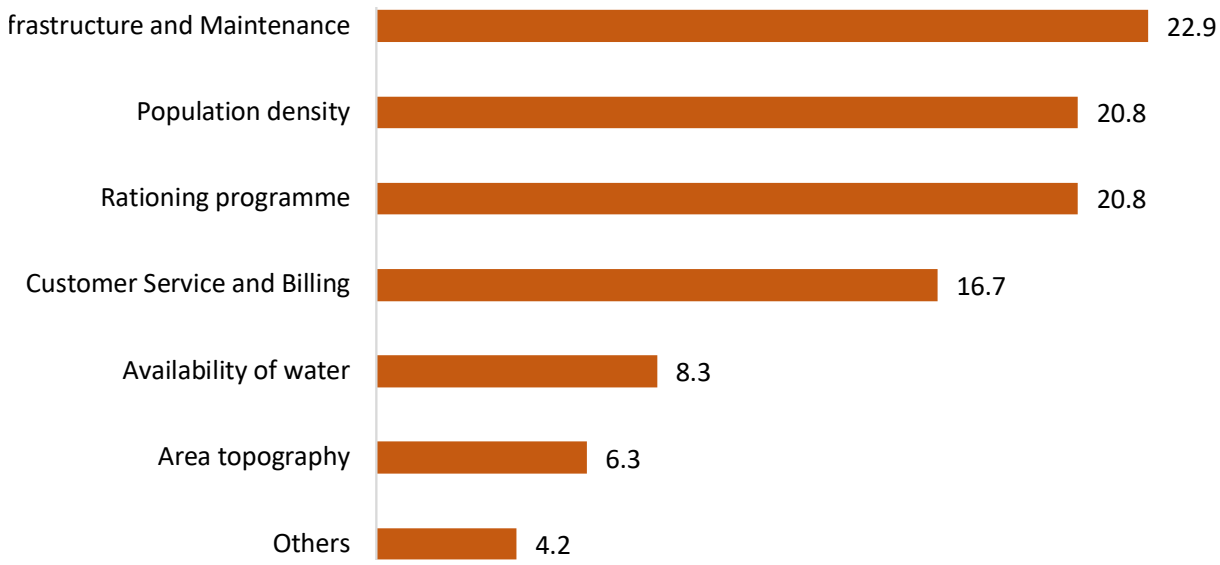
*Figure 10.21: Reasons for Declining Water and Sewerage Connections*




#### 10.3.5.2 Distribution of tap water to residential areas

Due to inadequate water supply, WSSPs employ various strategies to ensure fair distribution of water to all residential areas. Infrastructure and maintenance was cited by 22.9 per cent of WSSPs as a factor in water distribution. Other factors cited that were considered were: Population density and rationing programme -20.8 per cent, customer service and billing-16.7 per cent and availability of water at 8.3 per cent (Figure 10.22).

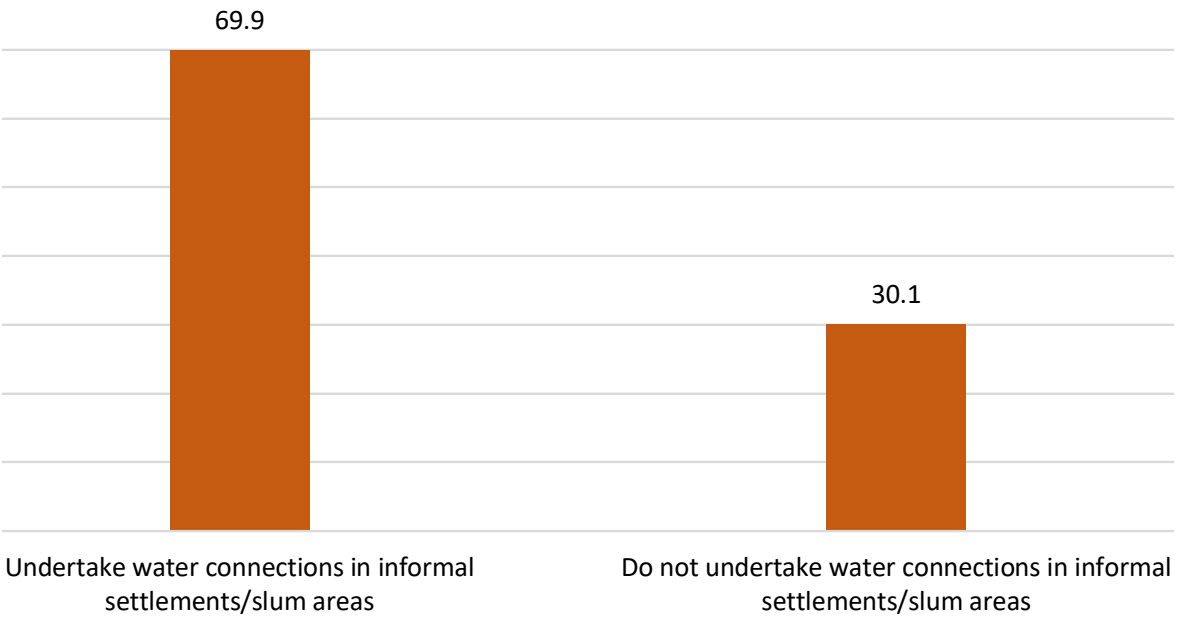
*Figure 10.22: Factors Considered in Fair Distribution of Tap Water to Residential Areas*




### 10.3.6 Water and sewerage connection in informal/slum areas

One of the main characteristics of informal/ slum areas is lack of clean water supply and poor sanitation. The survey collected information on whether WSSPs undertake water and sewerage connections in informal/slum areas in line with SDG Goal 6 on 'clean water and sanitation' which aims to achieve universal and equitable access to safe and affordable drinking water as well as equitable sanitation and hygiene for all by the year 2030. The survey results indicate that 69.9 per cent of WSSPs that undertakes water connection in informal/ slum areas as shown in Figure 10.23.

*Figure 10.23: Proportion of water and sewerage service providers that undertake water connections in informal settlements/slum areas*



### 10.3.7 Volume of water supplied to residential areas

The survey sought to establish the volume of water that was supplied to residential areas. This information is key in estimating both the demand and supply of water to residential areas. Table 10.14 shows that there was a general increase in the volume of water supplied to the residential areas between 2022 and 2023 across all counties. The total volume of water supplied to residential areas increased from 201.7 million cubic meters in 2022 to 209.1 million cubic meters in 2023, with Nairobi County leading in both years.

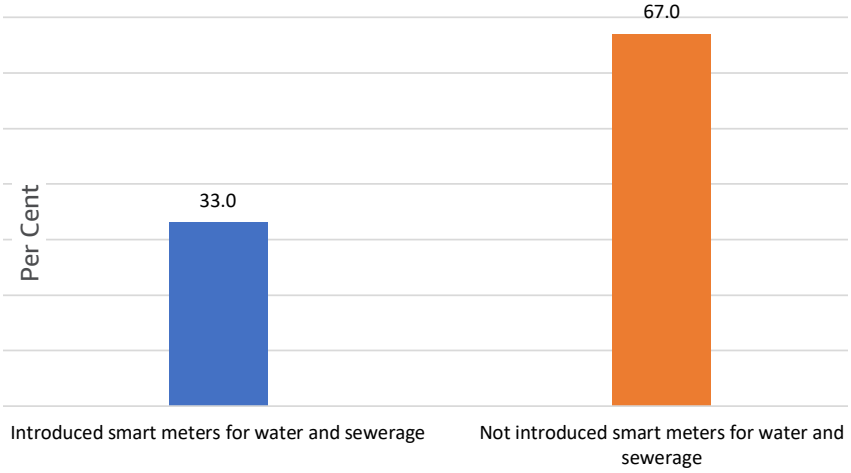
**Table 10.14: Volume of Water Supplied to Residential Areas in 2022 and 2023, Cubic Meters**

| | 2022 | 2023 |
|---|---|---|
| Mombasa | 5,927,972 | 5,947,731 |
| Kwale | 2,470,000 | 3,610,000 |
| Kilifi | 597,782 | 562,336 |
| Tana River | 650,881 | 476,954 |
| Lamu | 21,247 | 259,444 |
| Taita-Taveta | 3,371,399 | 3,332,827 |
| Garissa | 3,000,000 | 3,500,000 |
| Wajir | 368,064 | 720,168 |
| Mandera | 545,420 | 534,095 |
| Marsabit | 67,200 | 86,400 |
| Isiolo | 1,685,549 | 1,507,078 |
| Meru | 3,734,969 | 3,783,438 |
| Tharaka-Nithi | 6,210,781 | 6,135,266 |
| Embu | 2,169,073 | 2,459,134 |
| Kitui | 2,206,388 | 2,165,073 |
| Machakos | 1,363,657 | 1,108,339 |
| Makueni | 1,402,809 | 1,550,656 |
| Nyandarua | 2,974,399 | 2,968,003 |
| Nyeri | 11,447,155 | 10,897,940 |
| Kirinyaga | 2,729,969 | 2,752,087 |
| Murang'a | 12,950,265 | 13,583,042 |
| Kiambu | 13,097,664 | 15,458,490 |
| Turkana | 901,274 | 974,959 |
| West Pokot | 72,359 | 220,834 |
| Samburu | 407,392 | 423,200 |
| Uasin Gishu | 6,767,088 | 6,846,588 |
| Elgeyo-Marakwet | 1,693,500 | 1,718,160 |
| Nandi | 1,492,947 | 1,350,454 |
| Baringo | 804,330 | 931,857 |
| Laikipia | 4,037,946 | 4,009,324 |
| Nakuru | 11,571,992 | 12,442,510 |
| Narok | 455,119 | 366,802 |
| Kajiado | 1,655,255 | 1,347,061 |
| Kericho | 3,212,742 | 3,431,086 |
| Bomet | 2,005,094 | 1,237,626 |
| Kakamega | 3,869,694 | 4,180,446 |
| Vihiga | 1,015,284 | 1,587,458 |
| Bungoma | 3,401,445 | 4,252,581 |
| Busia | 896,432 | 996,774 |
| Siaya | 3,000,000 | 3,000,000 |
| Kisumu | 65,147 | 69,225 |
| Homabay | 292,765 | 275,321 |
| Migori | 125,606 | 214,617 |
| Nairobi City | 75,005,644 | 75,825,236 |
| **Total** | **201,741,698** | **209,100,620** |

### 10.3.8 Smart Meters for Water and Sewerage

Smart water meter helps identify inefficiencies and patterns in water consumption as they are equipped with Internet of Things (IoT) sensors, which regularly track the water usage of each individual consumer. Given the increasing demand for water, WSSPs have to embrace technology for efficiency to meet this demand. As shown in Figure 10.24, the survey results revealed that 33.0 per cent of WSSPs have introduced smart meters.

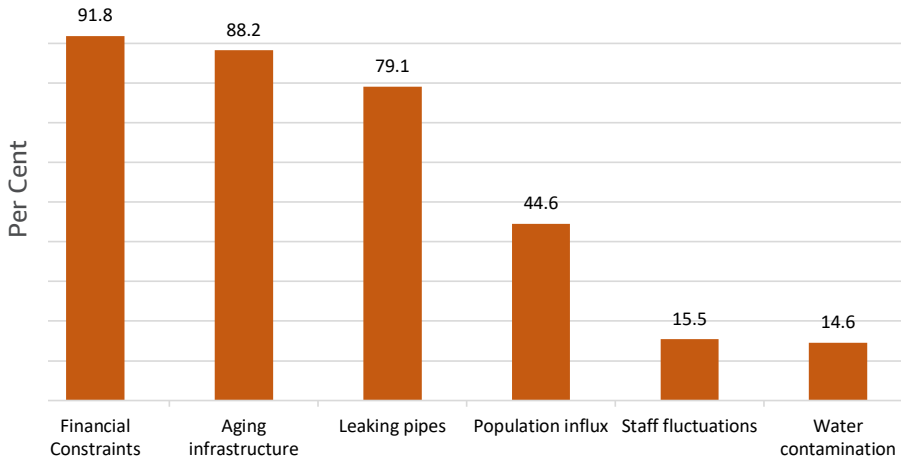
*Figure 10.24: Introduction of Smart Meters for Water and Sewerage*



### 10.3.9 Challenges Faced by WSSPs in Facilitating Supply of Water

The survey found that the main impediments to facilitating the supply of water as shown in Figure 10.25 is financial constraints at 91.8 per cent, aging infrastructure at 88.2 per cent and leaking pipes at 79.1 per cent. Other factors that hinder effective supply of water include population influx at 44.6 per cent, staff fluctuation at 15.5 per cent and contamination of water at 14.6 per cent.

