



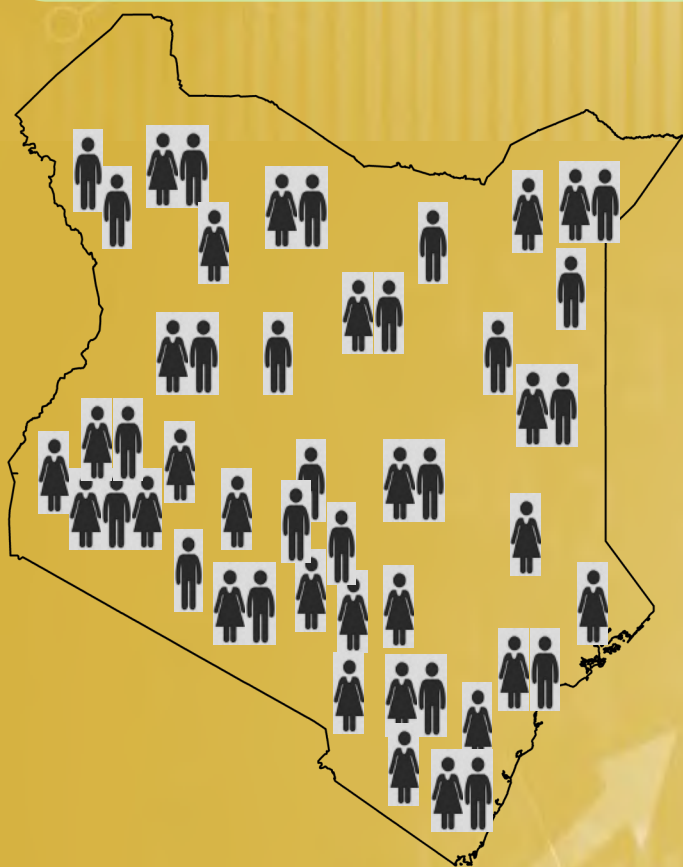
Republic of Kenya



2019 Kenya Population and Housing Census

Analytical Report on Housing Conditions and Amenities

Volume XIX



April, 2022



2019 Kenya Population and Housing Census

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

Analytical report on Housing Conditions,
Amenities and Household Assets

Volume XIX



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Abbreviations

AfDB	African Development Bank
AICS	Italian Agency for Development Cooperation
ASAL	Arid and Semi Arid Lands
AU	African Union
CHQI	Consolidated Housing Quality Index
CSPro	Census and Survey Processing System
EA	Enumeration Area
EU	European Union
FBO	Faith-Based Organization
GIS	Geographical Information System
GPS	Global Positioning System
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICT	Information and Communication Technology
KNBS	Kenya National Bureau of Statistics
KPHC	Kenya Population and Housing Census
LPG	Liquefied Petroleum Gas
NGO	Non-Governmental Organization
NPPR	Number of Persons per Room
ONS-UK	Office of National Statistics United Kingdom
PPR	Persons Per Room
SDG	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
UN	United Nations
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNRCO	United Nations Resident Coordinator's Office
UNSD	United Nations Statistical Division
WHO	World Health Organization

Foreword

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

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

This monograph presents levels, trends, and differentials regarding housing conditions, amenities, and household assets from the 2019 Census data. Generally, the analysis reveals that access to improved sources of water has increased over the last ten years to 64.8 per cent in 2019 from 56.1 per cent in 2009. Further, the results indicate that there exists a gap in access to these improved sources of water between rural and urban areas, at 55.9 per cent and 78.9 per cent respectively. In addition, 8 out of 10 households have access to improved sanitation.

The information in this monograph provides valuable programmatic evidence to policymakers for use in the formulation of policies and plans explicitly intended to achieve SDG targets. The report not only adds knowledge but also serves as a foundation for assessment, reporting and eventually monitoring achievement of SDGs by 2030, *Vision 2030*, formulation of MTP IV, County Integrated Development Plans, and other sector-specific plans. Specifically, the evidence is expected to contribute immensely towards measuring and monitoring SDGs numbers 3, 6, 7, and 11 that relates to social sector outcomes with a special focus on housing.

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



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Acknowledgement

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

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

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



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Kenya at a Glance

Indicator	Unit	Region		
		Rural	Urban	Kenya
Dwelling Units	Number	13,324,202	6,073,567	19,397,769
Habitable Rooms	Number	22,641,120	9,681,615	32,322,735
Households	Number	7,376,595	4,664,106	12,040,701
Persons per Room	Ratio	1.4	1.5	1.5
Rooms per Dwelling	Ratio	1.7	1.6	1.7
Approximate mean dwelling units deficit	Number	5,832,469	3,056,157	8,888,626
Proportion of Households occupying own dwellings	Percent	86.6	21.3	61.3
Proportion of Households occupying rented/provided dwellings	Percent	13.4	78.7	38.7
Proportion of Households occupying dwellings with durable roof material	Percent	87.8	98.6	91.9
Proportion of Households occupying dwellings with durable wall material	Percent	37.9	72.6	51.3
Proportion of Households occupying dwellings with durable floor material	Percent	36.5	88.0	56.4
Proportion of Households with access to improved sources of water	Percent	55.9	78.9	64.8
Proportion of Households using improved sanitation facility	Percent	75.5	93.5	82.5
Proportion of Households sharing sanitation facility	Percent	62.2	22.0	51.0
Proportion of Households using clean cooking fuel	Percent	6.5	55.3	25.4
Proportion of Households using clean lighting fuel	Percent	71.2	92.8	79.5
Proportion of Households owning radio	Percent	58.5	54.5	57.0
Proportion of Households owning functional Tv	Percent	25.1	60.6	38.8
Proportion of Population age 3 years and above owning mobile phone	Percent	40.5	62.6	47.3
Proportion of Households owning computer	Percent	3.0	18.0	8.8
Proportion of Households owning bicycle	Percent	15.6	13.9	15.0
Proportion of Households owning motor cycle	Percent	10.8	6.7	9.2
Proportion of Households owning refrigerator	Percent	2.4	19.1	8.9
Proportion of Households owning car	Percent	3.5	10.8	6.3
Proportion of Households occupying adequate quality housing	Percent	1.5	14.1	6.4

Executive Summary

This report covers analysis of data on housing conditions, amenities and household assets from the 2019 Kenya Population and Housing Census. It is structured into an introductory chapter and four analytical chapters followed by a chapter on conclusions and recommendations. The first three of the four analytical chapters are devoted to basic analysis while the last one is devoted to interpretative analysis.

Housing conditions cover four basic issues: dwelling space in terms of dwelling units and habitable rooms, housing needs, implications for environmental health and status of dwelling tenure. The habitable room density was 1.5 persons per room, having reduced from 1.6 persons per room in 2009. In the urban areas, the index remained constant at 1.5 while in the rural areas, it declined from 1.7 to 1.4 persons per room.

Analysis on dwelling tenure shows that 61.3 per cent of the households own the dwelling units they occupy while the rest are rented/provided. The proportion of owner occupied households in the rural areas is four times that of the urban households while the proportion of rented/provided households in urban areas is almost six times that of the rural households. At the national level, the majority of the owned dwelling units are constructed at 57.6 per cent while a majority of the rented/provided dwelling units are rented/provided from individual landlords at 34.3 per cent.

Highlights from construction materials used for the dwelling units indicate that majority of households nationally live under roofs made of durable materials, with iron sheets being the most dominant roofing material at 81.0 per cent. Mud/cow dung, a non-durable material, is the most dominant traditional wall material at 27.2 per cent while the most dominant floor material is concrete/ cement/ terrazzo at 43.7 per cent. Significant variations from these national-level results occur between urban and rural areas, among counties and urban centres.

Household amenities are presented in terms of the main source of drinking water, the main mode of human waste disposal, the main mode of solid waste disposal, the main type of cooking fuel, the main type of lighting fuel and ownership of household assets. At the national level, access to improved sources of drinking water has increased from 56.1 percent to 64.8 per cent in 2009 and 2019, respectively. While a majority of the urban households rely on piped water, majority of rural households rely on water from streams or rivers.

With regard to human waste disposal and solid waste disposal, most of the households nationally have access to improved modes. A quarter of the households use clean sources of cooking fuel, with LPG being the most dominantly used clean fuel at 23.9 per cent. However, the use of firewood, though an unclean source, is leading nationally at 55.2 per cent and most dominant in the rural households. The clean modes of lighting fuel are used by a majority of the households, with mains electricity serving half of the households nationally.

Indicators on the progress towards the achievement of the adequacy of housing in Kenya are summarized in four standalone indices: the Crowding Index, Fitness of Structure Index, Water and Sanitation Fitness Index and Energy Use Fitness Index. These indices have been used to compute a summary index known as the Consolidated Housing Quality Index.

The results show that 38.8 per cent of households in Kenya live in crowded spaces with more than 2 persons per room. This crowding is worse among the urban population, where 42.2 per cent of households live in crowded dwellings. Concerning structure fitness, 57.3 per cent of Kenyan households are in inadequate dwellings with non-durable materials of housing construction. For water and sanitation, 47.7 per cent of households nationally rely on inadequate facilities, with rural households registering 58.7 per cent. On energy fitness, 74.8 per cent of households in Kenya use unsuitable energy in their dwellings, with this figure dramatically high among households living in rural areas, where it rises to 93.7 per cent.

In terms of the summary Indicator or the Consolidated Housing Quality Index, 93.6 per cent of Kenyan households live in inadequate housing. This proportion rises to 98.5 per cent in rural areas and drops to 85.9 per cent for urban dwellers.

Chapter 1: Introduction

1.1. Background Information

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

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

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

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

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

1.2. Objectives of the 2019 Census

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

- Population size, composition, and spatial distribution;
- Levels of fertility, mortality and migration;
- Educational attainment;

- Household composition;
- Rate and pattern of urbanization;
- Size and deployment of the labour force;
- Distribution of persons with disability;
- Housing conditions and availability of household amenities; and
- Agricultural indicators to inform the creation of an agriculture sampling frame.

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

1.3. Overview - Housing as Indicator of Development

The 2019 Kenya Population and Housing Census contained a housing component. The housing census topics ran from H27 to H39 of the long-form questionnaire. The questions covered include tenure status, physical conditions of the dwellings, materials used for construction, sources of drinking water, means of waste disposal, use and sources of energy and household assets. Housing topics are important because housing is one sector that engenders population and development. This means that housing conditions can be used as indicators for human development programs at global, continental, regional, national and county levels.

At the global stage, in 2015, the Millennium Development Goals gave way to the Sustainable Development Goals (SDGs). Five of the SDGs are relevant to housing. These are:

1. Goal 1, End poverty in all its forms everywhere in the world.
2. Goal 3, Ensure healthy lives and promote well-being for all at all ages
3. Goal 6, Ensure availability and sustainable management of water and sanitation for all.
4. Goal 7, Ensure access to affordable, reliable, sustainable and modern energy for all.
5. Goal 11, Make cities and human settlements inclusive, safe, resilient and sustainable.

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

Likewise, at the continental level the African Union to which Kenya is a member, has its development plan in the form of the AU Agenda 2063 Goals. Three of the AU Agenda 2063 goals are relevant to housing:

1. Goal 1, A high standard of living, quality of life and well-being for all citizens.
2. Goal 3, Healthy and well-nourished citizens.
3. Goal 7, Environmentally sustainable and climate-resilient economies and communities.

This analytical report provides useful indicators of housing that may be used to monitor Kenya's progress towards meeting these goals and enable comparison with continental states.

At the national level, our housing development programs are envisioned in the Vision 2030 and the Big Four Agenda. The latter includes affordable housing as one of its policy goals. Affordable housing goes hand in hand with adequate housing because housing must be first adequate before it can be considered affordable. The level of inadequate housing conditions is an indication of how close the country is to achieving affordable housing. National comparisons can also be made among regions, counties, cities and towns and between urban and rural areas.

1.3.1. Indicators of Housing Quality

This report is divided into four main parts:

1. Dimensions of living quarters
2. Quality of structure
3. Level of service provision and Household Assets
4. The Consolidated Housing Quality Index.

Dwelling conditions entail the number of dwellings available to the household, the number of habitable rooms and the tenure status of the dwelling. The first two variables relate to the adequacy of housing in quantitative aspects i.e. the number of dwellings and the number of rooms that are at the disposal of a household. The number of habitable rooms could help derive the number of habitable rooms per person, which is a crude indicator of crowding. The third variable relates to whether the household is a tenant or owns the dwelling.

As regards the quality of dwelling structure, the census enumerated the dominant construction material of the main dwelling house under H30 to H32 variables i.e., roof, wall and floor respectively. Quality is reflected in the durability of the dwelling's materials. Non-durable materials are unlikely to protect the households and their assets from the vagaries of nature by the human and non-human intrusion, and disasters like fire or floods. The qualification of durability and non-durability of construction materials is a scattered indicator of the quality of housing.

The structure would only function as a dwelling if requisite services are made available. These include water supply, modes of human waste disposal, modes of solid waste disposal, and supplies of energy for cooking and lighting. These topics were covered under H33 to H38 in the long questionnaire. Generally, provision or under-provision of services for living activities marks the quality of housing. Provision occurs with the use of improved facilities while under-provision occurs with the use of unimproved facilities. Domestic energy use impacts housing quality depending on whether the supplies are clean or dirty. Dirty energy is responsible for both indoor and outdoor air pollution and leads to the general degradation of human habitat. A degraded human habitat is responsible for a variety of human health problems.

All the attributes arising from the census topics derive standalone indicators of housing. The consolidated Index for Housing adequacy is an attempt at constructing a consolidated indicator that would take into account all the attributes of housing including dwelling space, tenure,

construction materials, and amenities. From this, the adequacy or inadequacy of a living quarter can be comprehensively decoded.

The last topic in the housing census, H-39, concerns ownership of household assets. These include both assets for domestic usage (e.g. radio, TV, car) and assets for commercial enterprise (e.g. trucks, auto-rickshaw, buses). Ownership indicates the level of household welfare.

Finally, this report is given in two main parts:

1. The Main Report
2. The Appendices

The main report presents summaries and establishes trends, while detailed tabulations of individual indicators are presented in the appendices for further reference.

1.4. Methodology

1.4.1. Use of Technology

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

1.4.2. Recruitment and Training

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

1.4.3. Enumeration

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

The actual enumeration took place from the night of 24th/25th August 2019 and ended on 31st August 2019. A mop-up exercise was conducted on 1st and 2nd September 2019. Special populations were strictly enumerated on the night of 24th/25th August 2019. The 2019 Census

adopted the *de facto* approach where all persons within the boundaries of Kenya were enumerated depending on where they spent (or were found on) the census night. The canvasser method of enumeration, where information for each individual or household is collected and recorded by a trained census official designated to perform the tasks in the assigned area, was used.