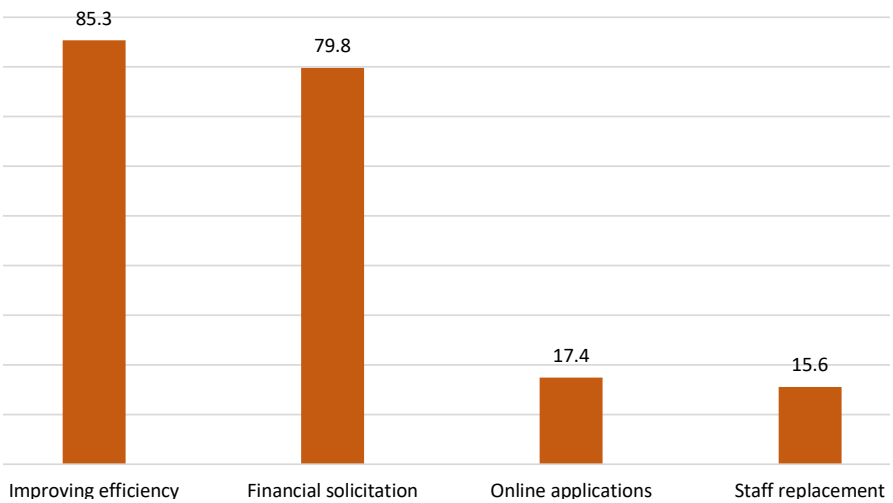
*Figure 10.25: Challenges Encountered by WSSPs in Facilitating Supply of Water*




## Opinion of WSSPs on Rain Water Harvesting

- Overall water companies encourage harvesting of water as it reduces water production costs and ease the pressure during rainy seasons. Additionally, environmentally water harvesting helps reduce erosion, conserve resources, and decrease extraction from surface and underground sources. Many water companies view water harvesting as a viable strategy to increase water access and meet rising demand, with applications in irrigation and water shortage mitigation.
- Some of the challenges in water harvesting cited by water companies include contamination risks if not managed correctly and the high initial infrastructure costs. Mitigation measures cited to address the challenges include better storage and conservation strategies, government intervention to build dams, and public education to increase adoption. Regional variations show differing levels of adoption of water harvesting, with some counties benefiting greatly and others hindered by different weather conditions with ASAL areas facing insufficient rain water.

*Figure 10.26: Measures to Address Challenges Encountered by Water and Sewerage Companies Providers in Water Delivery*




### 10.3.10 Strategies for efficient water supply

To meet the increasing demand for water, WSSPs have employed various strategies to address challenges they encounter in water supply. Some of the strategies that have been adopted include enhancing efficiency at 85.5 per cent and financial solicitation at 79.8 per cent, as presented in Figure 10.26.

## 10.4 National Environment Management Authority (NEMA)

The National Environment Management Authority (NEMA) was established under the Environmental Management and Co-ordination Act No. 8 of 1999 (EMCA) as the principal agency of the Government for the implementation of all policies relating to environment and to ensure sustainable management of the environment through exercising general supervision and coordination over matters relating to the environment and; to be the principal instrument of government in the implementation of all policies relating to the environment. In performing its mandate, the agency approves development projects through licensing to ensure adherence to set environmental management guidelines. Housing development is influenced, and has an impact on the environment. The survey sought to highlight the factors that affect licensing of housing projects by NEMA.

### 10.4.1 Housing Development Licences Processed by NEMA

A key aspect of environmental monitoring is the review of Environmental Impact Assessment (EIA) reports for housing projects and Environmental Management Plans. This is achieved through applications, approvals and licensing of housing projects by NEMA. Nationally, 6,994 license applications were received with 5,472 (78.2 per cent) getting approval in 2023 as shown in Table 10.15. In 2022, a total of 7,186 license applications were received countrywide, out of which 5,338 (74.3 per cent) applications were approved and licensed.

The authority received more license applications for housing development projects in Nairobi City County where 3,074 and 3,230 applications were received in 2023 and 2022, respectively. In the same period, 2,002 and 2,012 applications for housing in Nairobi City County were licensed in 2023 and 2022, respectively.

## Table 10.15: Number and Proportion of Licensing Applications for Housing Development Projects Received and Licensed by NEMA in 2022 and 2023

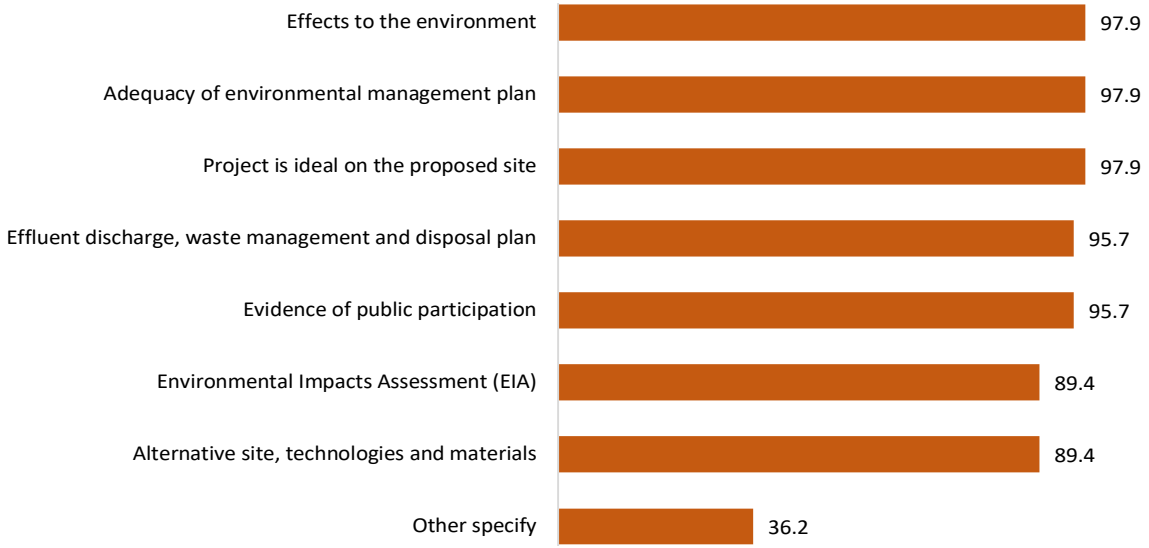
| | Number of license applications for housing development received | | Number of applications for housing development licensed | | Proportion of applications for housing development licensed | |
|---|---|---|---|---|---|---|
| County | 2022 | 2023 | 2022 | 2023 | 2022 | 2023 |
| Mombasa | 112 | 174 | 103 | 167 | 92.0 | 96.0 |
| Kwale | 113 | 184 | 103 | 174 | 91.2 | 94.6 |
| Kilifi | .. | 83 | .. | 72 | .. | 86.7 |
| Tana River | 7 | 8 | 7 | 8 | 100.0 | 100.0 |
| Lamu | 26 | 31 | 26 | 31 | 100.0 | 100.0 |
| Taita-Taveta | 20 | 16 | 15 | 12 | 75.0 | 75.0 |
| Garissa | 2 | 5 | .. | 3 | .. | 60.0 |
| Wajir | 31 | 32 | 30 | 32 | 96.8 | 100.0 |
| Mandera | 6 | 6 | 5 | 5 | 83.3 | 83.3 |
| Marsabit | 13 | 18 | 12 | 14 | 92.3 | 77.8 |
| Isiolo | 39 | 37 | 34 | 37 | 87.2 | 100.0 |
| Meru | 84 | 95 | 70 | 85 | 83.3 | 89.5 |
| Tharaka-Nithi | 46 | 54 | 41 | 41 | 89.1 | 75.9 |
| Embu | 169 | 151 | 131 | 123 | 77.5 | 81.5 |
| Kitui | 98 | 54 | 61 | 44 | 62.2 | 81.5 |
| Machakos | 233 | 220 | 220 | 215 | 94.4 | 97.7 |
| Makueni | 45 | 30 | 29 | 24 | 64.4 | 80.0 |
| Nyandarua | 69 | 40 | 62 | 38 | 89.9 | 95.0 |
| Nyeri | 59 | 68 | 50 | 59 | 84.7 | 86.8 |
| Kirinyaga | 140 | 91 | 121 | 84 | 86.4 | 92.3 |
| Murang'a | 135 | 90 | 125 | 72 | 92.6 | 80.0 |
| Kiambu | 449 | 287 | 303 | 243 | 67.5 | 84.7 |
| Turkana | 27 | 22 | 27 | 13 | 100.0 | 59.1 |
| West Pokot | 29 | 31 | 29 | 31 | 100.0 | 100.0 |
| Samburu | 22 | 13 | 11 | 4 | 50.0 | 30.8 |
| Trans Nzoia | 72 | 52 | 71 | 48 | 98.6 | 92.3 |
| Uasin Gishu | 53 | 112 | 47 | 101 | 88.7 | 90.2 |
| Elgeyo-Marakwet | 22 | 45 | 21 | 43 | 95.5 | 95.6 |
| Nandi | 13 | 13 | 13 | 11 | 100.0 | 84.6 |
| Baringo | 30 | 44 | 25 | 32 | 83.3 | 72.7 |
| Laikipia | 17 | 42 | 13 | 30 | 76.5 | 71.4 |
| Nakuru | 613 | 501 | 515 | 458 | 84.0 | 91.4 |
| Narok | 117 | 166 | 105 | 121 | 89.7 | 72.9 |
| Kajiado | 151 | 281 | 130 | 236 | 86.1 | 84.0 |
| Kericho | 40 | 36 | 39 | 36 | 97.5 | 100.0 |
| Bomet | 17 | 30 | 17 | 30 | 100.0 | 100.0 |
| Kakamega | 106 | 98 | 76 | 74 | 71.7 | 75.5 |
| Vihiga | 158 | 123 | 130 | 115 | 82.3 | 93.5 |
| Bungoma | 63 | 103 | 48 | 83 | 76.2 | 80.6 |
| Busia | 42 | 37 | 40 | 33 | 95.2 | 89.2 |
| Siaya | 58 | 50 | 46 | 35 | 79.3 | 70.0 |
| Kisumu | 167 | 117 | 134 | 113 | 80.2 | 96.6 |
| Homabay | 143 | 138 | 127 | 125 | 88.8 | 90.6 |
| Migori | 37 | 25 | 30 | 25 | 81.1 | 100.0 |
| Kisii | 17 | 30 | 46 | 55 | 270.6 | 183.3 |
| Nyamira | 46 | 37 | 38 | 35 | 82.6 | 94.6 |
| Nairobi City | 3,230 | 3,074 | 2,012 | 2,002 | 62.3 | 65.1 |
| **Total** | **7,186** | **6,994** | **5,338** | **5,472** | **74.3** | **78.2** |

*.. Data not available*

### 10.4.2 Factors Considered in Licensing Housing Development Projects

Various factors are considered in the licensing of housing development projects. The survey results in figure 10.27 indicate that over 95.0 per cent of the Authority's County offices reported high consideration for: project's effect on the environment; adequacy of environmental management plan; project proposed site; effluent discharge; as well as evidence of public participation. Other factors that are considered in licensing housing development projects are environmental impact assessment and availability of alternative sites, technologies and materials to be used in the housing project all at 89.4 per cent.

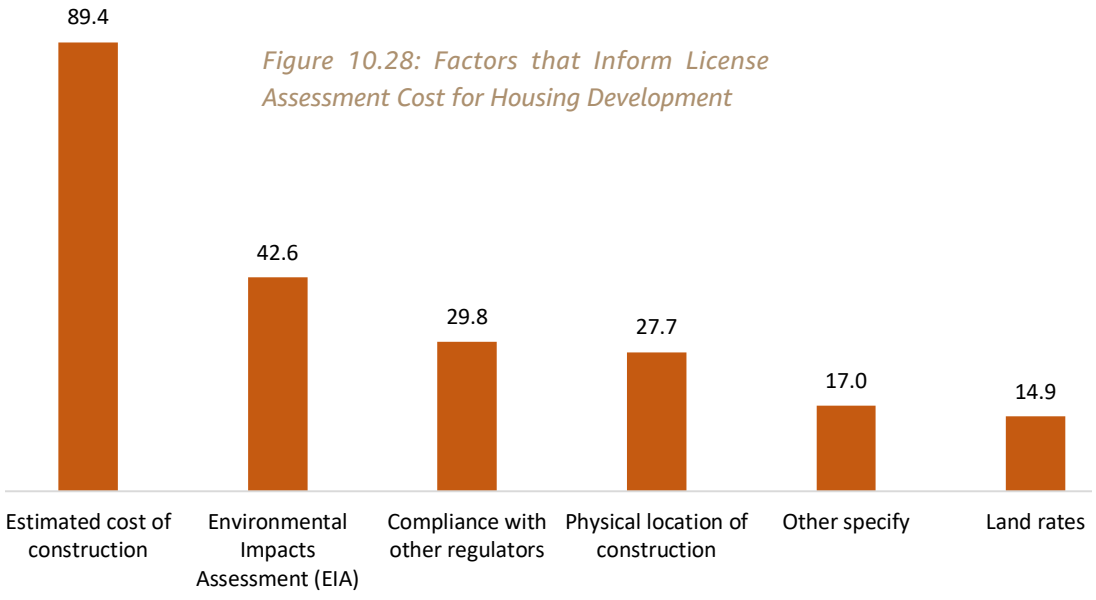
*Figure 10.27: Factors Considered in Licensing Housing Development Projects*




### 10.4.3 Factors that Inform License Cost for Housing Development

In determining the cost of a license for a housing development project, the Authority considers various elements. As indicated in Figure 10.28, the estimated construction cost was cited by 89.4 per cent of NEMA offices as the main factor that determines the cost of the license followed by environmental impact assessment (EIA) (42.6%), compliance with other regulators (29.8%) and the physical location of the housing development project (27.7%). Land rate is the least factor that is considered in assessing the cost of licenses for housing development projects.

*Figure 10.28: Factors that Inform License Assessment Cost for Housing Development*



### 10.4.4 Average time taken to process and license housing development projects from NEMA

The survey sought to establish the turnaround time for processing housing development licenses from NEMA. Information on turnaround time is presented by county in Table 10.16. Overall, it takes an average of 20 days to get a license, but the time varies across counties. Kwale, Tana River, Marsabit, Embu, West Pokot and Siaya counties take the least time to process and license housing development applications at five (5) days while Trans Nzoia (40 days) and Kisii (38 days) counties had the longest time to process and approve housing development projects.

**Table 10.16: Average Time Taken to Process and License Housing Development Projects from NEMA**

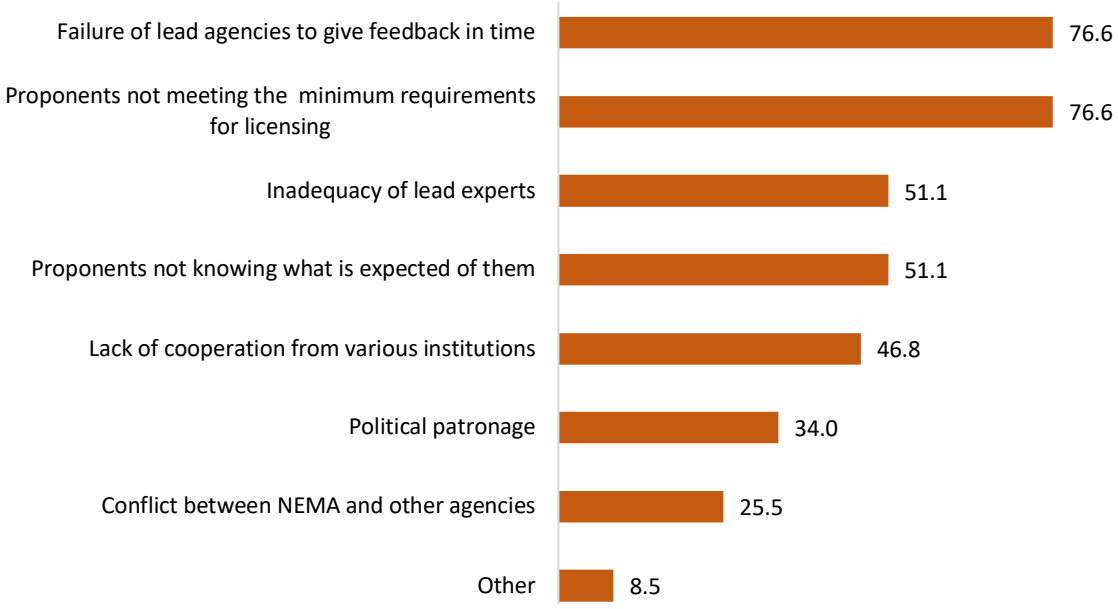
| | Number of days |
|---|---|
| Mombasa | 21 |
| Kwale | 5 |
| Kilifi | 14 |
| Tana River | 5 |
| Lamu | 21 |
| Taita-Taveta | 19 |
| Garissa | 21 |
| Wajir | 21 |
| Mandera | 21 |
| Marsabit | 5 |
| Isiolo | 21 |
| Meru | 21 |
| Tharaka-Nithi | 13 |
| Embu | 5 |
| Kitui | 30 |
| Machakos | 30 |
| Makueni | 21 |
| Nyandarua | 15 |
| Nyeri | 21 |
| Kirinyaga | 13 |
| Murang'a | 17 |
| Kiambu | 30 |
| Turkana | 26 |
| West Pokot | 5 |

| | Number of days |
|---|---|
| Samburu | 21 |
| Trans Nzoia | 40 |
| Uasin Gishu | 21 |
| Elgeyo-Marakwet | 13 |
| Nandi | 20 |
| Baringo | 13 |
| Laikipia | 30 |
| Nakuru | 30 |
| Narok | 21 |
| Kajiado | 35 |
| Kericho | 21 |
| Bomet | 13 |
| Kakamega | 21 |
| Vihiga | 13 |
| Bungoma | 16 |
| Busia | 21 |
| Siaya | 5 |
| Kisumu | 21 |
| Homabay | 26 |
| Migori | 21 |
| Kisii | 38 |
| Nyamira | 21 |
| Nairobi City | 21 |
| **Average** | **20** |

### 10.4.5 Challenges faced by NEMA in licensing housing development projects

The survey sought to establish the challenges that impact licensing processes by NEMA. As shown in Figure 10.29, the top most challenges faced by NEMA are failure by lead agencies to give feedback in time (76.6%), failure by proponents to meet minimum requirements of licensing (76.6%), inadequacy of lead experts (51.%) and failure by proponents to know their expectations with regards to licensing and lack of cooperation from other institutions (46.8%).

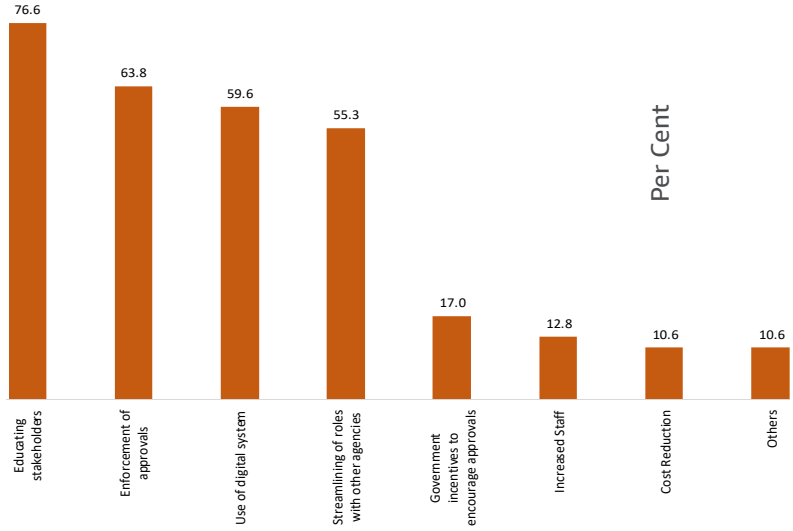
*Figure 10.29: Main Challenges in the Licensing Process by NEMA (%)*




### 10.4.6 Licensing Challenges Mitigation Measures

To address the challenges in the licensing process, NEMA uses various measures including; educating stakeholders (76.6%), enforcement of approvals (63.8%), use of digital systems (59.6%) and streamlining of roles with other agencies (55.3%), as shown in Figure 10.30. Other measures employed by the Authority to address challenges include cost reduction (10.6%), increasing the number of employees (12.8%) and relying on government incentives to encourage application and approvals.

*Figure 10.30: Measures Used to Address Licensing Challenges in Housing Projects*

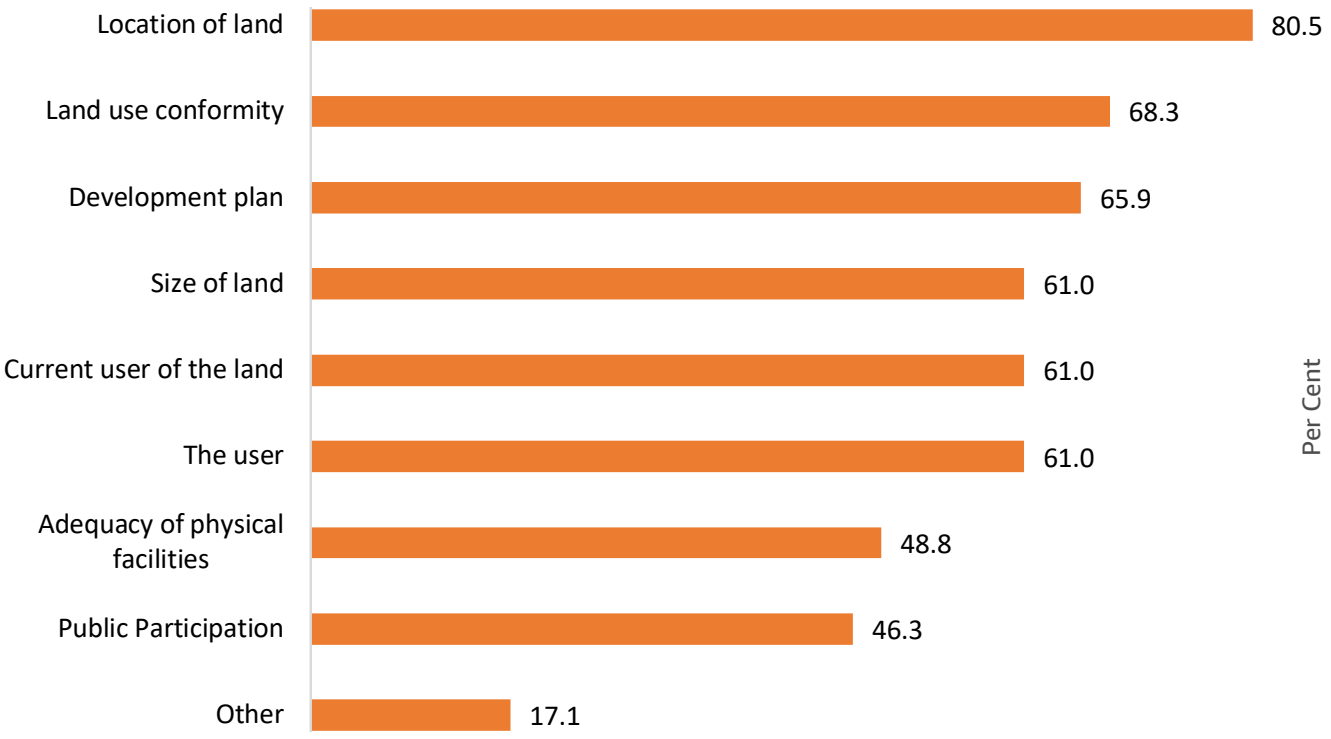


## 10.5 Land Administration

### 10.5.1 Land Transfer

The survey sought to find the factors considered in allocating leasehold land for housing development projects by land offices. Factors such as geographical location, conformity with land use plans, development planning, and community engagement play pivotal roles in ensuring sustainable and equitable land use practices. The geographical location of the land emerged as the most significant factor considered in allocating leasehold land for housing development as reported by 80.5 per cent of the respondents, as shown in Figure 10.31. Land use conformity was cited 68.3 per cent of the respondents.

*Figure 10.31: Proportion of Respondents by Factors Considered in Allocating Leasehold Land for Housing Development*



### 10.5.2 Applications for Land Transfers Received and Processed in 2023

Efficient land transfer processing systems and resource management is important to meet the demand for timely and transparent service delivery in land transactions. Nationally, a total of 144,106 land transfer applications were received in 2023 of which 129,076 were successfully processed. Counties with notably high volumes of applications received were: Kajiado (50,123), Machakos (15,991), and Nakuru (11,721). Samburu, Laikipia and Trans Nzoia processed all the applications they received (Table 10.17).

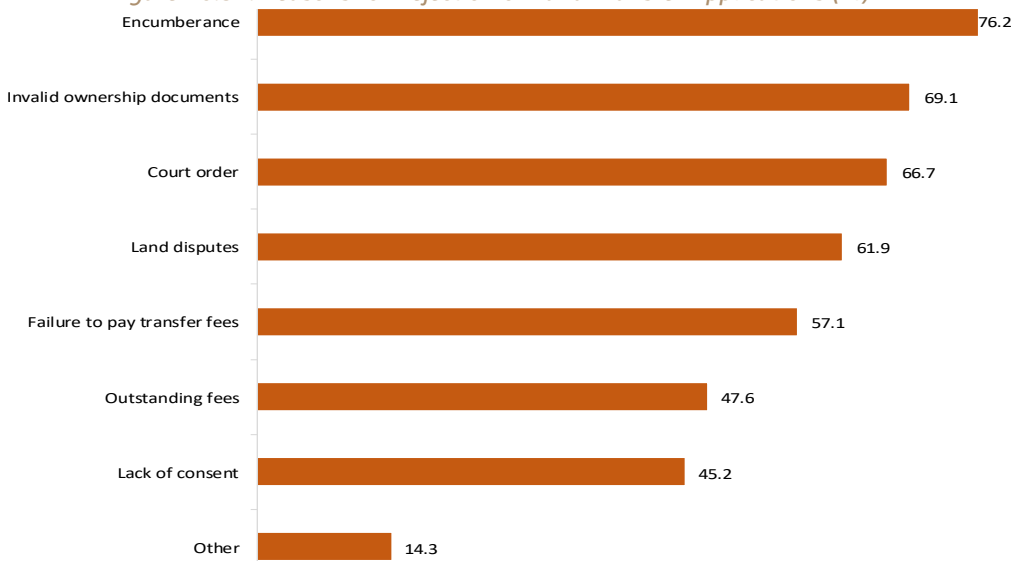
**Table 10.17: Number and Proportion of Applications for Land Transfer Received and Processed in 2023**

| County | Number of applications received for land transfer in 2023 | Number of applications for land transfer processed in 2023 | Proportion of applications for land transfer received and processed in 2023 |
|---|---|---|---|
| Mombasa | 1,200 | 1,100 | 91.7 |
| Kwale | 5,000 | 5,000 | 100.0 |
| Kilifi | .. | .. | .. |
| Tana River | .. | .. | .. |
| Lamu | 67 | 67 | 100.0 |
| Taita-Taveta | 620 | 605 | 97.6 |
| Garissa | .. | .. | .. |
| Wajir | 20 | .. | .. |
| Mandera | 1,500 | 25 | 1.7 |
| Marsabit | 150 | 150 | 100.0 |
| Isiolo | 56 | 51 | 91.1 |
| Meru | 14 | .. | .. |
| Tharaka-Nithi | 3,421 | 3,203 | 93.6 |
| Embu | 8,000 | 7,100 | 88.8 |
| Kitui | 2,500 | 2,400 | 96.0 |
| Machakos | 15,991 | 14,820 | 92.7 |
| Makueni | 5 | .. | .. |
| Nyeri | 4,164 | 307 | 7.4 |
| Kirinyaga | 3,000 | 50 | 1.7 |
| Murang'a | 3,426 | 41 | 1.2 |
| Kiambu | 1,680 | 1,200 | 71.4 |
| Turkana | 368 | 340 | 92.4 |
| West Pokot | 238 | 191 | 80.3 |
| Samburu | 1,848 | 1,848 | 100.0 |
| Trans Nzoia | 2,786 | 2,786 | 100.0 |
| Uasin Gishu | 2,500 | 2,400 | 96.0 |
| Elgeyo-Marakwet | 50 | 30 | 60.0 |
| Nandi | 1,600 | 1,340 | 83.8 |
| Laikipia | 3,448 | 3,448 | 100.0 |
| Nakuru | 11,721 | 11,525 | 98.3 |
| Narok | 386 | 386 | 100.0 |
| Kajiado | 50,123 | 45,351 | 90.5 |
| Bomet | 243 | 121 | 49.8 |
| Kakamega | .. | 6,886 | .. |
| Vihiga | 1,130 | 1,030 | 91.2 |
| Bungoma | 3,000 | 2,000 | 66.7 |
| Busia | 5,040 | 4,765 | 94.5 |
| Siaya | 1,852 | 1,743 | 94.1 |
| Kisumu | 4,695 | 4,587 | 97.7 |
| Homabay | 7 | .. | .. |
| Migori | 2,250 | 2,180 | 96.9 |
| Nyamira | 7 | .. | .. |
| Nairobi City | .. | .. | .. |
| **Total** | **144,106** | **129,076** | **89.6** |