1.4.4. Data Transmission and Storage

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

1.4.5. Data Processing

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

1.4.6. Quality Assurance

Quality assurance was integrated into all phases of the census process. Comprehensive guidelines were developed and shared with census personnel. Field supervision followed a three-tier structure to ensure adequate support, real-time response to emerging issues, and feedback during data collection. In addition, enumeration reporting schedules and control forms were used to facilitate the monitoring of activities. Field monitoring teams oversaw technical, logistical and administrative aspects of enumeration in each region. Further, independent observers are drawn from the international community and national statistics offices across Africa monitored and observed the 2019 census enumeration process.

1.5. Data quality

Demographic data collection in Kenya, like in other countries, is riddled with challenges of administration and logistics. These give rise to coverage and content errors, which vary in nature and magnitude from one country to another and one region to another. Coverage errors result from the omission of certain pockets of the population, while content errors pertain to misreporting or misclassification of events. The errors cause biases and distortion in the estimates.

For instance, in some urban centres such as Garissa town, the percentage of households using mains electricity for cooking purposes is documented at 13.4%, which is six times that of Nairobi City and other similar urban centres. The statistics on mains electricity usage both for urban and rural areas may require further verification. In H27 on dwelling units and H28 on habitable rooms, almost 17% (2 million out of the 12 million) of the households reported the number of dwelling units occupied being more than the number of habitable rooms. This was against the expected standard that the number of dwelling units occupied should be less or equal to the number of habitable rooms contained therein. However, the correct values were imputed during data cleaning.

1.6. Definition of Key Concepts and Terms

Consolidated Housing Quality Index (CHQI): An indicator of housing quality derived by combining the quality of materials of construction of the structure (roof, wall and floor) and the level of service provision (water, drainage) and energy for cooking and lighting.

Cooking fuel: The type of energy the household uses for cooking such as LPG, electricity, paraffin, charcoal and firewood.

County: The local territories of devolved governance are listed in the First Schedule of the Constitution of Kenya, 2010.

Durable floor: Any floor made of wood, terrazzo, concrete, wood tiles, brick, cement, or quarry tiles.

Durable roof: Any roof made of tin, tiles, concrete, corrugated iron and asbestos sheets.

Durable wall: Any wall made of bricks, blocks, stones and concrete.

Dwelling unit: This is a place of abode or residence occupied by one or more households with a private entrance. It is made of a structure that a household uses for sleeping, eating, entertaining guests, etc. A dwelling unit may be a whole structure or part of a structure, especially in the urban setting.

Habitable room: Any room in a dwelling unit that is used mainly for living and excludes stores, granaries, offices, toilets and garages. For the 2009 Population and Housing Census, a kitchen or a store which under normal circumstances should not be counted as a habitable room were included, if members of the household used it for eating and/or sleeping purposes or even for purposes of entertaining guests.

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

Household amenity: Any facility or service made available to provide comfort or convenience to a household in the occupation and use of a dwelling unit e.g. electricity, sewerage, water.

Household asset: Any of the movable property belonging to a particular household. For the purposes of the 2009 Census, these include radio, TV, car, truck/lorry/tractor/bus, canoe, mobile phone, refrigerator, landline telephone, boat, animal-drawn cart, computer, bicycle, motorcycle and auto-rickshaw (*tuk-tuk*).

Household head: This is the most responsible/respectable member of the household who makes key decisions of the household on a day-to-day basis and whose authority is recognized by all

members of the household. It could be the father, the mother or a child, or any other responsible member of the household depending on the status of the household.

Household size: The total number of persons living in one household.

Housing need: The number and type of housing units required to accommodate a population at a given standard of housing occupancy within a designated geographical area.

Housing quality: Adequacy of housing in terms of structural standards and the level of provision of services.

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 the shelter needs of society, organizing the resources and facilitating society to access shelter that is adequate, affordable, functional and environmentally sustainable.

Human waste disposal: The handling of human excreta including faeces and urine.

Informal settlements: These are urban settlements characterized by poor structural quality of housing; lack of formal basic services and infrastructure; and lack of security of tenure. In most cases, they are located in geographically and environmentally hazardous areas.

Lighting fuel: The types of energy used for providing lighting in dwelling units such as electricity, and paraffin (applied in lanterns).

The number of persons per room: The density indicator is derived by dividing the number of people in a household (or population of any spatial unit) by the number of habitable rooms available for the households (or spatial unit).

Rural: This is a large and isolated part of an open or agricultural country with relatively low population concentrations and whose predominant economic activity is agricultural.

Source of water: The point at which a household accesses water for domestic use.

Tenure: The proprietary status indicating whether households are owners or tenants in their dwellings.

Urban area: Any aggregate part of the county, region or country made up of urban centres or parts of urban centres.

Urban centre: This is characterised by a concentration of economic activity and infrastructure, in addition to having a vastly higher population density than its surrounding areas. It might be seen as a built-up and compact human settlement with a population of at least 2,000 people. An urban centre may be classified as a market centre, town, municipality or city. Urban centres are also service centres that provide goods and services to both the resident and surrounding population. As such, an urban centre may constitute some trading centres with less than 2,000 people.

Urbanization: This is the process of concentration of a country's national population into settlements designated as urban centres. It's the process whereby a society is transformed from an essentially rural to a predominantly urban one.

Chapter 2: Housing Conditions

Housing conditions are indicators of the socio-economic status of the population. In relation to the 2019 Kenya Population and Housing Census, questions concerning housing conditions were asked on the number of dwelling units occupied by the household, the number of habitable rooms contained in the dwelling units and the construction materials of the main dwelling unit (roof, wall and floor).

This chapter focuses on housing conditions in terms of habitable rooms to the number of households and the population, tenure status and construction materials.

2.1. Dwelling Space

A dwelling space comprises dwelling units within which habitable rooms are found. The dwelling units are also referred to as housing units.

2.1.1. Dwelling units and habitable rooms

Table 2.1 shows that there were 19,397,769 dwelling units in Kenya with 32,322,735 habitable rooms occupied by 12,040,701 households and 47,105,234 persons. Information at the County level and by rural and urban residence is presented in Appendix 2.

Table 2.1: Summary of Housing Indicators by Residence, 2019

Indicators	Residence		
	Rural	Urban	Kenya
Number of dwellings	13,324,202	6,073,567	19,397,769
Number of households	7,376,595	4,664,106	12,040,701
Number of habitable rooms	22,641,120	9,681,615	32,322,735
Total population	32,551,929	14,553,305	47,105,234
Number of persons per room	1.4	1.5	1.5

Nationally, the average number of persons per habitable room was 1.5 compared with the expected standard of 1 habitable room per capita. The population of 47,105,234 persons had only 32,322,735 habitable rooms.

The average number of persons per habitable room in the rural areas was 1.4 while the urban areas were 1.5. This indicates a general housing shortage in the urban areas.

2.1.2. Number of persons per room

Comparison of the number of persons per habitable room has been made between the 2009 and the 2019 censuses as shown in Table 2.2. The Table indicates a slight decrease in the number of persons per room from 1.6 in 2009 to 1.5 in 2019. It is notable also that whereas there is a decrease in the persons per room ratio for rural areas, the persons per habitable room has remained constant in the urban areas over the same period.

Table 2.2: Average Number of Persons per Room by Residence, 2009 and 2019

Residence	2009	2019
Kenya	1.6	1.5
Rural	1.7	1.4
Urban	1.5	1.5

2.1.3. Habitable rooms and household size

Table 2.3 distributes the households according to their sizes and the number of habitable rooms occupied. In order to give a clearer indication of crowding, especially in the urban areas, the number of persons per room is supplemented with the household size and the number of habitable rooms they occupy. In the context of one habitable room dwelling, it would be ideal for a one-person household occupying it. However, when the number of household size exceeds one, crowding is apparent. The worst situation is when three-or-more household size occupies a single habitable room. Under two habitable rooms, on the other hand, crowding begins with a household size of three or more. In three or more habitable roomed dwellings crowding may be minimal (the Republic of Kenya, 2012).

A good example is Nairobi City where 341,302 households, with three persons and above, occupy a single habitable room and 173,630 households with three persons and above, occupy two habitable rooms. This indicates crowding in the Capital City.

2.2. Housing Needs

Housing deficit measures adequacy in terms of the number of dwelling units and habitable rooms available based on the guideline of one person per habitable room. Table 2.3 below presents housing deficits by residence in Kenya. From the table, Kenya has a housing deficit of 8,888,626 dwelling units. Appendix 31 shows that Nyeri and Kirinyaga Counties have housing surpluses, i.e., negative deficits, with the contribution coming from the rural areas of those counties.

Table 2.3: Habitable Rooms and Dwelling Deficits in Kenya by Residence, 2019

Indicators	Residence		
	Rural	Urban	Kenya
Number of dwellings	13,324,202	6,073,567	19,397,769
Total population	32,551,929	14,553,305	47,105,234
Habitable Rooms Available	22,641,120	9,681,615	32,322,735
Habitable Rooms Required	32,551,929	14,553,305	47,105,234
Habitable Rooms Deficit	9,910,809	4,871,690	14,782,499
Mean No. of Rooms Per Dwelling	1.7	1.6	1.7
Approximate Mean Dwelling Units Deficit	5,832,469	3,056,157	8,888,626

The number of rooms required is based exclusively on the benchmark of persons per room, which yields the Total Habitable Rooms required. Total Habitable Rooms Available are deducted from the Total Habitable Rooms required to arrive at the Total Habitable Rooms Deficit. The average number of rooms per dwelling can be generated by dividing the Total Habitable Rooms Available by the Total Dwelling Units. This will give the average number of habitable rooms per dwelling

unit. This average is then used to divide the Total Habitable Rooms Deficit to get the Approximate Mean Dwelling Unit Deficit (the Republic of Kenya, 2012).

2.3. Implications for environmental health

In the Kenyan context, it would be critical to evaluate any relationship between housing conditions and the health status of the inhabitants. This will enable a better understanding of the relationship. Aspects of the housing environment such as crowding, use of non-durable construction materials and use of dirty cooking and lighting fuel are some of the relevant threats to health status.

The quality of housing conditions plays a decisive role in the health status of the residents. Many health problems are either directly or indirectly related to the building itself, because of the construction materials that were used and the equipment installed, or the size or design of the individual dwellings (Bonney, 2007).

2.4. Status of Dwelling Tenure

In the Housing context, tenure refers to whether the dwelling unit the household occupies is owned or not. The Census question on tenure required the respondent to state the holding status of their main dwelling unit; whether owned, rented or provided. Owner-occupied could be through purchase, construction or inheritance.

Occupation through rental or provided could be through public landlords (national government, county governments, parastatals), private landlords (private companies, individuals) or Non-governmental landlords (Faith-Based Organizations (FBOs), Non-Governmental Organization (NGOs), churches, temples and mosques).

2.4.1. Tenure distribution

Table 2.4 shows that of 12,040,701 households, 61.3 per cent of these own the dwelling units they occupy, irrespective of the sex of household headship and the tenure status of the main dwelling unit. The majority of these owner-occupied dwelling units are male-headed, with a similar trend observed in the rented or provided dwelling units.

Table 2.4: Percentage Distribution of Households by Ownership of Dwelling Unit and Sex of Household Head

Owner Occupied					
County/ Residence	Households	Male	Female	Intersex	Sub-Total
Kenya	12,040,701	37.4	23.9	0.0	61.3
Rural	7,376,595	52.5	34.1	0.0	86.6
Urban	4,664,106	13.4	7.9	0.0	21.3
Rented/Provided					
County/ Residence	Households	Male	Female	Intersex	Sub-Total
Kenya	12,040,701	24.5	14.2	0.0	38.7
Rural	7,376,595	8.4	5.0	0.0	13.4
Urban	4,664,106	49.9	28.8	0.0	78.7
Total					
County/ Residence	Households	Male	Female	Intersex	Total
Kenya	12,040,701	61.9	38.1	0.0	100.0
Rural	7,376,595	60.9	39.1	0.0	100.0
Urban	4,664,106	63.3	36.7	0.0	100.0

Table 2.5: Percentage Distribution of Households by Tenure Status of Main Dwelling Unit

County/Residence	KENYA	Rural	Urban
Households	12,040,701	7,376,595	4,664,106
Owner Occupied			
Purchased	1.71	1.42	2.17
Constructed	57.57	83.11	17.18
Inherited	2.01	2.05	1.95
Sub-Total	61.29	86.58	21.30
Rented/Provided			
Government	0.89	0.36	1.74
Local Authority	0.54	0.15	1.16
Parastatal	0.40	0.17	0.76
Private company	2.31	0.99	4.42
Individual	34.25	11.47	70.29
FBO/NGO/Church/ Temple/Mosque	0.31	0.29	0.34
Sub-Total	38.71	13.42	78.70
Total	100.0	100.0	100.0

Table 2.5 shows that at the national level, the majority of the owned dwelling units are constructed at 57.6 per cent, while a majority of the rented or provided dwelling units are rented or provided from Individual landlords at 34.3 per cent. In Nairobi City, the inverse is noted. The households that live in own constructed dwelling units are 5 per cent while a majority live in dwelling units rented from individuals at 79.3 per cent. A similar trend is observed in other major urban centres. Ongata Rongai has the highest proportion of households who rent from individual landlords at 79.9 per cent, followed by Nairobi City (Appendix 7).

Nationally, the least contributor to the housing stock is the FBO/NGO/Church/Temple/Mosque landlords.

Table 2.6: Trends in Households' Tenure Status of Dwelling Units

	2009		2019	
	Number	Per Cent	Number	Per Cent
National - dwelling unit ownership	5,962,209	68	7,380,158	61.3
National - dwelling unit rental	2,805,745	32	4,660,543	38.7
National - urban dwelling unit ownership	1,128,486	33.8	993,674	21.3
National - urban dwelling unit rental	2,210,231	66.2	3,670,651	78.7
National - rural dwelling unit ownership	4,832,020	89	6,386,484	86.6
National - rural dwelling unit rental	597,216	11	988,464	13.4
Nairobi - dwelling unit ownership	132,977	13.5	138,951	9.3
Nairobi - dwelling unit rental	852,039	86.5	1,355,145	90.7

Nationally, the number of households owning the dwelling units they occupy increased to 7.4 million in 2019 from 6 million in 2009, although the proportion decreased from 68 per cent to 61.3 per cent of the total households. In urban areas, the proportion of households owning the dwelling unit they occupied decreased while the proportion renting the dwelling unit they occupied increased. In the rural areas, the number of households owning the dwelling unit they occupied and the number renting the dwelling unit occupied increased.

2.4.2. Tenure characteristics and implications

Figure 2.1 illustrates the total number of habitable rooms in Kenya and within rural and urban areas. Comparatively, more urban households occupy single rooms than rural households.

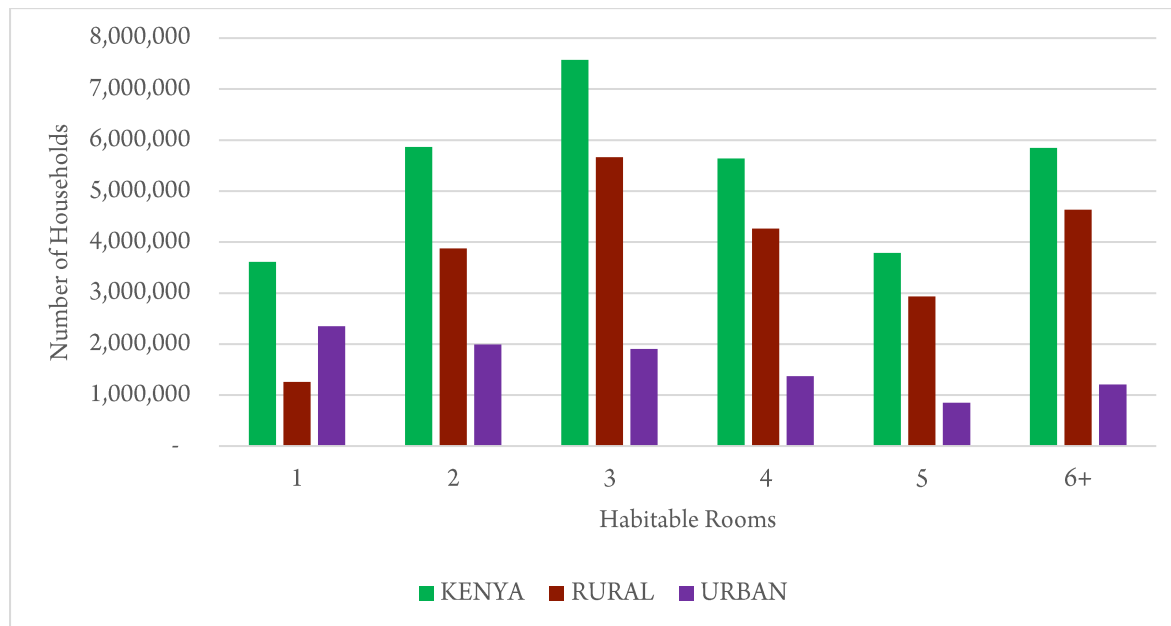
**Figure 2.1: Number of Households by Habitable Rooms and Residence**

Figure 2.2 illustrates the total number of habitable rooms in Kenya and within own and rent tenure types. 77.1 per cent of the single room occupying households in Kenya are renters. There is a trend in decreasing numbers of renting households as the number of habitable rooms increases. From the Figure, the numbers of households are normally distributed among the number of habitable

rooms; rising steadily from 1 habitable room to peak at 3 habitable rooms and then declining steadily.

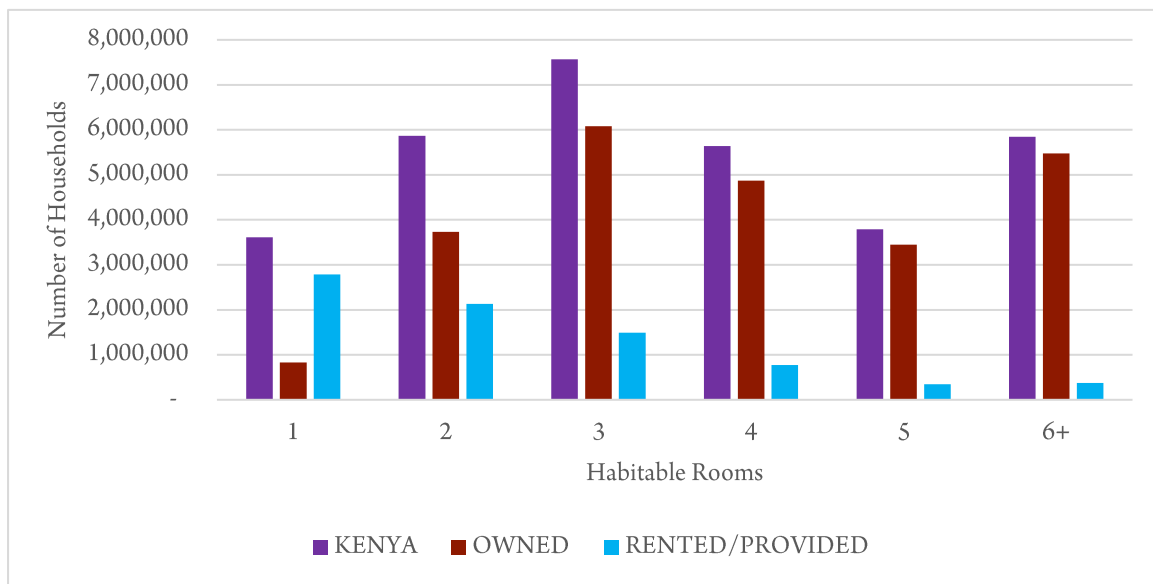


Figure 2.2: Total Number of Habitable Rooms in Owned and Rented Tenure

Chapter 3: Quality of Structure

This Chapter presents analyses on the materials used in the construction of dwelling units occupied by the households. In the 2019 Census, information was collected concerning the dominant construction material of the main dwelling unit with respect to the roof, wall and floor.

3.1. Construction materials of the main dwelling unit

The construction material used for the main dwelling unit is an indicator of the condition of the dwelling, especially whether the materials are durable or non-durable. This material can also be an indicator of the socio-economic condition of the household. Table 3.1 shows the categorization of the construction material for the roof, wall and floor based on their durability.

Table 3.1: Analytical categorization of Roof, Wall and Floor Durability

Construction Material Non-Durable		Durable
Roof	Grass thatch/twigs	Iron sheets
	Makuti thatch	Asbestos sheets
	Dung/mud	Concrete/Cement
	Tin cans	Tiles
	Canvas/Tents	Decra/Versatile
	Nylon/ Cartons/ Cardboard	Shingles
Wall	Cane/palm/trunks	Concrete/ Concrete Blocks/ Precast Wall
	Grass/reeds	Stone with lime/ cement
	Mud/cow dung	Bricks
	Plywood/ Cardboard	Timber
	Offcuts/ Reused wood/ wood planks	Prefabricated pannels
	Canvas/Tents	
	Nylon/ Cartons	
	Stone with mud	
	Covered adobe	
	Uncovered Adobe	
	Iron Sheets	
Floor	Earth/sand	Wood planks/shingles/timber
	Dung	Parquet/polished wood
	Palm/bamboo	Vinyl/asphalt strips
		Ceramic tiles
		Concrete/cement/terrazo
		Wall to wall carpet

3.1.1. Roof Material

The households in Kenya that occupy dwelling units falling under the durable materials category are 91.9 per cent. This category consists of iron sheets, asbestos sheets, concrete/cement, tiles, *decra*/versatile and shingles. According to table 3.2, iron sheets are the most dominant roofing material at 81.0 per cent in Kenya. A majority of dwelling units in Nairobi City, 99.8 per cent, are built with durable roof material.

Table 3.2: Percentage Distribution of Households by Roof Material and Residence

NON-DURABLE MATERIALS							
	Grass thatch/twigs	Makuti thatch	Dung/mud	Tin cans	Canvas/Tents	Nylon/Car tons/Cardboard	Sub-Total
Kenya	5.1	1.6	0.8	0.1	0.1	0.4	8.1
Rural	7.9	2.3	1.2	0.1	0.1	0.6	12.2
Urban	0.6	0.5	0.1	0.1	0.0	0.1	1.4
Nairobi	0.0	0.0	0.0	0.1	0.0	0.0	0.2
DURABLE MATERIALS							
	Iron sheets	Asbestos sheets	Concrete/Cement	Tiles	Decra/Versatile	Shingles	Sub-Total
Kenya	81.0	1.4	8.0	1.0	0.5	0.0	91.9
Rural	86.0	0.9	0.4	0.2	0.3	0.0	87.8
Urban	73.2	2.2	20.1	2.3	0.9	0.1	98.6
Nairobi	53.4	2.5	38.6	4.3	1.0	0.1	99.8

Adds up to 0.2 due to rounding off

0.0 indicates a negligible proportion that when rounded off results to 0.0

3.1.2. Wall Material

Households in Kenya having walls made of durable materials stand at 51.3 per cent. These durable materials comprise concrete/ concrete blocks/ precast walls, stone with lime/cement, bricks, timber and prefabricated pannels. With reference to table 3.3, mud/cow dung, a non-durable material, is the most dominant wall material at 27.2 per cent. In Nairobi City, most of the dwelling units are built with durable wall material, with the most dominant material being concrete/ concrete blocks/ precast walls at 40.9 per cent.

Table 3.3: Percentage Distribution of Households by Wall Material and Residence

NON-DURABLE MATERIALS												
	Cane/palm /trunks	Grass/reeds	Mud/cow dung	Plywood/Carboard	Offcuts/ Reused wood/w planks	Canvas/Tents	Nylon/ Cartons	Stone with mud	Covered adobe	Uncovered Adobe	Iron Sheets	Sub-Total
Kenya	0.8	1.9	27.2	0.4	1.4	0.1	0.2	3.5	2.7	1.0	9.6	48.7
Rural	1.2	2.9	40.9	0.4	1.8	0.1	0.3	4.2	3.0	1.4	6.0	62.1
Urban	0.2	0.4	5.5	0.3	0.7	0.0	0.0	2.4	2.2	0.4	15.3	27.4
Nairobi	0.0	0.0	1.5	0.2	0.2	0.0	0.0	1.1	0.8	0.1	25.0	29.0
DURABLE MATERIALS												
	Concrete/ cast Wall	Concrete Blocks/Pre t	Stone with lime/cement	Bricks	Prefabricated pannels	Timber	Sub-Total					
Kenya	16.6	16.8	10.2	7.7	0.0	0.0	51.3					
Rural	6.9	8.6	11.2	11.2	0.0	0.0	37.9					
Urban	31.9	29.9	8.5	2.3	0.0	0.0	72.6					
Nairobi	40.9	27.2	2.5	0.4	0.1	0.0	71.0					

3.1.3. Floor Material

According to table 3.4, households in Kenya living in dwelling units with floors made of durable materials stand at 56.4 per cent. These durable materials comprise wood planks/ shingles/timber, parquet/ polished wood, vinyl/ asphalt strips, ceramic tiles, concrete/ cement/ terrazzo and wall to wall carpet. Nationally, the most dominant floor material is concrete/ cement/ terrazzo at 43.7 per cent. In Nairobi City, the majority of the dwelling units are built with durable floor material, with the most dominant material being concrete/cement/ terrazzo at 62.6 per cent.

Table 3.4: Percentage Distribution of Households by Floor Material and Residence

NON-DURABLE MATERIALS					DURABLE MATERIALS						
Earth/sand	Dung	Palm/bamboo	Sub-Total		Wood planks/shingles/timber	Parquet/polished wood	Vinyl/asphalt strips	Ceramic tiles	Concrete/cement/terrazzo	Wall to wall carpet	Sub-Total
Kenya	30.1	13.4	0.1	43.6	0.4	0.3	0.1	10.3	43.7	1.5	56.4
Rural	42.4	21.1	0.1	63.5	0.4	0.1	0.1	3.8	31.3	0.7	36.5
Urban	10.6	1.4	0.0	12.0	0.4	0.7	0.3	20.6	63.3	2.8	88.0
Nairobi	6.2	0.1	0.0	6.3	0.6	1.4	0.4	25.4	62.6	3.2	93.7

3.2. Implications for housing policy

The results show that the majority of the households in Kenya use iron sheets for the roof. A significant proportion of households use mud/cow dung, a non-durable material, for the wall. Concrete/cement, which is durable, is the dominant material for the floor with earth/sand, a non-durable wall material, also having a significant proportion. As part of the efforts to achieve affordable and quality housing, the Government should ensure that construction materials sourced locally are affordable and of good quality.

Chapter 4: Amenities and Household Assets

Access to good social amenities is linked to the state of other development areas. These include better health and a reduction in morbidity and mortality due to diseases and better education outcomes and employee productivity due to decreased incidence of diseases. Spatial differences in access to social amenities often lead to migration from rural to urban areas. The development of rural areas constitutes an important element in the rapid development and modernization for policymakers and governments, given that the majority of the population still live in rural areas. Access to social amenities is linked to the development of physical infrastructure. These include the development of social amenities such as health facilities, markets and schools; and physical infrastructures such as electricity, sewer and piped water. This Chapter presents statistics on access to selected social amenities.

4.1. Household's main source of water

Sources of water are generally categorized as improved or unimproved water sources. These categories are broadly also referred to as protected and unprotected sources. Unimproved sources are those with no barrier or other structure to protect the water from contamination. These are presented in Table 4.1. They include surface water sources, such as lakes, rivers and streams, wells and springs that are not protected. In addition, water vending is categorized as an unimproved water source since its safety cannot be guaranteed.

Table 4.1: Analytical Categories of Main Sources of Water

Improved	Protected Well
	Protected Spring
	Borehole/Tube well
	Piped into dwelling
	Piped to yard/plot
	Bottled water
	Rain/Harvested water
	Public tap/Standpipe
Unimproved	Unprotected Well
	Unprotected Spring
	Pond
	Dam
	Lake
	Stream/River
	Water Vendor

Figure 4.1 shows that access to improved sources of drinking water has increased over the last ten years from 56.1 per cent to 64.8 per cent in 2009 and 2019, respectively. The gap between rural and urban areas still exists although it has been reduced over the decade. In the 2009 Census, 78.9 per cent of urban households had access to an improved water source compared to 55.9 per cent

for rural households. These national averages also mask major disparities in access to improved water sources across counties (Appendix 15).