### 10.5.3 Reasons for Rejection of Land Transfer Applications

The survey sought to find out the reasons for rejection in approval of land transfer applications. The most prevalent issues contributing to application denials include land disputes, encumbrances, failure to pay transfer fees, invalid ownership documents, and lack of consent, court orders, and outstanding fees. As shown in figure 10.32, encumbrances were mentioned by 76.2 per cent of the respondents. The other factor that seemed to have a higher impact is invalid ownership documents, cited by 69.1 per cent of respondents. Issues with authenticity or completeness of documents hinder the verification process necessary for approving land transfers.

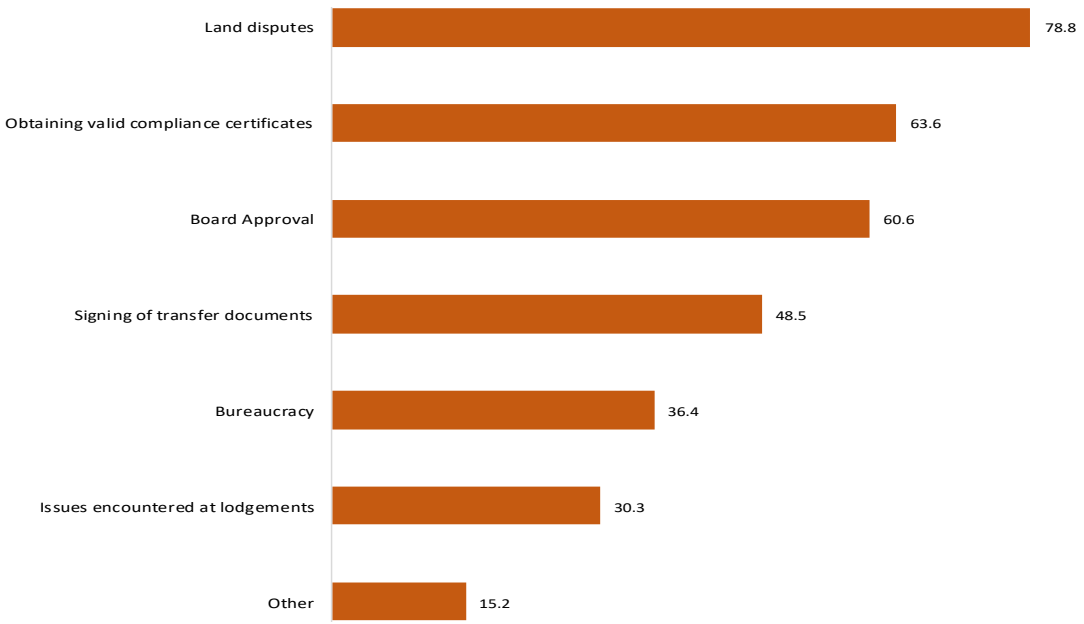
*Figure 10.32: Reasons for Rejection of Land Transfer Applications (%)*




### 10.5.4 Reasons for delays in property transfer

The survey identified land disputes and obtaining valid compliance certificates as the most prevalent reasons for delays in property transfer at 78.8 per cent and 63.6 per cent, respectively. The need for board approval and signing of transfer documents were also reported by 60.6 per cent and 48.5 per cent of respondents, respectively (Figure 10.33).

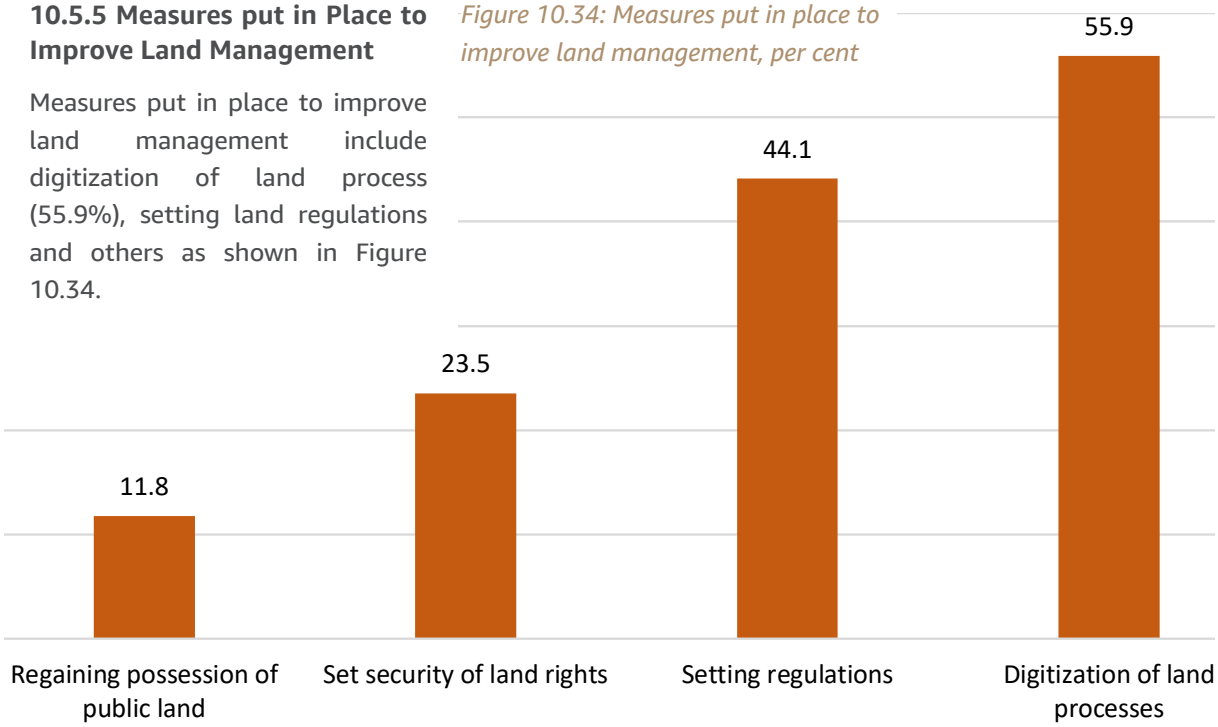
*Figure 10.33: Reasons for Delays in Property Transfer (%)*



### 10.5.5 Measures put in Place to Improve Land Management

Measures put in place to improve land management include digitization of land process (55.9%), setting land regulations and others as shown in Figure 10.34.

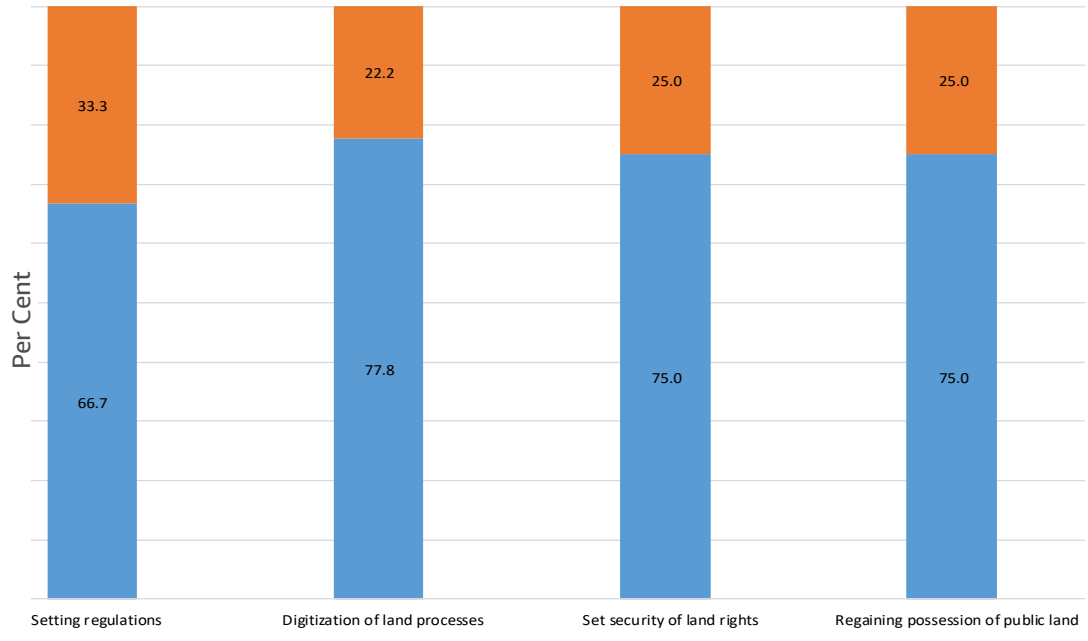
*Figure 10.34: Measures put in place to improve land management, per cent*




### 10.5.6 Impact of Land Management Measures on land transfer process

The implementation of land management measures has significantly impacted the land transfer process in various counties. From the survey 77.8 per cent of the respondents felt that digitization of land processes has a high impact on land transfer process while 22.2 per cent felt it would have medium impact. Digitization of land has eased verification of documents and receipts, faster retrieval of records and increased accountability (Figure 10.35).

*Figure 10.35: Impact of land management measures on land transfer process.*



# CHAPTER 11

# Land Use and Security of Tenure

## Key Findings

- The most common form of land ownership documentation is the title deed at 66.0 per cent while 15.9 per cent of parcels lack formal documentation.
- Land is mainly acquired through inheritance (53.5%), purchase (31.0%), and family allocation (8.6%).
- Land is predominantly used for agriculture (47.2%) and residential purposes (47.1%), with a small proportion (3.4%) reserved for future development.

## 11.1 Introduction

Land is a key component in the provision of housing and has various uses such as agricultural, residential, commercial and industrial. Land ownership and secure use rights are foundational elements in the context of housing, playing a critical role in individual well-being, economic stability and community development. Security of tenure ensures that individuals and families can access, use and develop land without fear of eviction or dispute.

**Security of Tenure:**

Refers to the legal protection given to individuals, families, communities or entities that prevents them from being arbitrarily removed from their land or property.

**Land ownership:**

Refers to the legal right to possess, use and control a piece of land.

**Use Rights:**

Pertains to the guaranteed ability to use and benefit from a piece of land. These rights are crucial for those who may not own land but still require stability to live and operate there.

**Customary Tenure:**

Recognizes the traditional rights of communities to manage and use land according to their **customs and practices.** This is common in rural areas.

**Title Deed:**

A legal document that proves ownership and legal rights over a piece of land.

**Leasehold:**

Land is leased from the government or another entity for a specific period upto 99 years.

**Freehold:**

Provides the owner with the most extensive rights, including the right to use the land indefinitely.