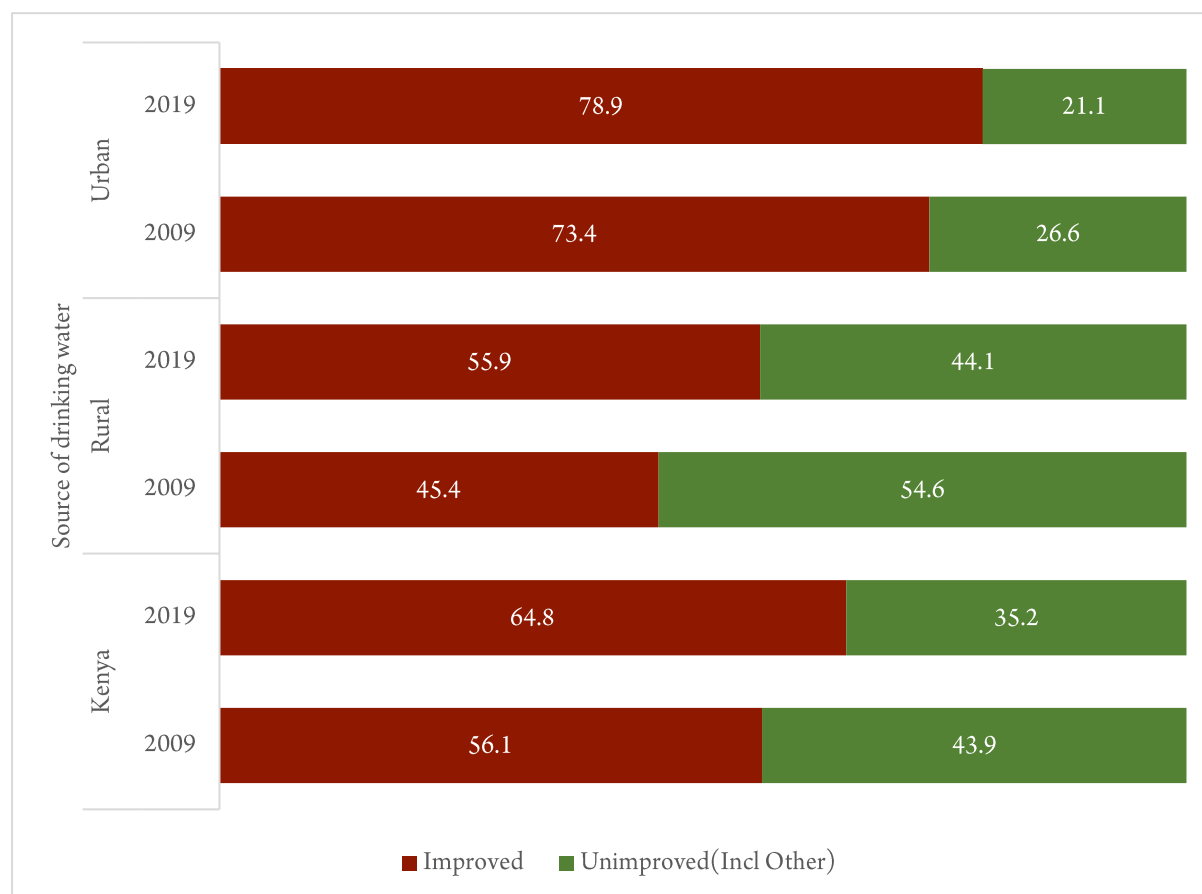


Figure 4.1: Percentage distribution of households by the main source of drinking water

Table 4.2 shows that the most commonly used improved sources in rural areas are boreholes (11.8 per cent) and protected well (10.5 per cent) compared to high access to piped water in urban areas. The higher use of piped water in urban areas is associated with better institutional arrangements for water delivery, management and possibilities for collective infrastructure, compared to rural areas. However, in the 2009 Census, 16.7 per cent of urban households reported the use of water vendors. This source is considered an unimproved water source due to the risks of contamination in handling and transportation. In rural areas, stream/river was the most commonly used unimproved water source as reported by 25.8 per cent of households.

Table 4.2: Percentage distribution of households by the main source of water

Source by Type	Residence		
	Kenya	Rural	Urban
Total Households	12,040,701	7,376,595	4,664,106
Improved	64.8	55.9	78.9
Protected Well	7.1	10.5	1.8
Protected Spring	7.0	9.0	4.0
Borehole/Tube well	9.9	11.8	6.8
Piped into dwelling	10.1	5.1	18.1
Piped to yard/plot	14.1	7.8	23.9
Bottled water	2.8	0.3	6.7
Rain/Harvested water	3.9	5.0	2.0
Public tap/Standpipe	9.9	6.4	15.6
Unimproved	35.2	44.1	21.1
Dam/Lake	3.3	4.9	0.8
Pond	1.6	2.4	0.2
Stream/River	16.8	25.8	2.6
Unprotected Spring	2.4	3.7	0.3
Unprotected Well	2.6	4.0	0.5
Water Vendor	8.5	3.3	16.7

The SDG target 6.1 aims to achieve universal and equitable access to safe and affordable drinking water for all. It aims to achieve universal and equitable access, which means providing access to 100 per cent of the population. In 2019, the number of individuals with access to improved sources of water for household use stood at 61.6 per cent of the population, with access lower in rural areas at 54 per cent compared to 78.6 per cent in urban areas (Table 4.3).

Table 4.3: Percentage distribution of the population by the main source of water

Source by Type	Residence		
	Kenya	Rural	Urban
Total Population	47,105,234	32,551,929	14,553,305
Improved	61.6	54.0	78.6
Protected Well	8.0	10.7	2.1
Protected Spring	7.7	9.0	4.7
Borehole/Tube well	10.8	12.4	7.2
Piped into dwelling	8.9	4.4	19.2
Piped to yard/plot	11.2	6.5	21.8
Bottled water	2.2	0.2	6.4
Rain/Harvested water	3.8	4.4	2.3
Public tap/Standpipe	9.1	6.4	15.0
Unimproved	38.4	46.0	21.4
Pond	2.2	3.0	0.3
Dam/Lake	4.3	5.7	1.2
Stream/River	19.0	26.1	3.0
Unprotected Spring	2.8	3.8	0.3
Unprotected Well	3.3	4.4	0.8
Water Vendor	6.9	2.9	15.8

4.2. Modes of Waste Disposal

Broadly, sanitation deals with the safe collection, storage, treatment, disposal, reuse or recycling of human excreta (faeces and urine), as well as the drainage, disposal, recycling and reuse of waste and stormwater, and solid household and industrial waste. The lack of access to improved water and sanitation is a major contributing factor to high morbidity and mortality rates through increased vulnerability to water-borne diseases, including diarrhoea. Diarrhoea and enteric disease burden are associated with poor access to adequate sanitation facilities. Lack of adequate sanitation through improper waste disposal and use of contaminated water often leads to deadly diseases including typhoid and diarrhoea.

SDG goal number 6, indicator 6.2 seeks to monitor access to adequate and equitable sanitation and hygiene for all and end open defecation by the year 2030. This section highlights indicators on human and solid waste disposal.

4.2.1. Human Waste Disposal

Table 4.4: Analytical Categories of Main Modes of Human Waste Disposal

Category	Main Mode
Improved(Adequate)	Main Sewer
	Septic tank
	Cess pool
	VIP Pit Latrine
	Pit latrine covered
	Bio-septic tank/Biodigester
Unimproved(Inadequate)	Pit Latrine uncovered
	Bucket latrine
	Open/Bush

Table 4.4 shows the categorization of the main modes of human waste disposal into two categories of improved and unimproved. Nationally, 82.5 per cent of households had access to an improved sanitation facility for human waste disposal (Figure 4.2). In other words, 8 out of 10 households have access to improved sanitation. However, there were slight disparities between regions with 24.5 per cent and 6.5 per cent of households in rural and urban households using unimproved ways of human waste disposal, respectively.

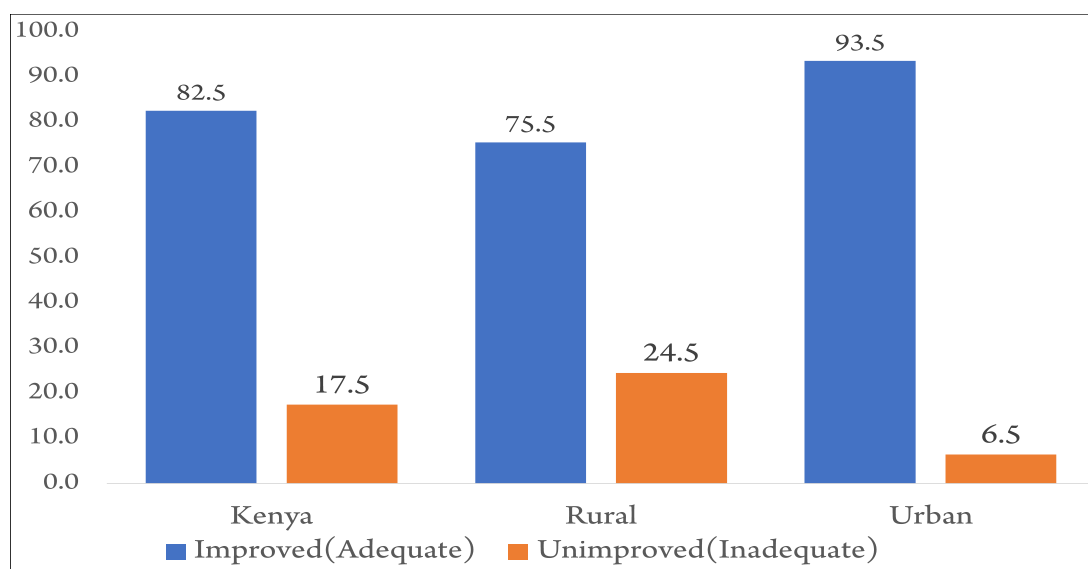


Figure 4.2: Percentage Distribution of Households by Main Mode of Human Waste Disposal

Open defecation, an unimproved mode of human waste disposal, was reported by 7.4 per cent of households with the proportion being significantly higher in rural areas at 11.5 per cent (Table 4.5). This could be partly due to either lack of latrines or having difficulties in accessing latrines. Lack of latrines also forces a number of people from some households to rely on facilities owned by their neighbours. These national averages on human waste disposal hide the dire situation in some counties (Appendix 17).

Table 4.5: Proportion of Households by Main Mode of Human Waste Disposal

	Region	Kenya	Rural	Urban
Improved	No. of households	12,040,701	7,376,595	4,664,106
	Main Sewer	9.74	0.32	24.62
	Septic tank	9.23	1.71	21.12
	Cess pool	0.31	0.14	0.57
	VIP Pit Latrine	11.90	11.53	12.49
	Pit latrine covered	51.17	61.76	34.41
	Bio-septic tank/Biodigest	9.37	12.48	4.44
	Sub-total	82.51	75.53	93.54
Un-improved	Pit Latrine uncovered	9.37	12.48	4.44
	Bucket latrine	0.76	0.47	1.22
	Bush	7.37	11.52	0.80
	Sub-Total	17.49	24.47	6.46

4.2.2. Sharing of Human Waste Disposal Facilities

The sharing of disposal facilities is common among households that use latrines (VIP, covered, uncovered or bucket). The urban-rural disparities in sanitation are significant, in part to the high proportion of informal settlements in urban areas. Nationally, 49 per cent of households that use latrines share the facilities with other households. However, the proportion is greater in urban areas, at 78 per cent. However, it is distinctly higher for Nairobi City at 90 per cent and in major urban centres where it is 77.3 per cent (Figure 4.3).

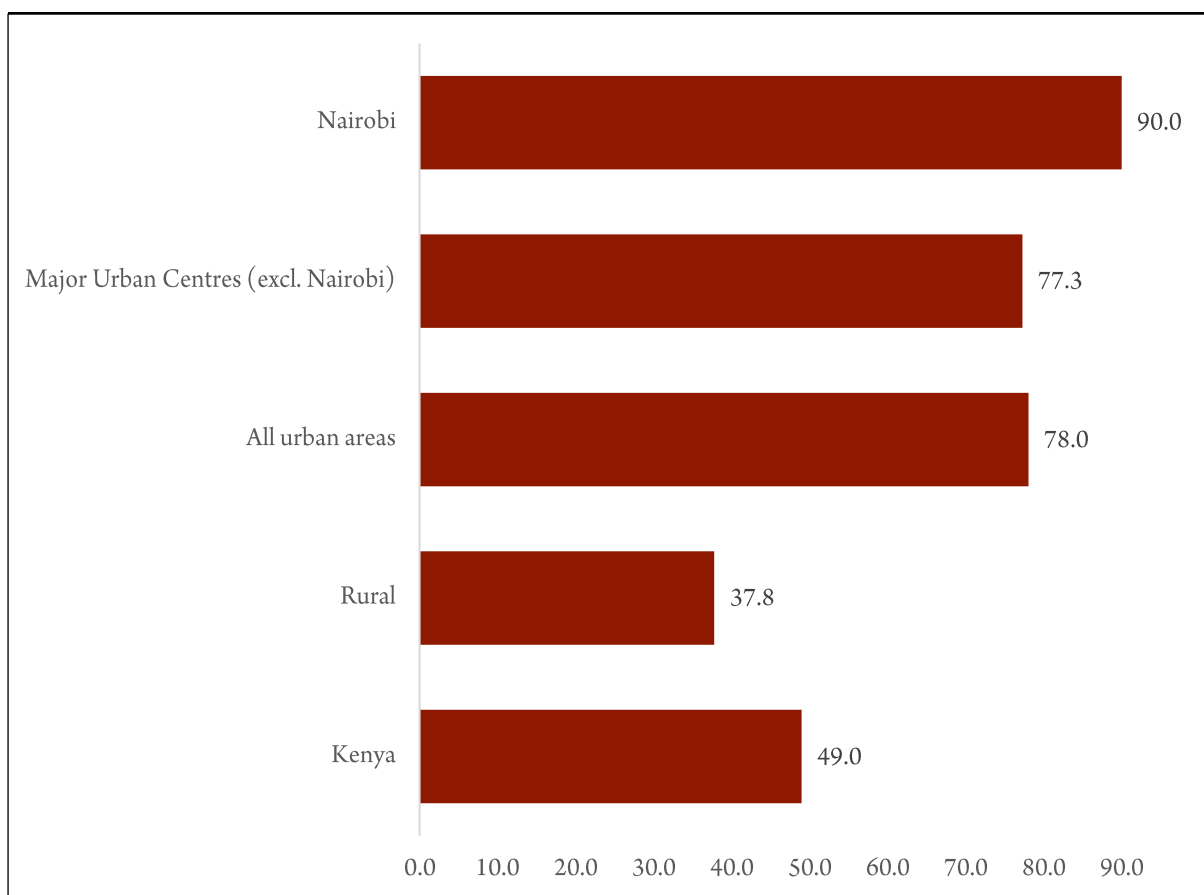


Figure 4.3: Proportion of households using latrines who share the facilities

4.2.3. Solid Waste Disposal

Solid waste management is a global issue in terms of environmental contamination, social inclusion and economic sustainability. In developing countries with rapid urbanization, unsustainable management of solid waste is common. The causes of poor solid waste disposal include high population growth in urban centres, lack of legislation, enforcement, policies and long-term planning, limited collection, lack of proper disposal facilities and lack of appropriate technology and equipment. The most common method of solid waste disposal in Kenya is burning in the open, disposing in a compost pit, and burning in a pit. This was reported by 27.1 per cent, 18.4 per cent and 14.9 per cent of households, respectively (Figure 4.4).