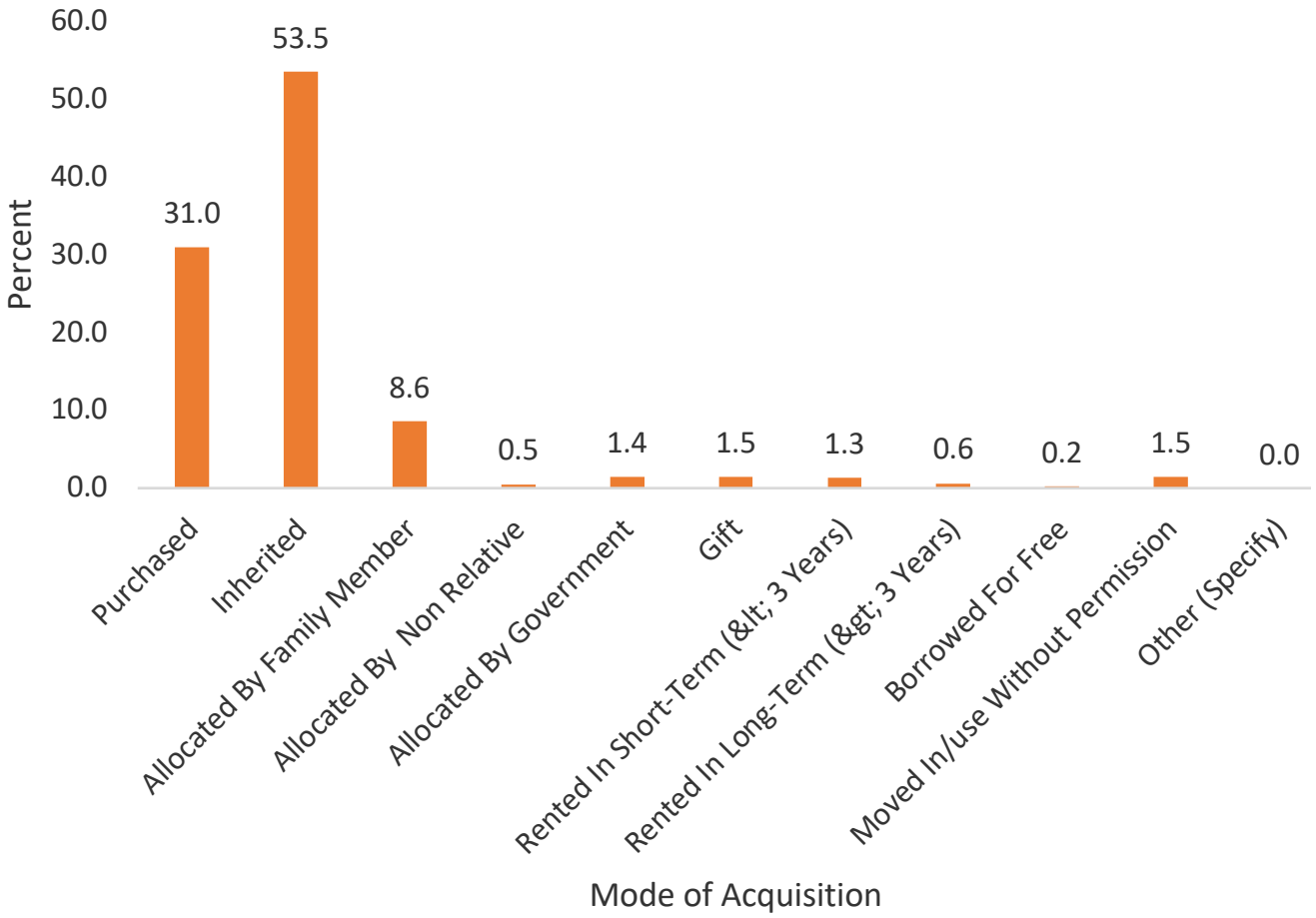
**This chapter outlines the various components of security of tenure and land use.**

## 11.2 Land Acquisition and Ownership Rights

There are several ways one can legally acquire land and use rights which include inheritance, purchase, allocation by family members or non-relatives, allocation by government, gift, renting and borrowing. The findings also indicate the percentage that have secure land tenure rights, in accordance with SDG indicator 1.4.2.

Figure 11.1 presents the various methods through which land parcels were acquired. About half of the land parcels were acquired through inheritance (53.5%). This was followed by land purchase (31.0%) and allocation by family members (8.6%).

*Figure 11.1: Acquisition of Land Use or Ownership Rights*



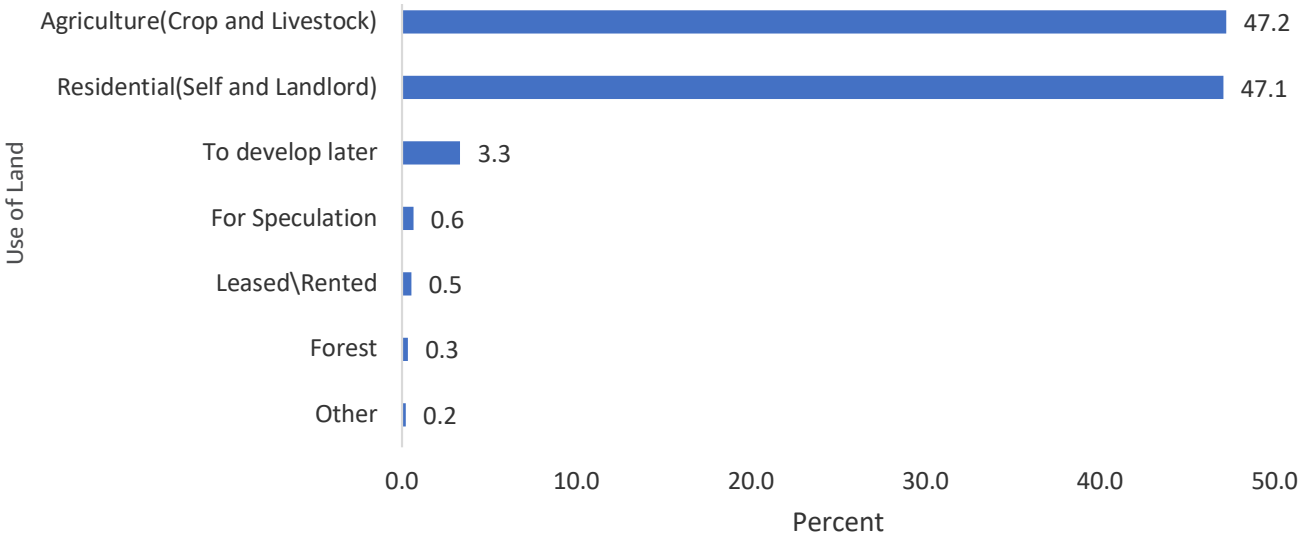

**Land ownership and secure use rights are foundational elements in the context of housing, playing a critical role in individual well-being, economic stability and community development.**

## 11.3 Use of Land Parcels

Land parcels in Kenya serve a variety of critical functions that are essential for the country's socio-economic development and environmental sustainability.

Figure 11.2 presents the distribution of various use of land parcels. Agricultural (Crop & Livestock) and residential use dominated the use of parcels at 47.2 per cent and 47.1 per cent, respectively. A small proportion of 3.3 per cent of the parcels were kept aside to be developed later.

*Figure 11.2: Distribution of Various Types of Land Use in Kenya*



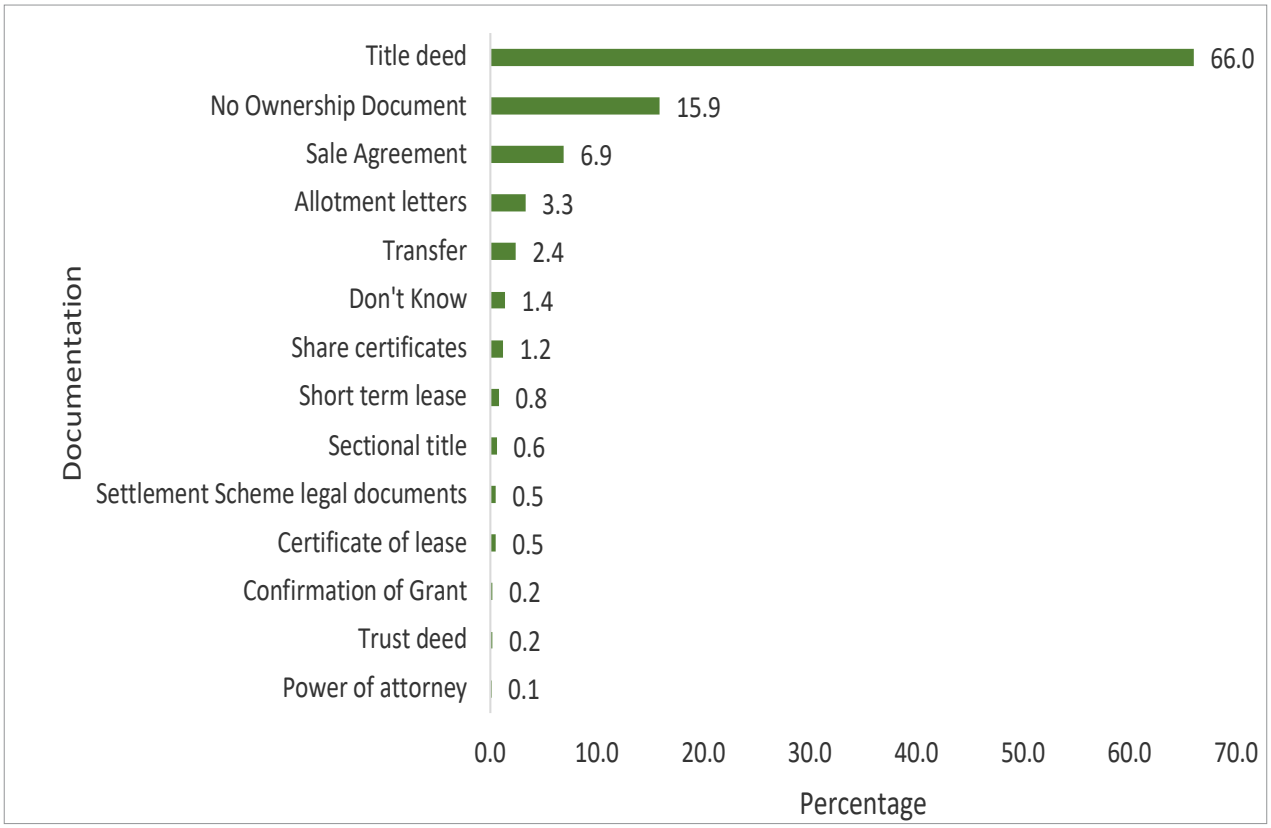

## 11.4 Land Ownership Documents

Land ownership documents in Kenya are critical for establishing legal rights, promoting secure tenure, and facilitating economic development.

Figure 11.3 illustrates the different types of ownership documents held for the land parcels. Parcels with title deeds accounted for 66.0 per cent of all land parcels while 1.3 per cent had lease documents.(Certificate of lease and short term lease). In addition, 6.9 per cent of all parcels had sale agreements, 3.3 per cent had allotment letters, and 1.2 per cent had share certificates. However, 15.9 per cent of parcels lacked ownership documents.

In summary 82.7 per cent of land parcels had legally recognised documents while 17.3 per cent had none or other.

*Figure 11.3: Proportion of Land Documents for Parcels*




## 11.5 Perception of tenure security

Perception of tenure security refers to the extent to which individuals feel confident that they will not be unjustly evicted or lose rights of their land. Table 11.2 presents the perception of whether the population could involuntarily lose their land ownership or use rights. Nationally, 91.8 per cent of the population were not likely to involuntarily lose their land ownership or use rights 0.8 per cent felt that they were likely to involuntarily lose ownership or rights of their parcels.

### Table 11.1: Likelihood to involuntarily lose ownership or use rights

| Likelihood | Per cent |
|---|---|
| Not at all Likely | 91.8 |
| Slightly Likely | 4.4 |
| Moderately Likely | 1.5 |
| Very Likely | 0.9 |
| Extremely Likely | 0.8 |
| Don't Know | 0.7 |

## 11.6 Reasons for Involuntarily Losing Ownership or Use Rights

Intra Family issues posed the highest threat to involuntarily loosing ownership or user rights for parcels of land at 38.6 per cent. Whereas government pronouncements were at 16.5 per cent.

### Table 11.2. Reasons for the Likelihood of Involuntarily Losing Ownership or Use Rights

| Reason | Per cent |
|---|---|
| Death of spouse | 5.6 |
| Intra-family | 38.6 |
| Divorce | 1.1 |
| Government pronouncement (e.g., compulsory acquisition etc.) | 16.5 |
| Corruption in land administration system (e.g., forgery of documents etc.) | 15.7 |
| Community/ other conflicts | 13 |
| Election Violence | 0.6 |
| Expiry of Lease Period | 6.6 |
| Lack of title deed | 2 |
| Floods from the lake | 0.1 |
| Loan Recovery | 0.2 |

# CHAPTER 12

# Land Consumption Rate and Green Space

## Key Findings

**Land Consumption rate**

- On average the four counties recorded an increase in built-up area at 34.45 per cent with Nakuru County leading at 47.1 per cent followed by Kisumu County at 46.5 per cent, Mombasa County at 29.9 per cent and Nairobi City County at 14.3 per cent.

**Green Space Area**

- The four counties recorded a reduction in green space area from the year 2016 to 2023 by an average of 21.75 per cent with Nairobi City County leading at 42.2 per cent, followed by Nakuru County at 26.3 per cent, Kisumu County at 14 6 per cent and Mombasa County at 3.9 per cent.

## 12.1 Introduction

Land consumption rate, which measures land conversion from natural or agricultural uses to urban or built-up uses, along with preservation of green spaces, are important indicators of sustainable urban development. Green space refers to areas of vegetation in urban settings, such as parks, gardens and greenways. Comparison of remote sensing data with housing surveys offers a detailed view of land use in urban areas. Geospatial tools were used to examine built-up extents and green spaces between 2016 and 2023 in Nairobi City, Mombasa, Kisumu and Nakuru counties. The choice of the four counties was informed by the high rate of land consumption as these counties host the cities. For a significant spatial change, a minimum of a 2-year interval was adopted.

High built-up extents generally correspond to all the higher housing density and more multi-storey buildings or apartments and infrastructure (roads and airports). In contrast, areas with low built-up extents may indicate lower-density housing like stand-alone houses. By overlaying built-up extent data with survey responses, planners can assess whether densely populated areas are adequately served by infrastructure and public services. Proximity to green spaces often correlates higher satisfaction levels. Analysis can reveal disparities in access to green spaces, identifying areas where urban greening efforts are needed. Green spaces typically increase property values and attract high-income residents. Mapping these areas against socioeconomic data can reveal patterns of inequality and inform equitable urban development policies. This chapter addresses SDG indicator 11.7.1-Average share of the built-up area of cities that is open space for public use for all.

## 12.2 Methodology

Sentinel-2 captures imagery at a resolution of 10 meters across 13 spectral bands with swath width of 290 kilometers. This technology enables differentiation between various land cover types, such as built-up area and vegetation, allowing for detailed analysis of land use changes. This is crucial for mapping, monitoring urban growth and computing land consumption.

The data was extracted from the Sentinel-2 satellite data repository for the years 2016, 2018, 2020 and 2023 using a Java Application Programming Interface (API) script on Google Earth Engine (GEE). Atmospheric corrections were carried out to remove pixels which had more than 10 per cent cloud cover automatically by the script. Training the model was carried out by collecting training samples for various land cover classes such as built-up areas, bare land, water bodies and vegetation, utilizing a false color composite for visual interpretation

and referencing existing land cover maps to aid land use and land cover classification. Spectral indices like NDVI (Normalized Difference Vegetation Index) and NDBI (Normalized Difference Built-up Index) were executed to improve classification accuracy. Using the collected samples, the script was re-run to accommodate the improvement and produce a more accurate imagery. The results were validated using high-resolution google satellite imagery.

## 12.3 Land Consumption Rate

Land consumption rate (LCR) is a key indicator of urban sprawl and land use efficiency. High land consumption rates often indicate extensive urban sprawl which can lead to the loss of agricultural land, green spaces, and natural habitats significantly affecting sustainability, biodiversity and climate change mitigation. Land consumption rate is computed using the formula below.

$$LCR(\%) = \frac{Vpresent - Vbase}{Vbase} * \frac{1}{T}$$

Where;

V Present = Total built up area in current year

V Base = Total built up area in base year

T = Number of years between the two measurement periods

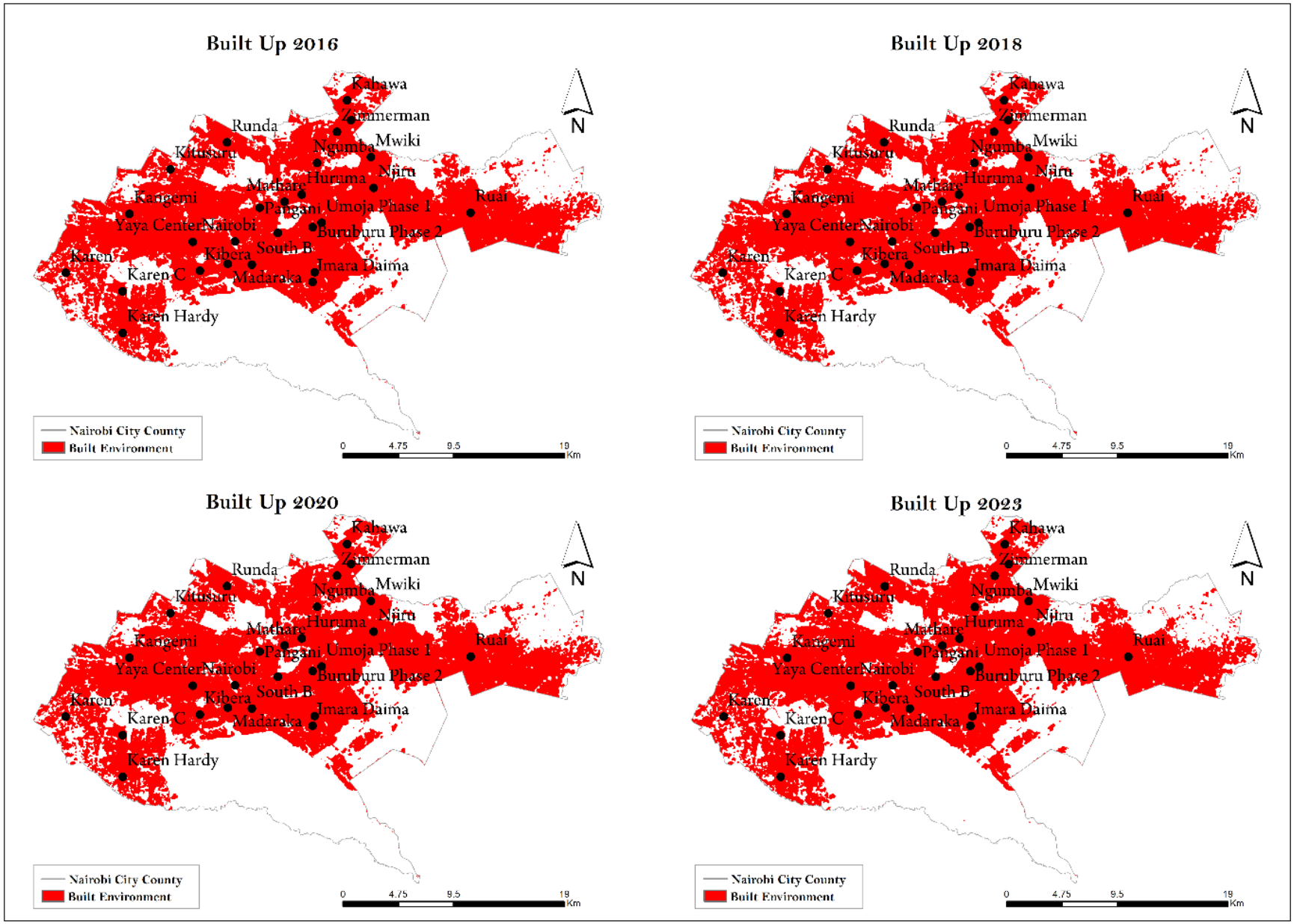
Table 12.1 presents information on the built-up area and land consumption rate in the four counties of Nairobi City, Mombasa, Kisumu and Nakuru. Overall, Nakuru County presented the highest percentage change of built-up area between 2016 and 2023 while Nairobi City County had the lowest.

**Table 12.1: Land Consumption Rate, 2016-2023**

| County | Nairobi City | | Mombasa | | Kisumu | | Nakuru | |
|---|---|---|---|---|---|---|---|---|
| Year | Built Up Area (KM²) | LCR | Built Up Area (KM²) | LCR | Built Up Area (KM²) | LCR | Built Up Area (KM²) | LCR |
| 2016 | 242.45 | - | 75.88 | - | 338.77 | - | 623.16 | - |
| 2018 | 243.81 | - | 80.74 | 0.03 | 411.08 | 0.11 | 643.45 | 0.02 |
| 2020 | 263.43 | 0.04 | 88.46 | 0.04 | 430.20 | 0.02 | 702.42 | 0.04 |
| 2023 | 277.11 | 0.02 | 98.58 | 0.03 | 496.33 | 0.05 | 916.55 | 0.10 |

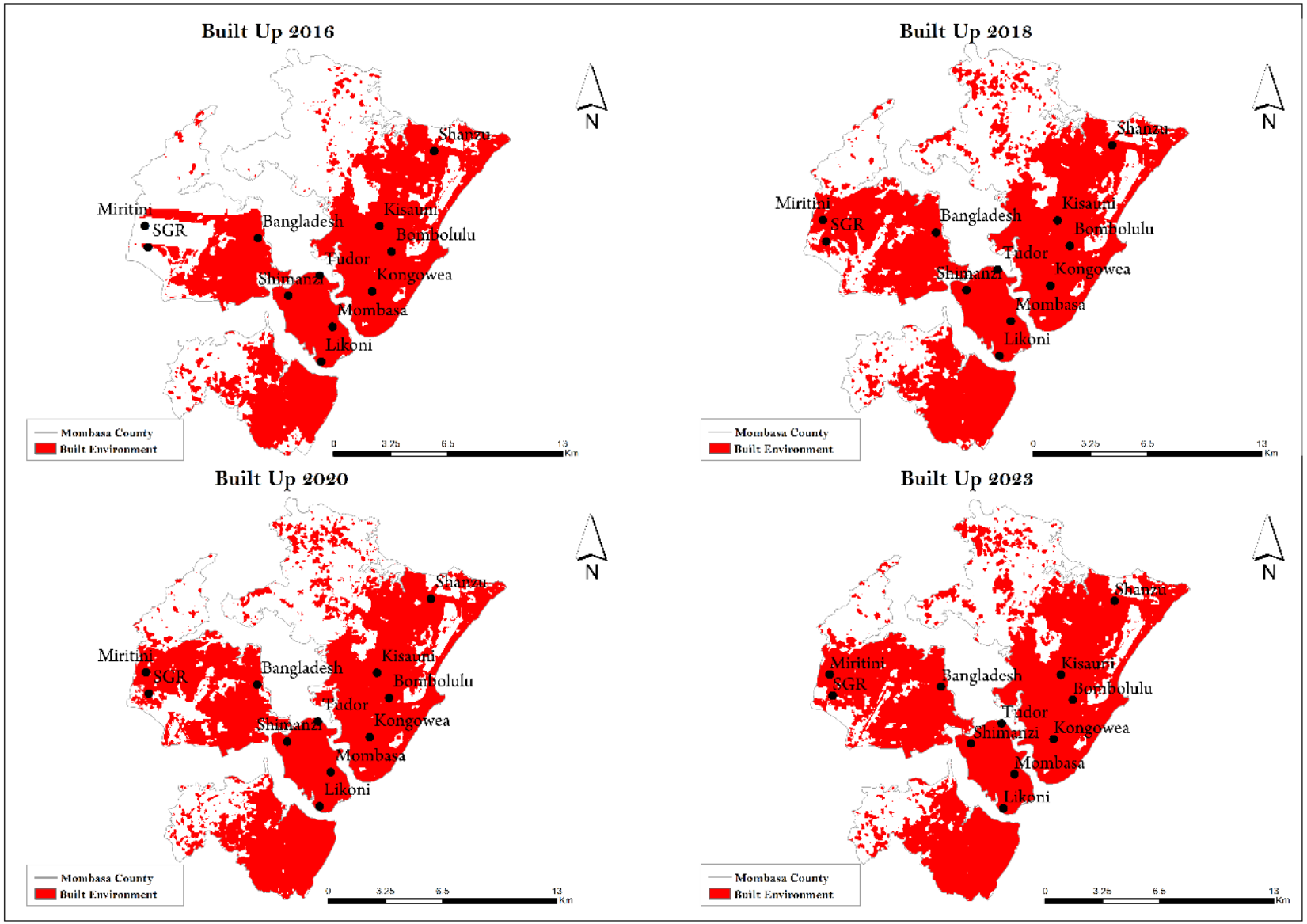
Nairobi City County recorded an increase in the built-up area from 242.45 Km² in 2016 to 277.11 Km² in 2023, an increase of 14.3 per cent. Figure 12.1 shows Nairobi City County built-up area from 2016 to 2023.

*Figure 12.1: Nairobi City County Built-up Areas*



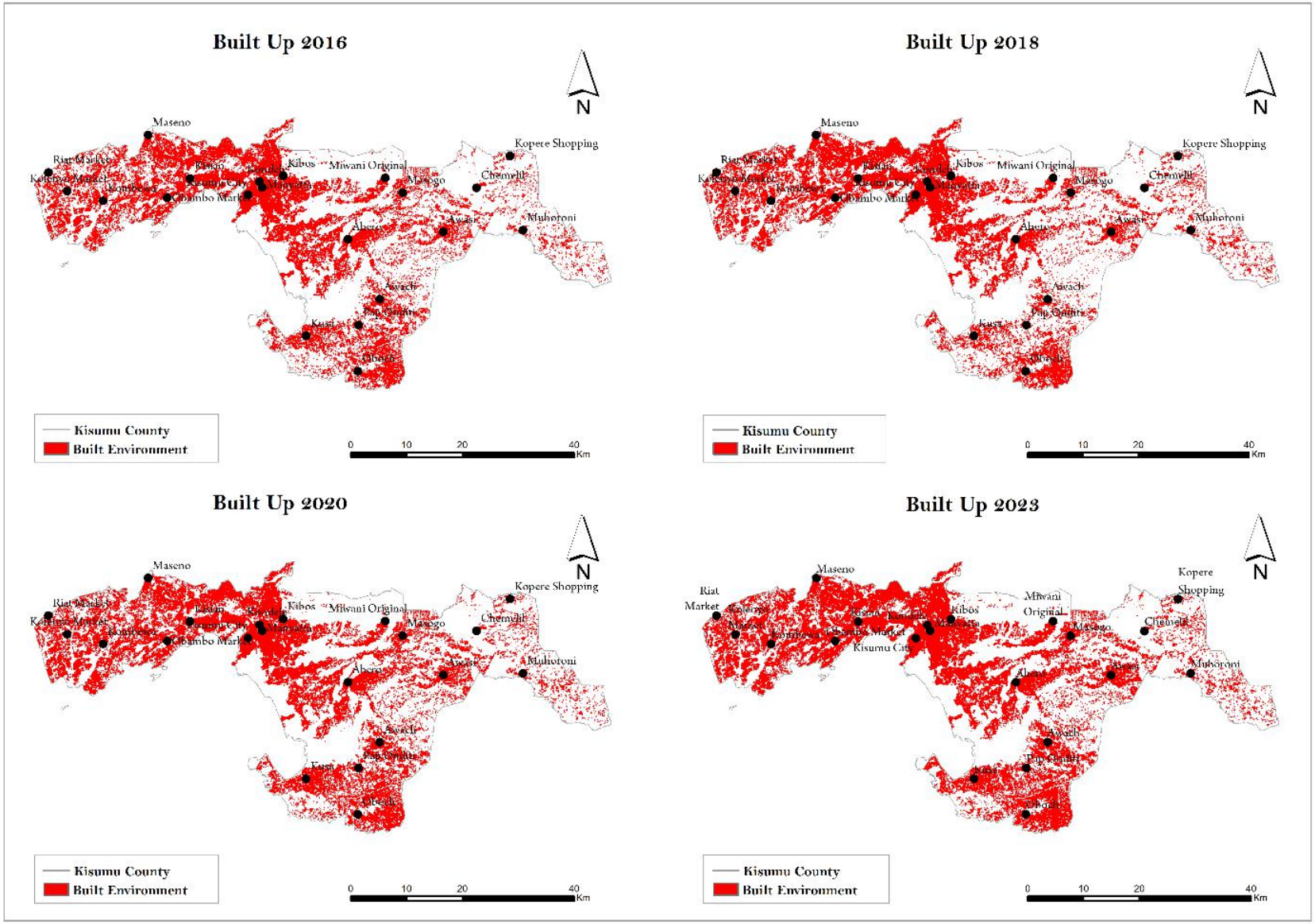
Mombasa County recorded an increase in the built-up area from 75.88 Km² in 2016 to 98.58 Km² in 2023, a 29.9 per cent increase. Figure 12.2 shows Mombasa County built-up area from 2016 to 2023.