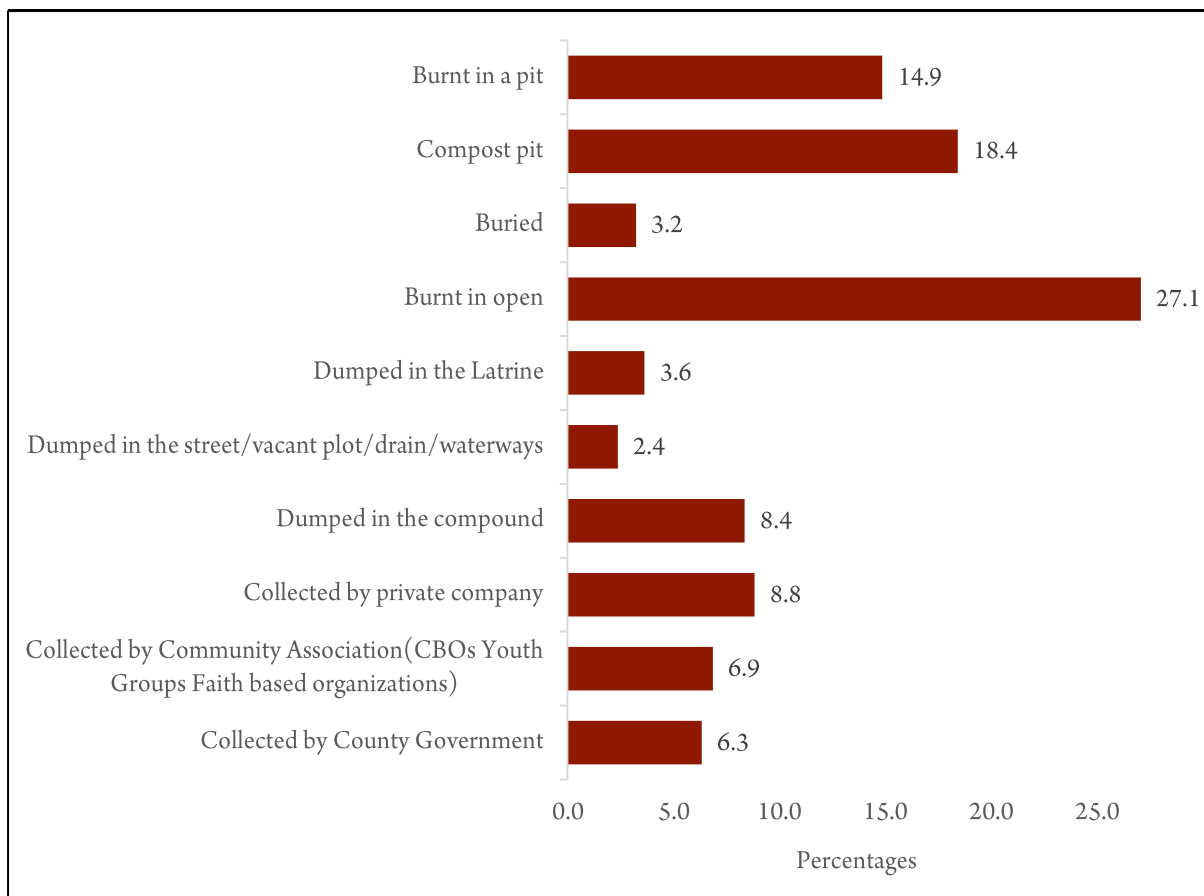


Figure 4.4: Percentage distribution of the main method of solid waste disposal

There are marked differences between rural and urban areas in the disposal of solid waste, based on figure 4.5. This is due to challenges in waste management, the amount of waste generated and the availability of waste management facilities such as dumping sites. In urban areas, collection of waste by private companies, community associations and county governments are commonly used by 21.8 per cent, 17.5 per cent and 15.3 per cent, respectively. On the other hand, burning solid waste in the open and compost pit are the most common methods, and are used by 33.7 per cent and 25.1 per cent of rural households, respectively.

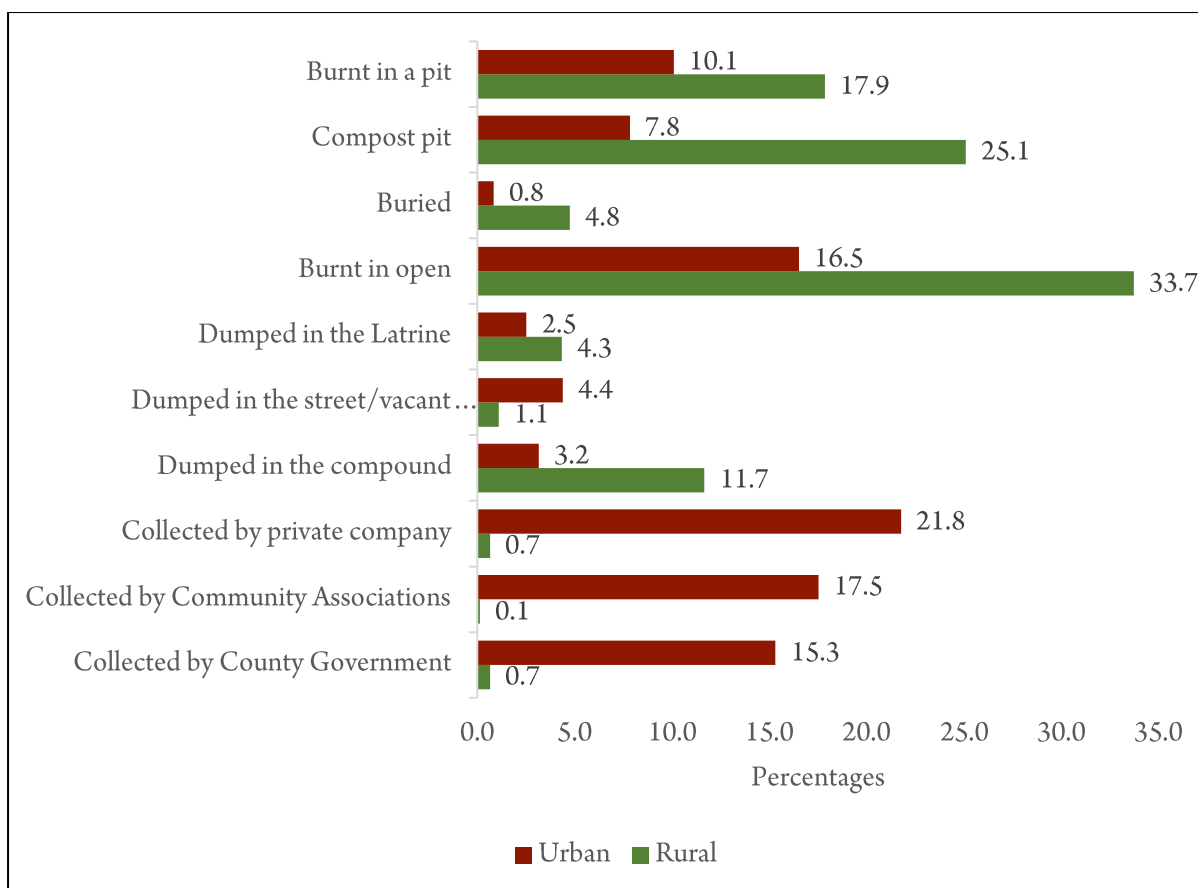


Figure 4.5: Main method of solid waste disposal by region

4.3. Cooking and lighting fuel

Access to energy is a requirement for most aspects of human life and is recognized as a basic human need. Energy supply is a critical infrastructure on which the socio-economic development of the country depends. The cost of energy is particularly important for rural areas for inclusive development, while clean sources enhance health outcomes. The reliability of the electricity supply is also crucial for the growth of the service sector. Low levels of electrification and other forms of networked energy provision resulting from economic constraints and inefficient institutions affect living conditions thus affecting the wellbeing of households.

4.3.1. Sources of cooking fuel

The source of energy is an essential element for the socio-economic development and wellbeing of the population. The provision of affordable, reliable, clean and sustainable energy services is important in addressing modern challenges such as climate change, reduction of poverty and inequalities and food security. Types of cooking fuel are generally categorized as clean (smokeless) and unclean (dirty) sources (Table 4.6).

Table 4.6: Analytical categorization of the main type of cooking fuel

Category	Type of Fuel
Clean (Smokeless)	Electricity
	LPG (gas)
	Biogas
	Solar
Dirty (Smoky)	Firewood
	Charcoal
	Paraffin

The most common types of fuel used for cooking by households are unclean sources, notably firewood, charcoal, and paraffin, at 55.2 per cent, 11.6 per cent and 7.8 per cent, respectively (Table 4.7). The use of firewood as cooking fuel by households is high in rural areas at 84.2 per cent. This often poses environmental challenges including increased deforestation and desertification. In urban areas, 53 per cent of households use Liquefied Petroleum Gas (LPG) as the main type of cooking fuel. Other commonly preferred cooking fuels by urban households include charcoal and paraffin both at 17.7 per cent.

Table 4.7: Proportion of Households by Main Type of Cooking Fuel

	Clean					Unclean			
	Electricity	LPG (gas)	Biogas	Solar	Sub-total	Firewood	Charcoal	Paraffin	Sub-total
Kenya	0.8	23.9	0.5	0.2	25.4	55.2	11.6	7.8	74.6
Rural	0.3	5.6	0.3	0.2	6.5	84.2	7.7	1.6	93.5
Urban	1.6	53.0	0.7	0.0	55.3	9.3	17.7	17.7	44.7

4.3.2. Sources of lighting fuel

From the 2019 census, 50.5 per cent of households in Kenya used mains electricity for lighting, with its use significantly higher in urban areas at 88.6 per cent compared to rural areas at 26.5 per cent. The second most commonly used source of lighting was solar in both urban and rural areas (Figure 4.6). The off-grid solar energy industry has increased access to these alternatives, reducing reliance on expensive, hazardous, and polluting sources of lighting such as candles and paraffin.

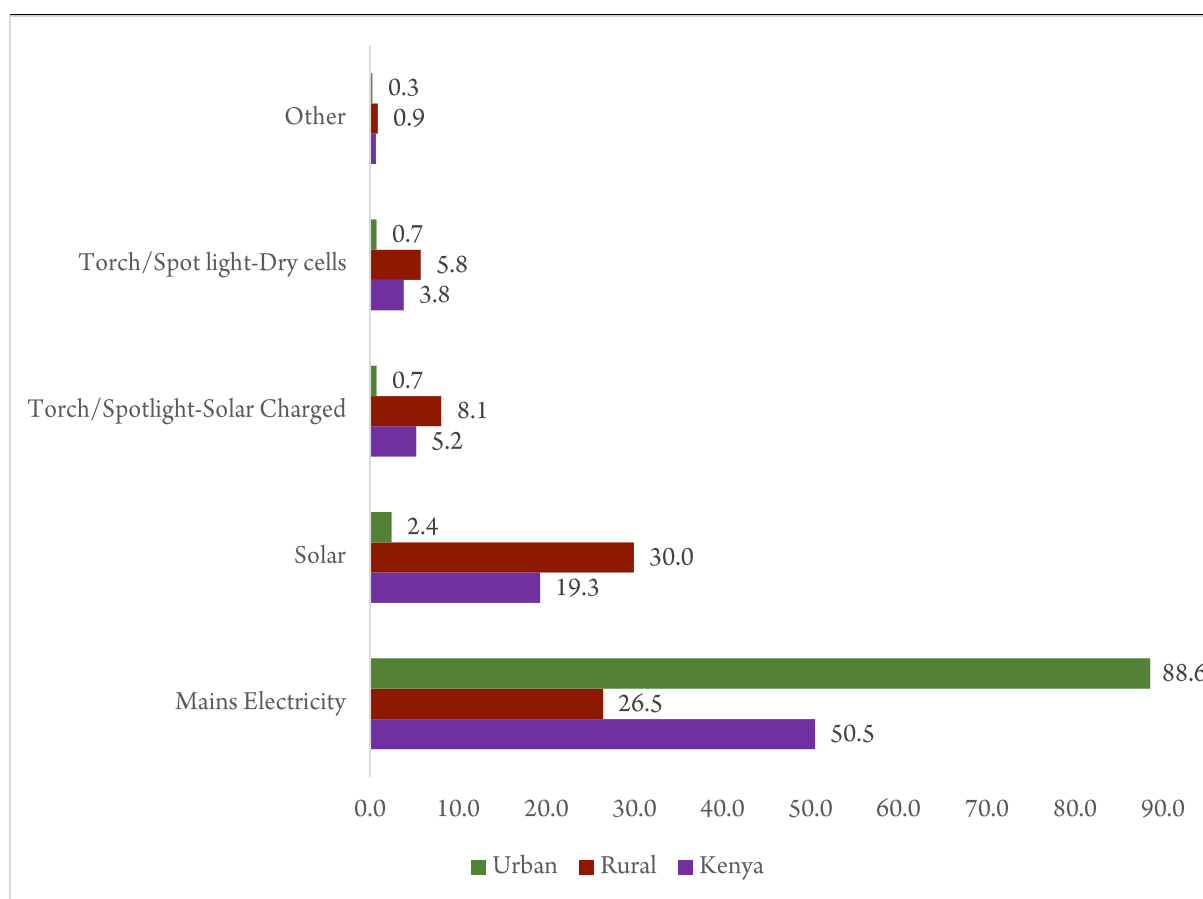


Figure 4.6: Distribution of households by the main type of lighting

Trends in household use of different sources of lighting indicate increased use of cleaner sources of energy for lighting. Notably, according to table 4.8, the use of electricity more than doubled between 2009 and 2019. The increase was significantly higher in rural areas from 5.2 per cent in 2009 to 26.5 per cent in 2019, as a result of expansion in the rural electrification program.