*Figure 12.2: Mombasa County Built-up Areas*



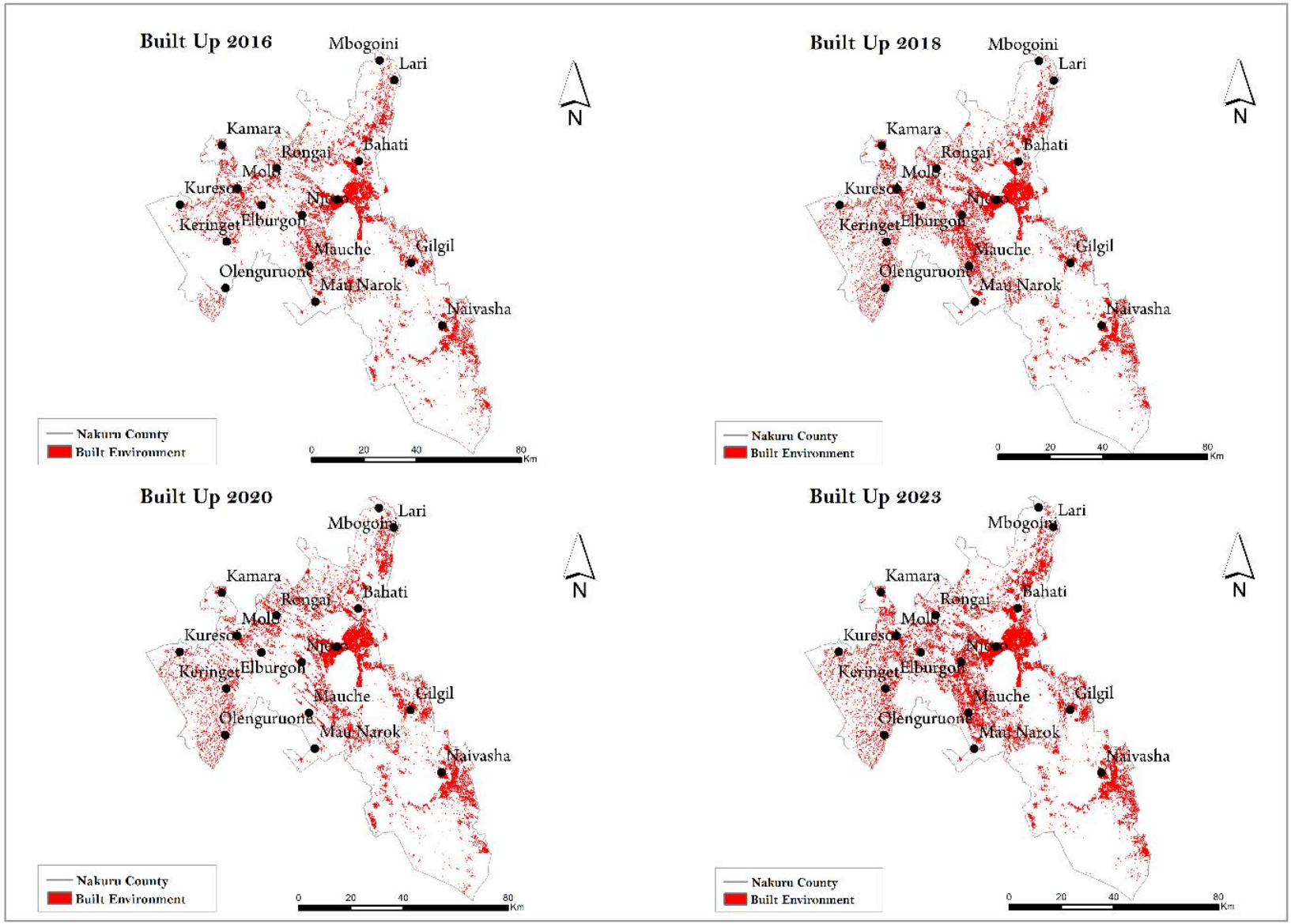
Kisumu County recorded an increase in the built-up area from 338.77 Km² in 2016 to 496.33 Km² in 2023, a 46.5 per cent increase. Figure 12.3 shows Kisumu County built-up area from 2016 to 2023.

*Figure 12.3: Kisumu County built-up areas*



Nakuru County recorded an increase in the built-up area from 623.16 Km² in 2016 to 916.55 Km² in 2023, a 47.1 per cent increase. Figure 12.4 shows Nakuru County built-up area from 2016 to 2023.

*Figure 12.4: Nakuru County Built-up Areas*



## 12.4 Green Spaces

Green spaces (parks, forests, road side vegetation) are vital for urban sustainability and residents' well-being. They play a crucial role in urban environments by providing recreational areas for residents, promoting physical activity and improving overall quality of life. However, as cities become more densely populated, green spaces are often reduced in favor of built-up areas. This can have negative effects on public health and well-being.

Table 12.2 shows green spaces coverage from 2016 to 2023 for Nairobi City, Mombasa, Kisumu and Nakuru counties. There was a notable change in green spaces in the year 2020 characterized by high rainfall experienced in January 2020.

**Table 12.2: Area Occupied by Green Spaces, 2016-2023**

***Green Space KM²***

| | Nairobi City | Mombasa | Kisumu | Nakuru |
|---|---|---|---|---|
| 2016 | 418.39 | 57.37 | 1,740.78 | 5,313.84 |
| 2018 | 149.78 | 60.65 | 1,286.53 | 3,776.72 |
| 2020 | 359.78 | 96.16 | 1,858.21 | 5,192.65 |
| 2023 | 242.02 | 55.13 | 1,485.91 | 3,914.75 |

The percentage reduction of green space area is computed as follows:

$$\Delta GSA = \frac{GSA\ CY - GSA\ BY}{GSA\ BY} \text{X } 100$$

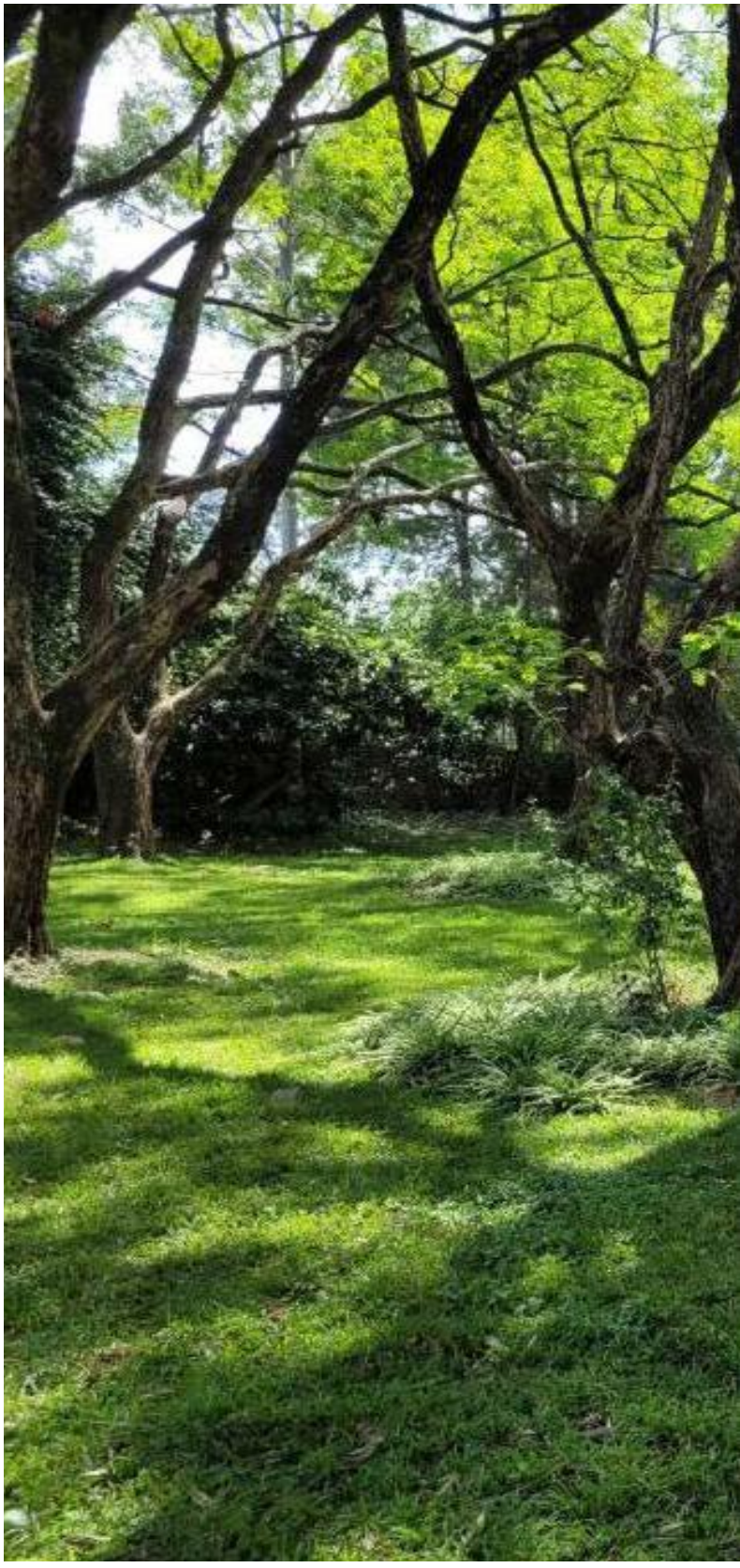
Where:

ΔGSA=Percentage Change in Green Space Area

GSA CY=Green Space Area for Current Year

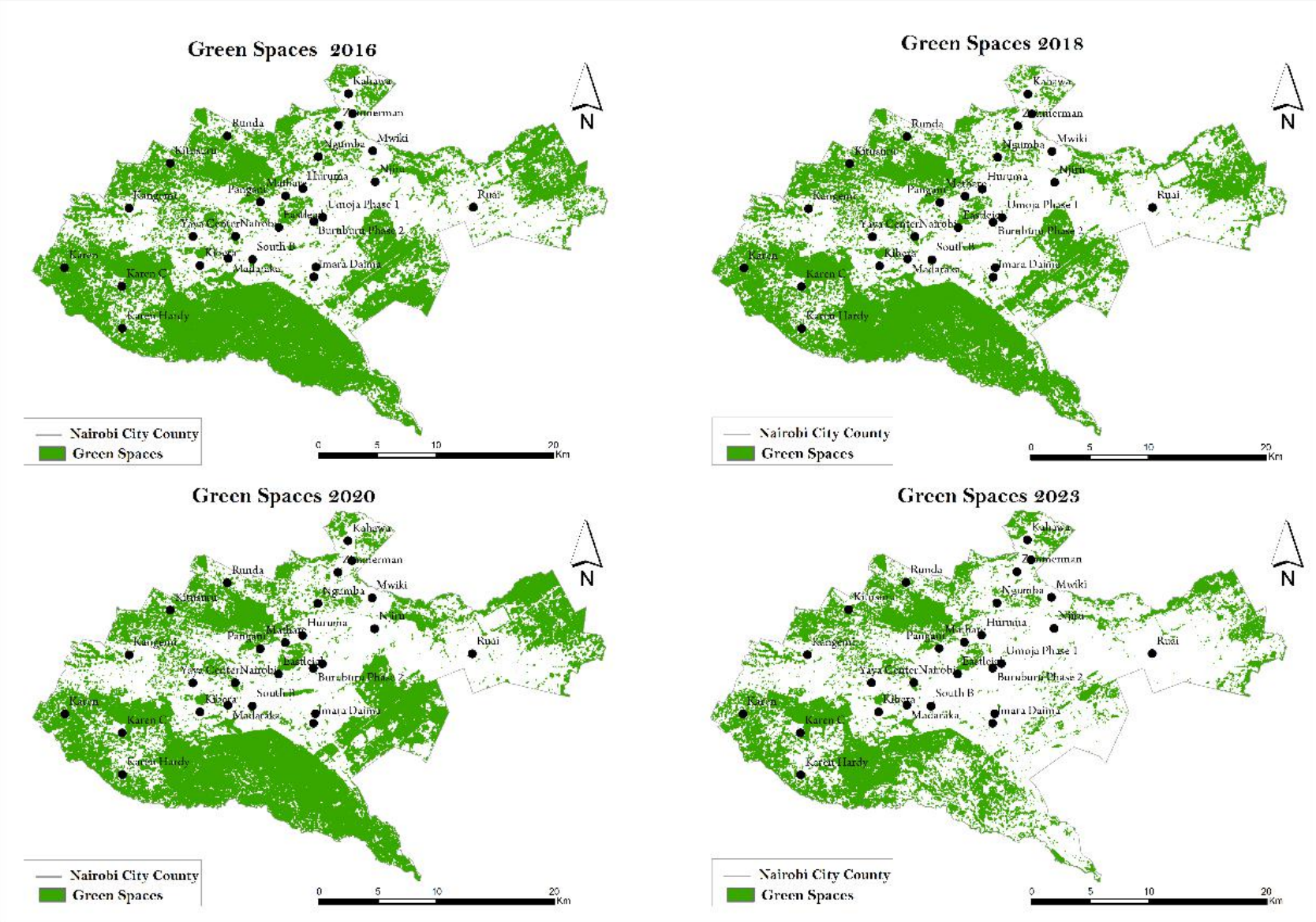
GSA *B*Y=Green Space Area for Base Year

**Green spaces (parks, forests, road side vegetation) are vital for urban sustainability and residents' well-being.**



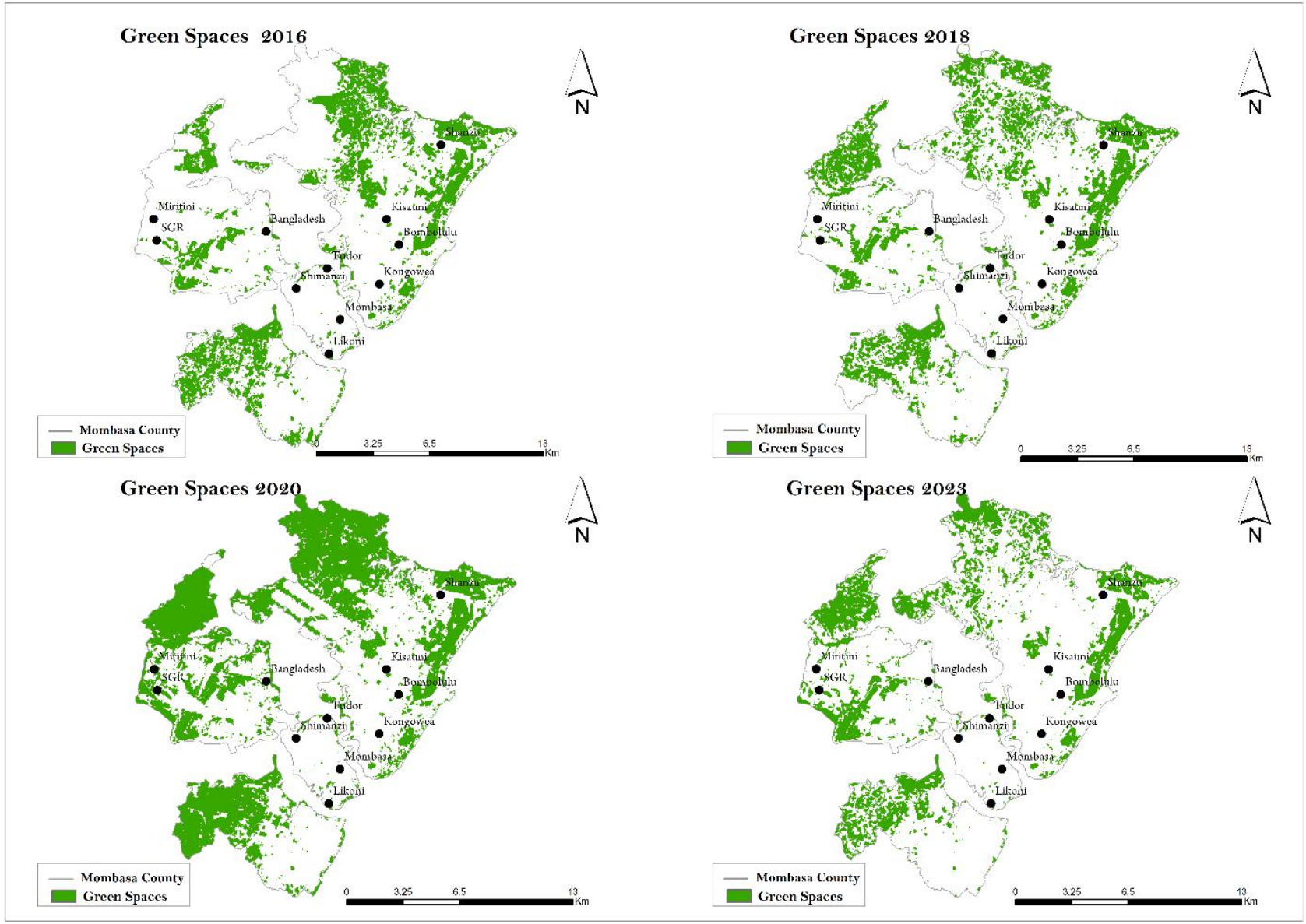
Nairobi City County recorded a 42.2 per cent reduction in green space area from the year 2016 to the year 2023. Figure 12.5 shows Nairobi City County green space area from 2016 to 2023.

*Figure 12.5: Nairobi City County Green Spaces*



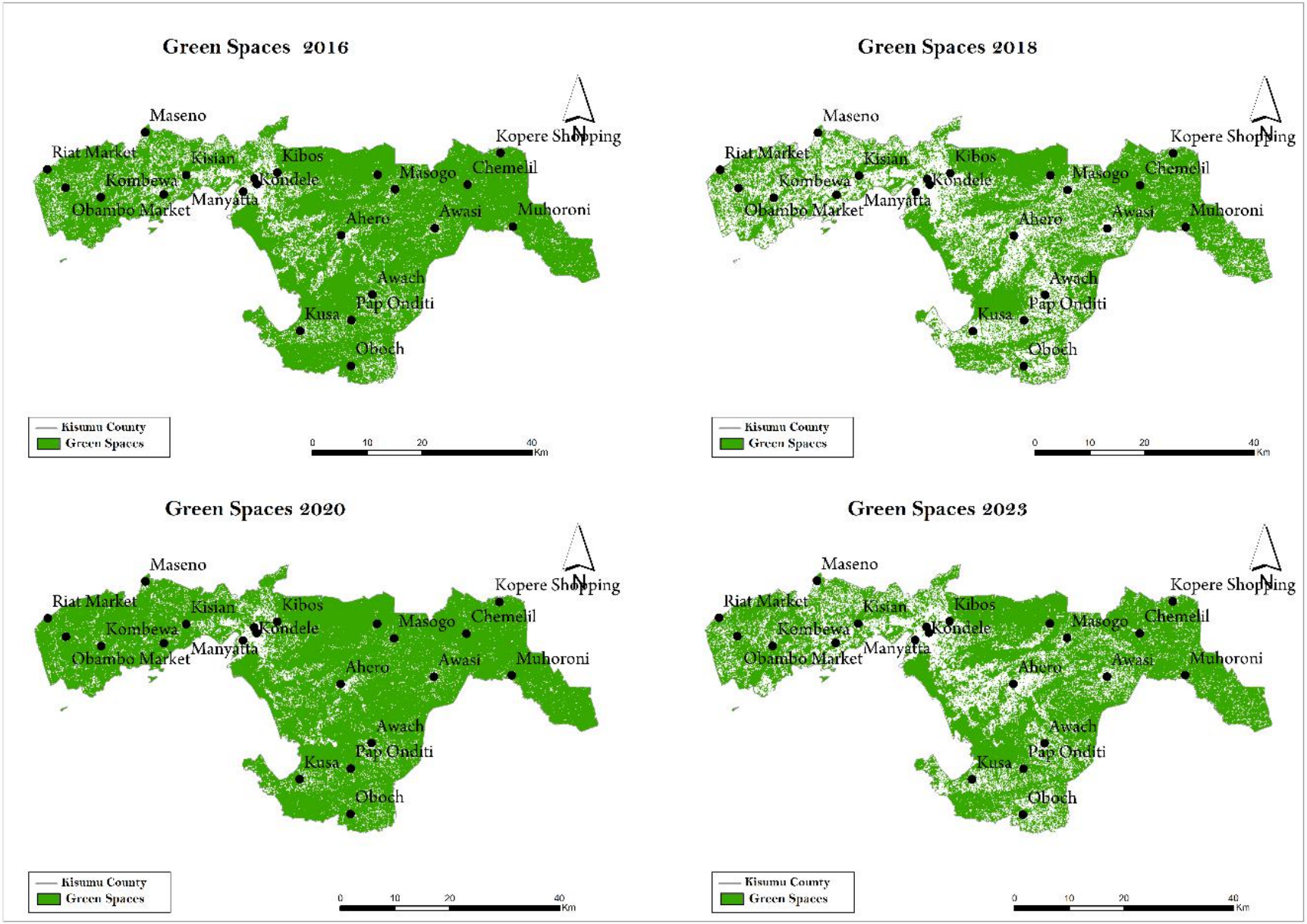
Mombasa County recorded a 3.9 per cent reduction in green space area from the year 2016 to 2023. Figure 12.6 shows Mombasa County green space area from 2016 to 2023.

*Figure 12.6: Mombasa County Green Spaces*



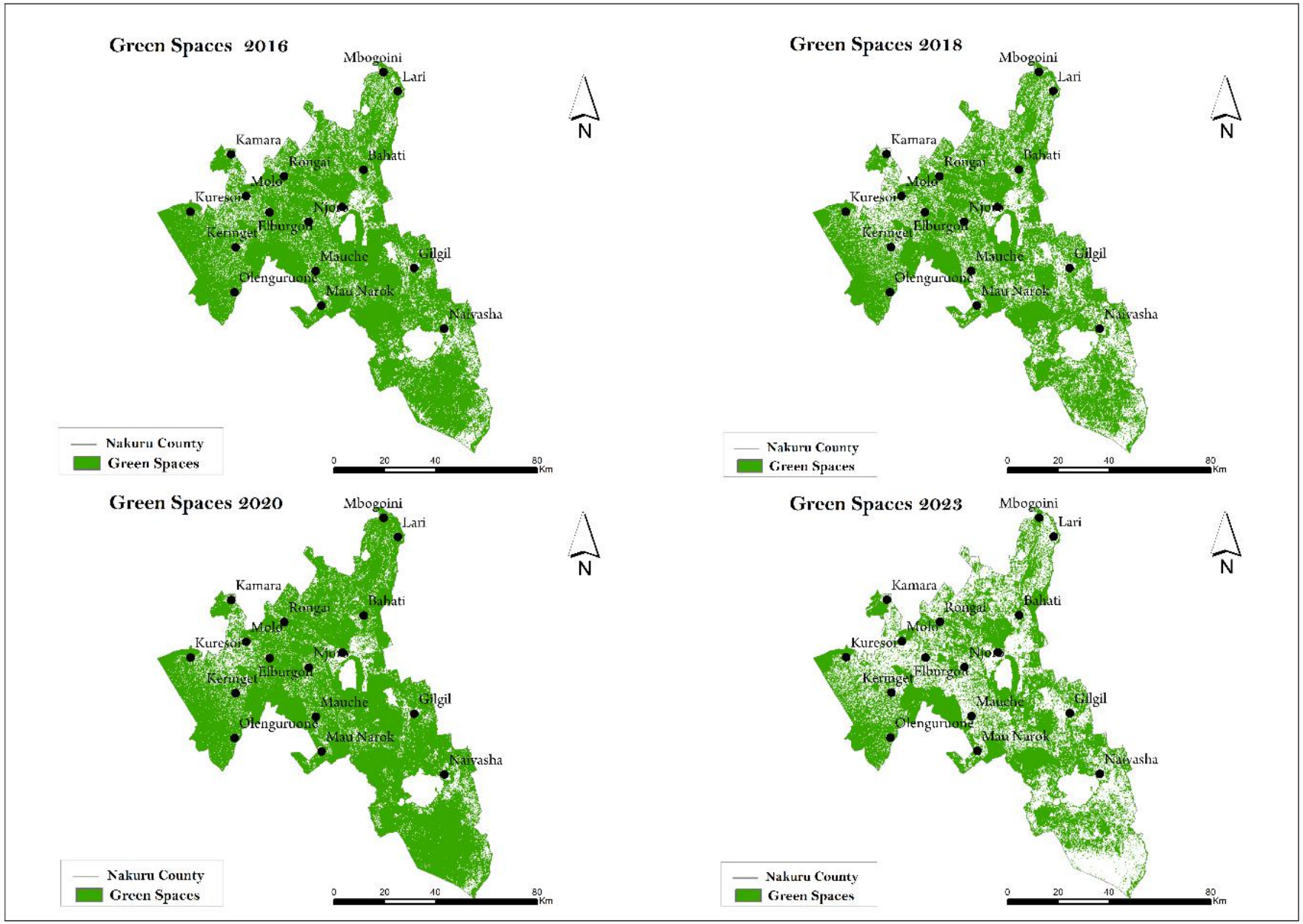
There was significant decline in green space area by 14.6 per cent between 2016 and 2023. Figure 12.7 shows Kisumu County green space area from 2016 to 2023.

*Figure 12.7: Kisumu County Green spaces*



Between the year 2016 and 2023 Nakuru county green space area declined by 26.3 per cent. Figure 12.8 shows Nakuru County green space area from 2016 to 2023.

*Figure 12.8: Nakuru County Green Spaces*



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