Table 4.8: Distribution of households by the main type of lighting fuel 1989, 1999, 2009 and 2019

	Electricity				Paraffin				Other			
	1989	1999	2009	2019	1989	1999	2009	2019	1989	1999	2009	2019
KENYA	8.7	13.6	22.7	50.5	81.3	79.1	69.5	16.4	10	7.3	7.8	33.0
Rural	1.9	4.2	5.2	26.5	86.2	87	83.7	23.6	11.9	8.8	11.1	50.0
Urban	32.1	42.1	51.2	88.6	64.3	55.3	46.4	5.1	3.6	2.6	2.4	6.3

4.4. Ownership of household assets

Household ownership of various assets plays an important role in reducing vulnerability, through mitigating the effects of shocks and smoothing consumption patterns. This is an important element in dimensions of both chronic and transient poverty. Assets influence what households can achieve, in terms of income and other socioeconomic outcomes. Households with more and variable assets are better able to participate in economic activities and increase their income levels.

4.4.1. Ownership of ICTs and Equipment

The Kenya *Vision 2030* identifies the Information, Communication and Technology (ICT) sector as an enabler towards the realization of a knowledge-based economy and achievement of broad-based development. A stand-alone radio was the most common asset by 57.0 per cent of households (Figure 4.7). Other commonly held assets by rural and urban households include television sets with set-top-boxes or decoder.

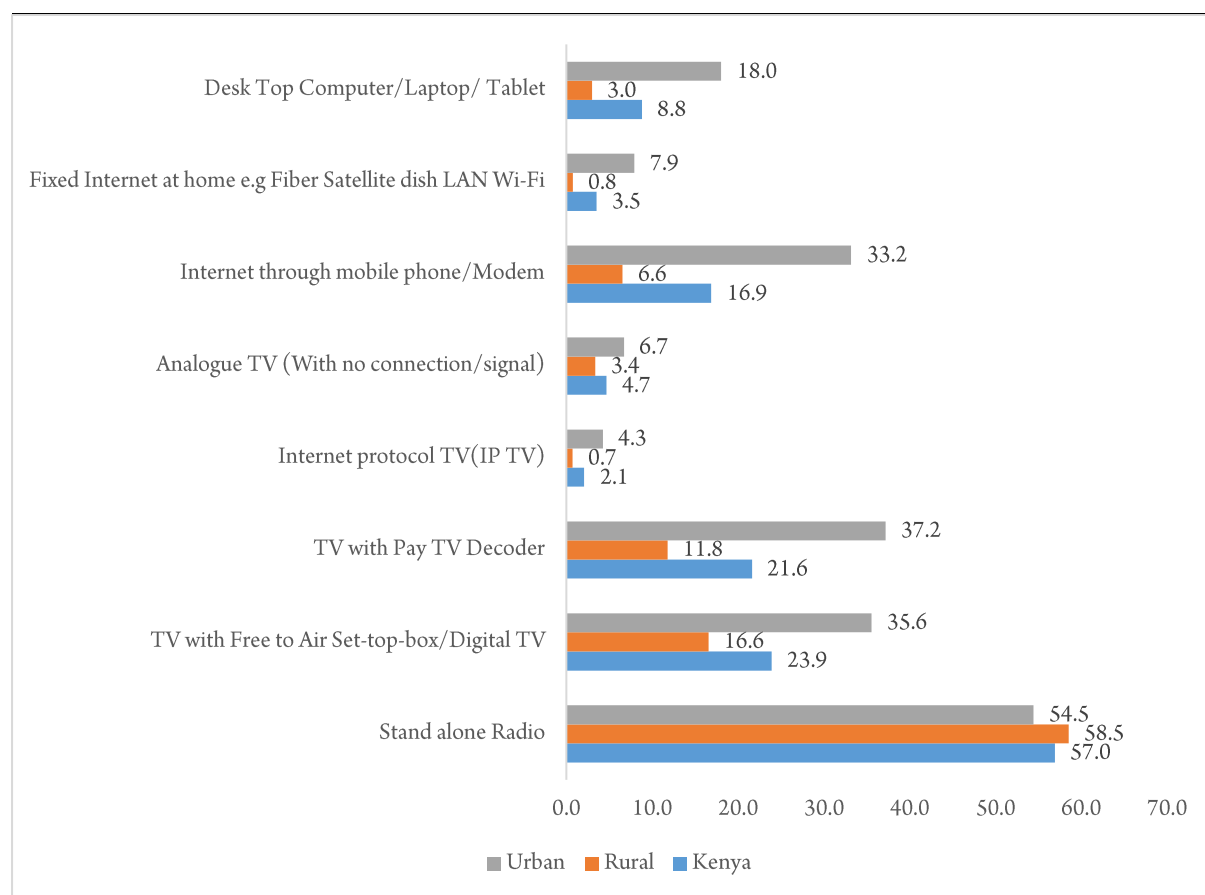


Figure 4.7: Ownership of Information Communication Technologies (ICTs) and Equipment

4.4.2. Ownership of other household assets

A bicycle was the most commonly held other asset by households at 15 per cent compared to a motor vehicle at 6.3 per cent (Table 4.9). More male-headed households reported ownership of a car compared to female-headed households at 7.4 per cent and 4.6 per cent, respectively (Table 4.10).

Table 4.9: Percentage of households' ownership of other assets

Region	Kenya	Rural	Urban
No. of households	12,040,701	7,376,595	4,664,106
Bicycle	15.0	15.6	13.9
Motor Cycle	9.2	10.8	6.7
Car	6.3	3.5	10.8
Truck/Lorry/Bus/Three Wheeler truck	0.9	0.7	1.2
Refrigerator	8.9	2.4	19.1
Motor boat	0.4	0.4	0.4
Animal Drawn cart	1.9	2.7	0.8
Canoes	0.4	0.4	0.3
Tuk Tuk	0.5	0.4	0.7
Tractor	0.6	0.6	0.5
Ox-plough	5.1	7.8	0.9

Table 4.10: Percentage of households' ownership of a car by sex of household head

Region	No. of households	Number of Households			Proportion by Sex of Head of Household			
		Male headed	Female headed	Intersex headed	Male headed	Female headed	Intersex headed	Total
Kenya	12,040,701	7,448,449	4,591,083	1,169	6.3	7.4	4.6	7.5
Rural	7,376,595	4,495,111	2,880,822	662	3.5	4.3	2.3	3.3
Urban	4,664,106	2,953,338	1,710,261	507	10.8	12.1	8.4	13.0

Chapter 5: Towards Adequacy of Housing Indices

Adequate housing is an object of human development pursued at local, national and international levels. It has been given impetus at the international level, by being ratified as a Human Right by Article 25 of the Universal Declaration of Human Rights and article 11 of the International Covenant on Economic, Social and Cultural Rights (ICESCR). In Kenya, the 2010 Constitution under the Bill of Rights proclaims: ‘every person has the right to; accessible and adequate housing, and reasonable standards of sanitation and; ‘clean and safe water in adequate quantities as part of Economic and Social Rights.

Apart from the constitutional underpinning, adequate housing is a prominent feature of the National Housing Policy of 2004 and the revised version of 2016. The policy document defines adequate housing as: “Shelter with sufficient privacy; space; 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: all of which should be available at an affordable cost”.

This definition borrows from the International Covenant on Economic, Social and Cultural Rights as explained by UN-Habitat that breaks down the components of adequate housing into the following, UN Habitat (2009):

- i. *Security of tenure*: housing is not adequate if its occupants do not have a degree of tenure security that guarantees legal protection against forced eviction, harassment and other threats.
- ii. *Availability of services, materials, facilities and infrastructure*: housing is not adequate if its occupants do not have safe drinking water, adequate sanitation, energy for cooking, heating, lighting, food storage or refuse disposal.
- iii. *Affordability*: housing is not adequate if its cost threatens or compromises the occupants’ enjoyment of other human rights.
- iv. *Habitability*: housing is not adequate if it does not guarantee physical safety or provide adequate space, as well as protection against the cold, dampness, heat, rain, wind, other threats to health and structural hazards.
- v. *Accessibility*: housing is not adequate if the specific needs of disadvantaged and marginalized groups are not taken into account.
- vi. *Location*: housing is not adequate if it is cut off from employment opportunities, health-care services, schools, childcare centres and other social facilities, or if located in polluted or dangerous areas.
- vii. *Cultural adequacy*: housing is not adequate if it does not respect and take into account the expression of cultural identity.

5.1. Housing Quality Indicators

The above components and elements require enormous data (most of which were not collected in the 2019 Kenya Population and Housing Census) and indicators to report on. Therefore, this analytical report will limit itself to *housing quality* measures only, including elements of space and availability of services, materials, facilities and infrastructure: safe drinking water, adequate

sanitation, energy for cooking, heating, lighting, food storage or refuse disposal. Other measures may be implemented in future using data from other survey techniques or an improved housing census survey.

Indicators are required to measure the condition of adequate housing at local and national levels to gauge Kenya's progress towards the attainment of the goal of adequate housing. At the international level, these indicators shall be useful to monitor the world's progress in the achievement of adequate housing and attainment of SDGs and to compare Kenya with other countries.

This is the fourth analytical report on housing. The first report was published following the 1989 Kenya Population and Housing Census. The second analytical report was published in 2002 following the 1999 Kenya Population and Housing Census. Lastly, the third analytical report was published in 2012 following the 2009 Kenya Population and Housing Census. The main bodies of these analytical reports contained standalone indicators e.g., the number of households with thatched roof for the main dwelling. All the past analytical reports attempted a consolidated approach to the housing quality index.

There has been an attempt to construct a multiple-criteria housing quality index under the chapter on Consolidated Approach to Housing Quality both in the 1989 and 1999 analytical reports. This is intended for analysing the housing situation in the country and as an indicator of the standard of living of the population.

5.2. Consolidated Housing Quality Index (CHQI) for 1999 Census

A consolidated matrix was used to analyse the quality of housing following the 1999 census. The matrix included variables on construction materials and basic social amenities. The variables were given scores that are consolidated for every household, as shown in Table 5.1. The numbers in each table column except the first, represent the materials as coded in the questionnaire. Since there are seven items (roof, wall, floor, water, sewage, cooking and lighting), the top consolidated score (score 1 for each item) would be 7, while the lowest score (score 5 for each item) would be 35. The consolidated scores were aggregated and ranked. The ranking was done as follows: 1 for scores 7-11; 2 for scores 12-16; 3 for scores 17-21; 4 for scores 22-26; 5 for scores 27-31; and 6 for scores 32-35. Rank 1 was designated as high-quality housing; 2 good-quality; 3-4 average-quality; and 5-6 poor-quality.

Table 5.1: Variables for the 1999 Census Housing Quality Index

Roof Material	Code	Wall Material	Code	Floor Material	Code	Water	Code	Human Waste Disposal	Code	Cooking Fuel	Code	Lighting	Code
Tile	2	Stone		1 Tiles		2 Piped		8 Main Sewer		1 Electric		1 Electric	1
Concrete	3	Brick/ Block		2 Cement		1 Tank/ Jabias		9 Septic Tank		2 Solar		6 Solar	6
Iron	1	Mud/ Cement		4 Wood		3 Spring		5 Cess Pool		3 Gas		3 Pressur	2
Asbestos	4	Wood only		5 Earth		4 Well		6 Pit Latrine		4 Paraffin		2 Lanter	3
Grass	5	Mud/ Wood		3		Borehole		7 Bucket Lat		5 Char-c		5 Tin La	4
Makuti	6	Iron		6		Stream/ River		4 Bush		6 Fire-wood		4 Fuel W	5
Tin	7	Tin		8		Lake		3					
		Grass/ Reeds		7		Dam		2					
						Pond		1					

Table 5.2: 1999 Housing quality scores

Score	Roof	Wall	Floor	Water	Sewage	Cooking	Lighting
1	2 and 3	1 and 2	2	8 and 9	1,2 and 3	1	1 and 6
2	1 and 4	4 and 5	1	5	4	6 and 3	2
3	5 and 6	3	3	6 and 7	5	2	3
4	7	6 and 8	4	4 and 3	6	5	4
5		7		2 and 1		4	5

Source: CBS (2002).

However, the results of these scores were unsatisfactory in capturing the reality of the housing situation in Kenya. For instance, the results indicated that only 0.6 per cent of urban households live in poor-quality housing, with a majority of 66.2 per cent enjoying high- to good-quality housing.

5.3. Consolidated Housing Quality Index (CHQI) for 2009 Census

There was an attempt to improve the CHQI for the analysis of the 2009 census data on housing. The improvement involved the inclusion of space or crowding which had been ignored in the analysis of the 2009 census data. The variable ‘roof material’ was removed as it did not appropriately reflect housing disparities between urban and rural areas and between informal and formal areas within urban areas.

Table 5.3: Variables for constructing the 2009 CHQI

Space Adequacy	Structural Adequacy						Service Adequacy					
Persons per Room	Wall	Floor		Water		Human Waste Disposal		Cooking Fuel		Lighting		
	Material	code	Material	code	Source	code	Mode	code	Type	code	Type	code
1	Stone	1	Tiles	2	Piped into Dwelling	10	Main Sewer	1	Electricity	1	Electricity	1
2	Brick/ Block	2	Cement	1	Piped	11	Septic Tank	2	Solar	7	Solar	7
3	Mud/ Cement	4	Wood	3	Rain Harvested	13	Cess Poll	3	LPG	3	Gas Lamp	5
4	Wood only	5	Earth	4	Borehole	9	VIP Latrine	4	Biogas	4	Pressure Lamp	2
5	Mud/ Wood	3			Protected Well	7	Pit Latrine Covered	5	Paraffin	2	Lantern	3
6	Iron	6			Protected Spring	5	Pit Latrine Un covered	6	Charcoal	6	Tin Lamp	4
7	Tin	8			Unprotected Well	8	Bucket Latrine	7	Firewood	5	Fuel Wood	6
	Grass/ Reeds	7			Unprotected Spring	6	Bush	8				
					Tank/Jabias	12						
					Stream/River	4						
					Vendor	14						
					Lake	3						
					Dam	2						
					Pond	1						

Table 5.4: 2009 Housing quality scores

Score	Room	Wall	Floor	Water	Sewage	Cooking	Lighting
1	≤1 ppr	(1) or (2)	-2	-1	(1) or (2) or (3)	-1	(1) or (7)
2	>1 and ≤2 ppr	(4) or (5)	-1	-11	(4) or (5)	(7) or (3)	(2) or (5)
3	>2 and ≤3 ppr	-3	-3	(13) or (9) or (5) or (7) or (8) or (6) or	-6	-4	-3
4	>3 and ≤4 ppr	(6) or (8)	-4	(12) or (4) or (14) or (3) or (2) or (1)	-7	(2) or (6)	-4
5	>4 ppr	-7				-5	(6)

Therefore, in 2019, KNBS adopted an improved CHQI that utilized consolidated space adequacy, structure adequacy and service adequacy. This differed from the 1999 and 2009 CHQI. In the 1999 and 2009 CHQI analysis, there were seven items (room, wall, floor, water, sewage, cooking and lighting). Similarly, the top consolidated score (score 1 for each item) would be 7, while the lowest score (score 5 for 4 items and score 4 for 3 items) would be 32. The consolidated scores were thereafter ranked and then aggregated. Ranking was done as follows: 1 for scores 7-11; 2 for scores 12-16; 3 for scores 17-21; 4 for scores 22-26; 5 for scores 27-31; and 6 for score 32. Rank 1 had the attribute of high-quality housing; 2 good quality; 3-4 average quality; and 5-6 poor quality.

In that index, adding crowding in terms of the number of persons per room did not significantly improve the CHQI. It still gave analytical results in terms of high quality, good quality, average quality and poor quality housing. The decisions on why certain aggregates would represent a particular quality is not clear. Mere aggregation of numbers without a clear vision of what they

represent is not an adequate measure of quality. These gave results that were non-resolute and not useful in informing policymakers of the extent of housing need and areas of intervention. This is not an index the way the name may suggest. Accordingly, the adoption of the 2019 CHQI tries to remedy the 1999 and 2009 shortcomings.

5.4. Standalone and Summary Indices

The CHQI is an attempt at a summary index. However, a summary index is important in giving the overall picture but does not help in pointing out particular dimensions of housing need. A standalone index would be more useful in indicating particular dimensions of housing need. Going by good practice, many countries currently compute multiple indices to capture housing needs. For example, the EU uses the Percentage of people with indoor flushing toilets in their home and; Average number of rooms per person in a dwelling. In this analysis, KNBS used four standalone indices: Crowding Index, Fitness of Structure Index, Water and Sanitation Fitness Index and, Energy Use Fitness Index; and a summary index, Consolidated Housing Quality Index.

These indicators are defined as follows:

1. **Crowding Index:** A dwelling is considered crowded if the number of persons per room is greater than two.
2. **Fitness of Structure Index:** 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 Index:** 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 Index:** A dwelling is considered fit for habitation if occupants use smokeless fuel for both lighting and cooking.
5. **Consolidated Housing Quality Index:** A dwelling is unfit for human habitation if it is unfit for habitation under any of the single indices; crowding Index; Fitness of Structure Index; Water and Sanitation Fitness Index and; Energy Use Fitness Index.

The indices were computed by re-coding the census data as shown in Table 5.5. For crowding the dwelling space was considered fit for human habitation if the number of persons per room (NPPR) is ≤ 2 and unfit if > 2 . Secondly, a structure was considered fit for human habitation if the roof, wall and floor were made of durable materials and unfit if any material is non-durable. Thirdly, a dwelling was considered fit if both sources of drinking water and mode of human waste disposal were improved and unfit if any was unimproved. The mode of solid waste disposal did not constitute a stand-alone index but was used in computing the consolidated index. In this case, a dwelling was considered fit for human habitation if it was served by improved facilities and unfit if served by unimproved facilities. Lastly, a dwelling was considered fit for human habitation if clean energy was used for both lighting and cooking and unfit if unclean energy was used in either lighting or cooking or both. At every level, a dwelling was considered fit if it scored 1 and unfit if it scored 0. For the computation of the consolidated index, a dwelling was unfit if it scored 0 at any level. The option code column shows the number of that option based on the 2019 census questionnaire.

Table 5.5: Scorecard for dwelling fitness

Variable Name	Variable Code	Code 1 for "Fit" if:	Option Code	Else, Code 0 for "Unfit" if:	Option Code
NPPR	H28	≤2 PPR		>2 PPR	
Roof	H30	Durable		Non-Durable	
		Iron sheets	5	Grass thatch/twigs	2
		Asbestos sheets	7	Makuti thatch	3
		Concrete/Cement	8	Dung/mud	4
		Tiles	9	Tin cans	6
		Decra/Versatile	11	Canvas/Tents	10
		Shingles	13	Nylon/Cartons/Cardboard	12
Wall	H31	Durable		Non-Durable	
		Concrete/Concrete Blocks/Precast Wall	11	Cane/palm/trunks	2
		Stone with lime/cement	12	Grass/reeds	3
		Bricks	13	Mud/cow dung	4
		Timber	16	Plywood/Cardboard	8
		Prefabricated panels	17	Offcuts/Reused wood/wood planks	9
				Canvas/Tents	14
				Nylon/Cartons	15
				Stone with mud	5
				Covered adobe	6
				Uncovered Adobe	7
				Iron Sheets	10
Floor	H32	Durable		Non-Durable	
		Wood planks/shingles/timber	3	Earth/sand	1
		Parquet/polished wood	5	Dung	2
		Vinyl/asphalt strips	6	Palm/bamboo	4
		Ceramic tiles	7		
		Concrete/cement/terrazo	8		
		Wall to wall carpet	9		
Drinking Water	H33	Improved		Unimproved	
		Protected Well	7	Unprotected Well	8
		Protected Spring	5	Unprotected Spring	6
		Borehole/Tube well	9	Pond	1
		Piped into dwelling	10	Dam	2
		Piped to yard/plot	11	Lake	3
		Bottled water	12	Stream/River	4
		Rain/Harvested water	13	Water Vendor	14
		Public tap/Standpipe	15		
Human Waste Disposal	H34	Improved		Unimproved	
		Main Sewer	1	Pit Latrine uncovered	6
		Septic tank	2	Bucket latrine	7
		Cess pool	3	Open	8
		VIP Pit Latrine	4		
		Pit latrine covered	5		
		Bio-septic tank/Biodigester	9		
Solid Waste Disposal	H36	Improved		Unimproved	
		Collected by county government	1	Dumped in the compound	4
		Collected by CBOs, Youth Groups, FBOs	2	Dumped in the street/vacant plot/d	5
		Collected by private company	3		
		Dumped in the latrine	6		
		Burnt in open	7		
		Buried	8		
		Compost pit	9		
		Burnt in a pit	10		
Cooking fuel	H37	Clean		Unclean	
		Electricity	1	Firewood	5
		LPG (gas)	3	Charcoal	6
		Biogas	4	Paraffin	2
		Solar	7		
Lighting	H38	Clean		Unclean	
		Mains Electricity	1	Paraffin Pressure lamp	2
		Gas Lamp	5	Paraffin Lantern	3
		Solar	7	Paraffin Tin lamp	4
		Torch/Spotlight-Solar Charged	8	Wood	6
		Torch/Spot light-Dry cells	9	Candle	10
		Battery (Car/Charged)	11		
		Generator (Diesel/Petrol)	12		
		Biogas	13		

5.5. Dwelling Fitness Results

The results show that 38.8 per cent of households in Kenya live in crowded space with more than 2 persons per room, as presented in Figure 5.1. This crowding is worse for the urban population where 42.2 per cent of households live in crowded dwellings. At the county level, residents of Tana River, Garissa, Wajir, Mandera, Marsabit, Isiolo, Turkana, West Pokot, and Baringo counties live under crowded conditions at over 50 per cent (Appendix 34). It is important to note that these are arid and semi-arid or pastoralist counties. On the other hand, counties with the least crowding indicator are Nyeri, Kirinyaga and Muranga.

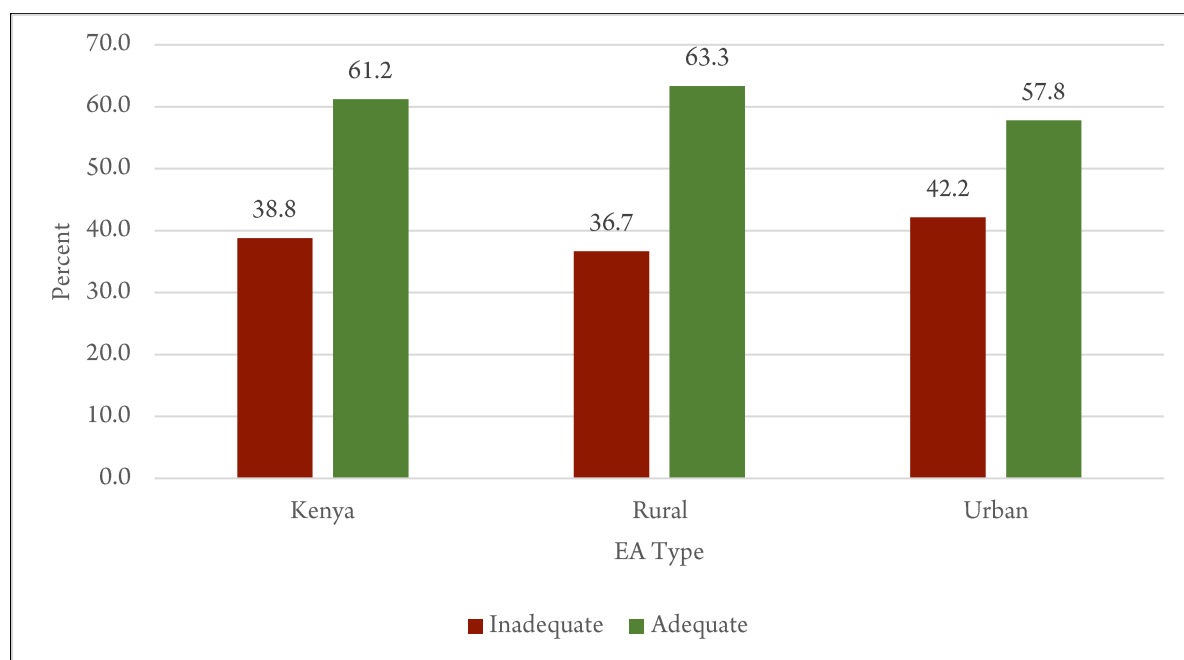


Figure 5.1: Percent of Households living inadequate or inadequate space according to number of persons per room

Concerning structure fitness, 73.9 per cent of Kenyan households in rural areas live in inadequate dwellings with non-durable materials of housing construction as presented in Figure 5.2. This is almost a reverse case when it comes to rural areas where 68.9 per cent of households live in dwellings with durable construction materials. At county levels, Wajir, Turkana and West Pokot have the worst indicators, according to Appendix 35. Further, the Table reveals that Mombasa and Nairobi are counties with the highest proportion highest proportions of households living in dwellings built of durable materials. This is possibly so because the two are counties that are 100 per cent urban. Other counties with a mix of urban and rural areas with a high score of fitness of structure include Kiambu and Machakos partly due to the benefits of urban sprawl since they neighbour Nairobi city. Other counties with good scores on this fitness indicator but far from Nairobi city are Kirinyaga and Meru.

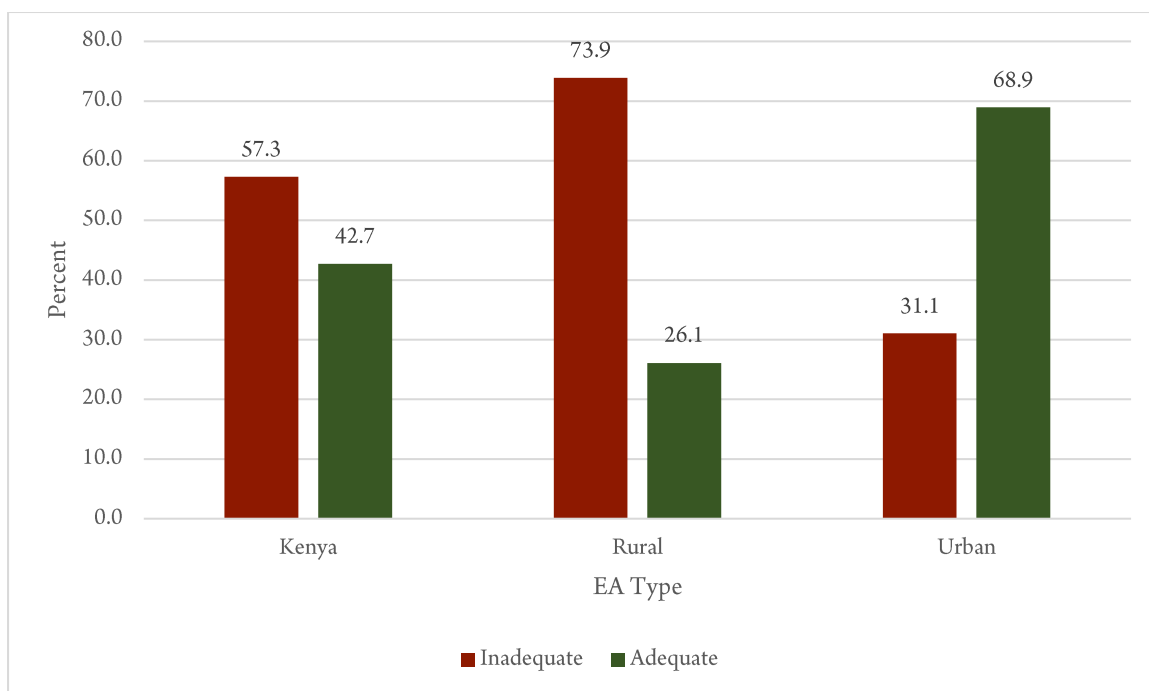


Figure 5.2: Percent of Households living in adequate or inadequate structures

For water and sanitation 58.7 per cent of rural households rely on inadequate facilities for drinking water and human waste disposal as presented in Figure 5.3. Urban areas are doing better at 69.8 per cent. At the county level, Kiambu has the best score for water and sanitation at 78.9 per cent beating Nairobi which is at 75.0 per cent (Appendix 36). Other well-performing counties include Nyeri and Uasin Gishu while the worst-performing counties are West Pokot, Samburu, Marsabit, Mandera and Wajir at less than 20 per cent. Again, it is important to note that these are arid and semi-arid or pastoralist counties.

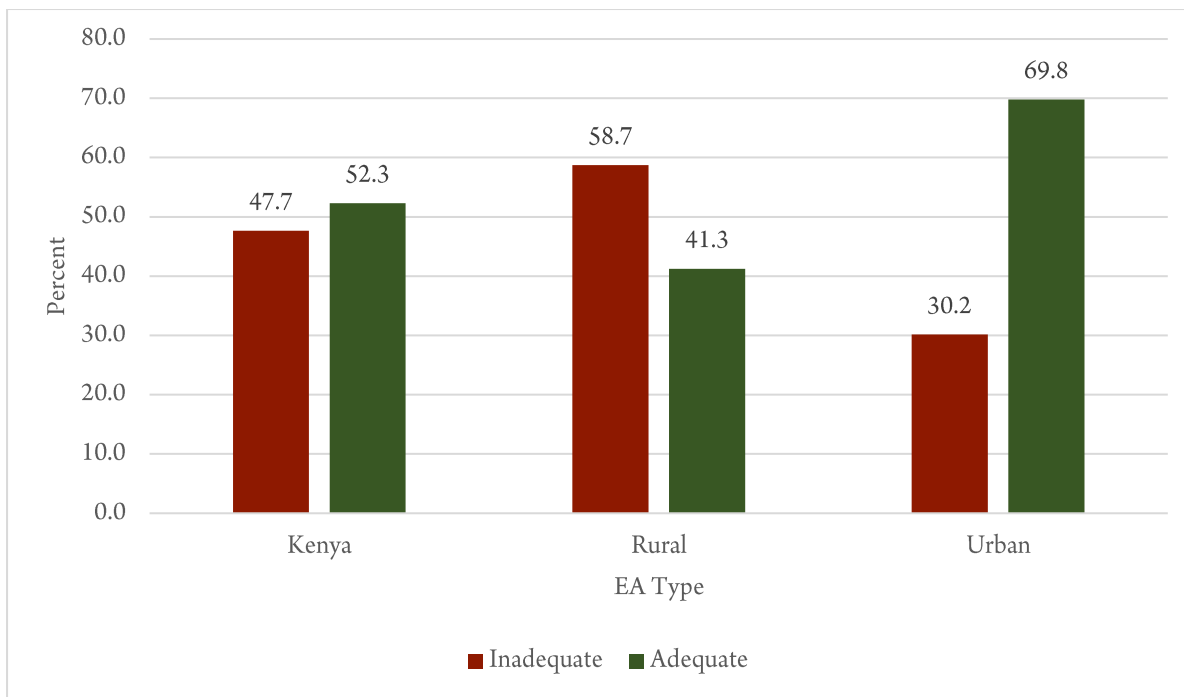


Figure 5.3: Percent of Households living in dwellings with adequate or inadequate water and sanitation

On energy fitness, 74.8 per cent of households use inadequate energy sources in their dwellings as presented in Figure 5.4. This proportion is dramatically high for households living in rural areas where it rises to 93.7 per cent. The urban scenario is almost half-half. At county levels, Nairobi and Kiambu have the highest proportion of households using clean energy at 69.9 and 59.1 per cent respectively (Appendix 37). Meanwhile, counties with the lowest proportion of households using clean energy include Kilifi, Wajir, Turkana, West Pokot, and Elgeyo-Marakwet.

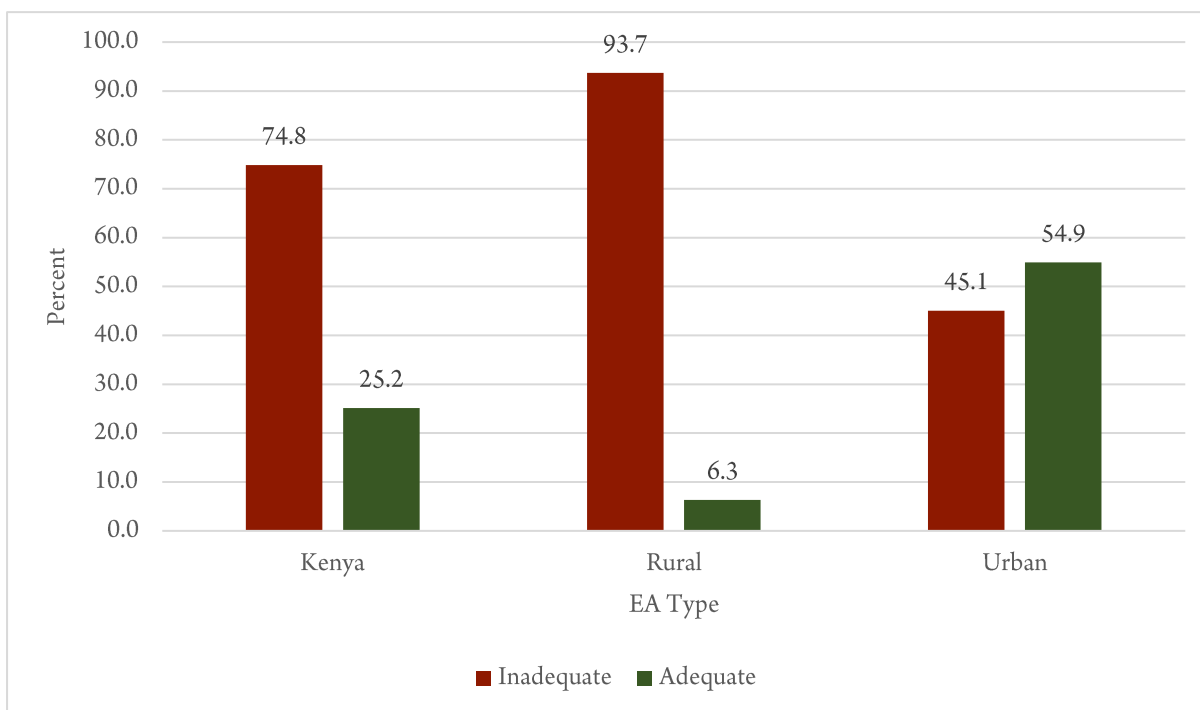


Figure 5.4: Percent of Households living in dwellings with adequate or inadequate energy use

In terms of the summary Indicator or the Consolidated Housing Quality Index, 93.6 per cent of households live in inadequate housing in terms of quality as presented in Figure 5.5. This

proportion rises to 98.5 per cent in rural areas and drops to 85.9 per cent for urban dwellers. Counties that are worse off include Tana River, Garissa, Wajir, Mandera, Marsabit, Turkana, West Pokot, Samburu and Elgeyo-Marakwet with less than one per cent of households living in dwellings that are adequate in terms of quality (Appendix 33).

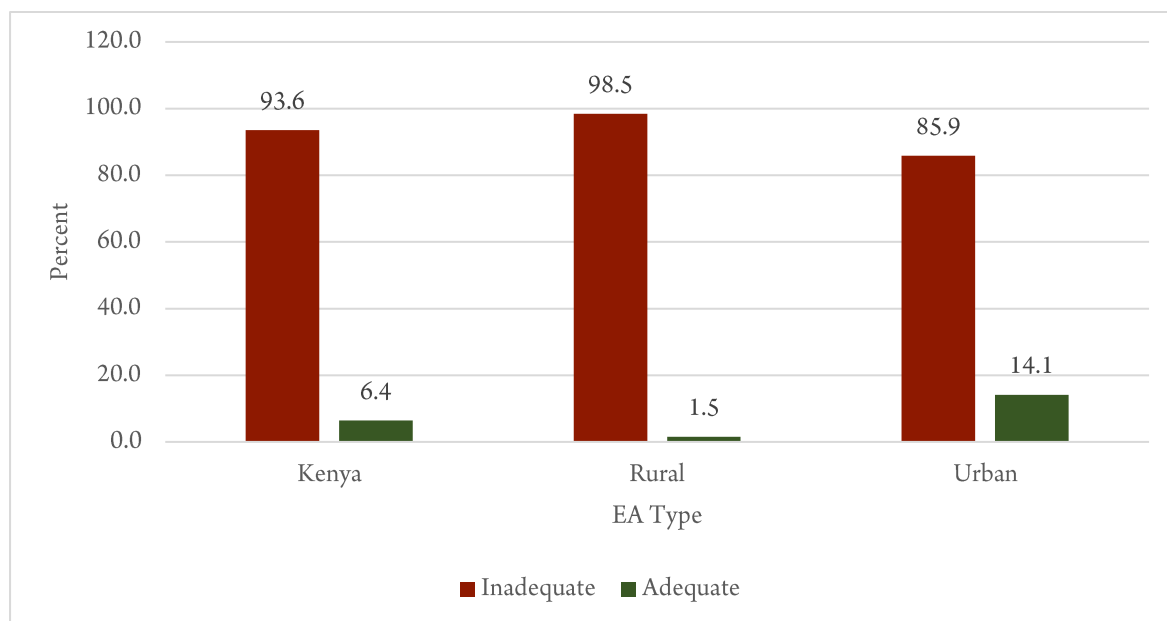


Figure 5.5: Percent of households living in adequate or inadequate housing quality

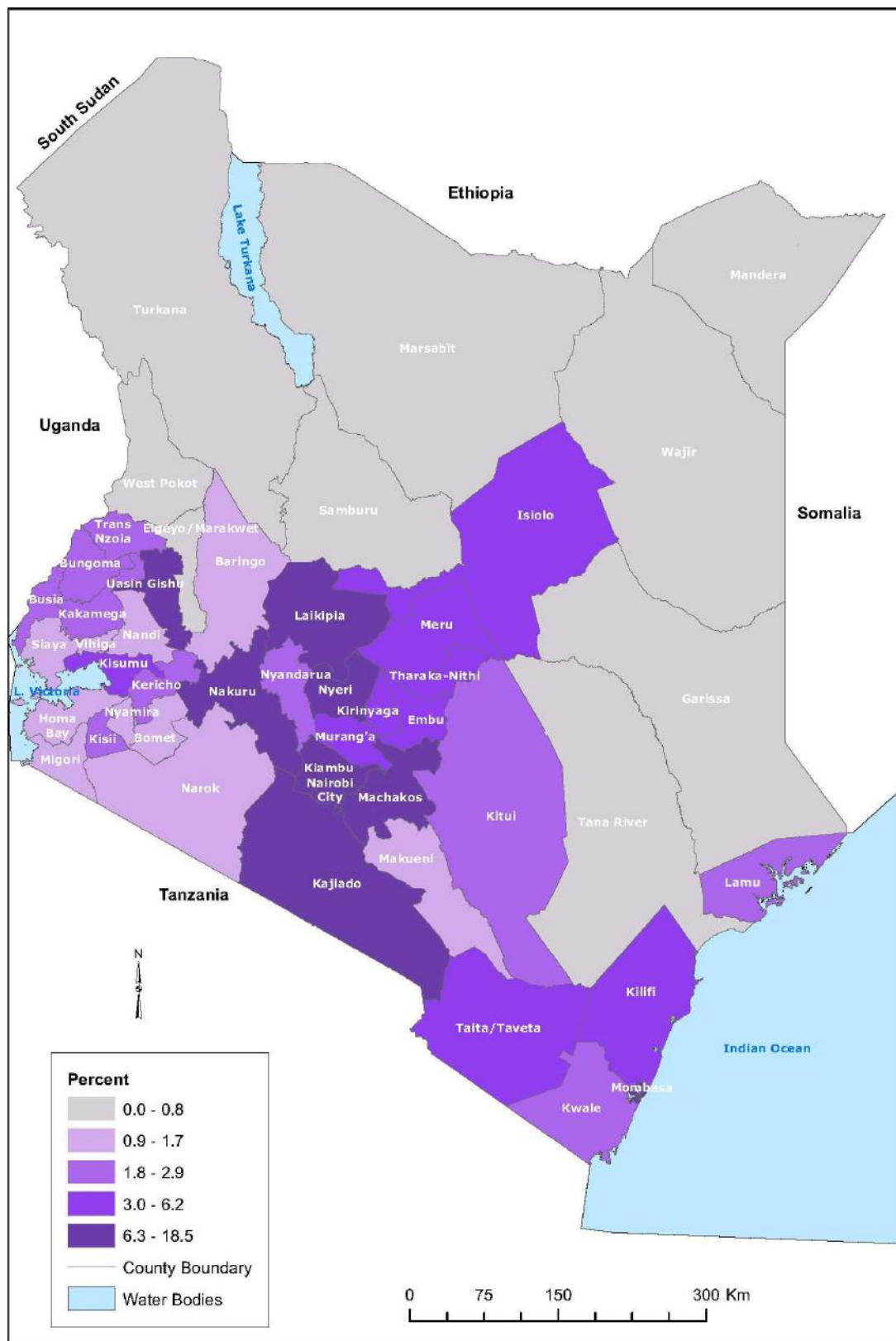


Figure 5.6: Housing Inadequacy by County in Kenya

Chapter 6: Summary, Conclusions and Recommendations

The findings of the census data on housing conditions and amenities and their interpretation are presented in Chapters 2, 3 and 4, with Chapter 5 giving an in-depth analysis of the indices pointing towards adequacy of housing in Kenya.

6.1. Summary and Conclusions

Nationally, the habitable room density index stands at 1.5 persons per room, indicating an improvement from the 2009 Kenya Population and Housing Census room density index of 1.64 persons per room. In the urban areas, the index remained constant while in the rural areas, it declined from 1.7 to 1.4 persons per room. This indicates a reduction in crowding nationally, with urban areas having a higher room density compared to the rural areas.

Concerning the dimensions of housing needs in Kenya, the housing adequacy in terms of quantity shows an approximate mean dwelling units' deficit of 8,888,626. This is higher in the urban areas where 65.6 percent of the housing units deficit falls. The national deficit has been on a downward trend over the last decade, indicating a significant increase in the number of housing units and consequently a reduction in the habitable room density nationally.

In urban areas, the proportion of households owning the dwelling unit they occupied decreased while the proportion renting the dwelling unit they occupied increased. In the rural areas, the number of households owning the dwelling unit they occupied and the number renting the dwelling unit occupied increased. It is expected that the Government through its target of affordable housing in the Big Four Agenda will empower Kenyans to construct or buy the houses they live in.

Key highlights concerning the building materials indicate that nationally, 91.9 per cent of households occupy dwelling units with durable roofs, with this proportion higher in the urban areas. This is good but the situation for walls and floors is not as good; only 51.3 per cent of households live in dwelling units with durable walls while 56.4 per cent of households live in dwellings with durable floors. This implies that there is need to improve the conditions of walling and floor material within the housing units in the country.

Concerning housing amenities, access to improved sources of water has increased over the last ten years from 56.1 per cent to 64.8 per cent in 2009 and 2019, respectively. In the urban areas, a majority of the households rely on piped water with majority of rural households relying on water from streams or rivers. The gap in access to improved water sources between rural and urban areas still exists although it has reduced over the past decade.

With regard to human waste disposal and solid waste disposal, 82.5 per cent and 89.2 per cent of households have access to improved modes, respectively. Common types of fuel in Kenya used for cooking by households are unclean sources, notably firewood, charcoal, and paraffin at 55.2 per cent, 11.6 per cent and 7.8 per cent, respectively. About half of the households in Kenya use mains electricity for lighting, with its use significantly higher in urban areas at 88.6 per cent compared to rural areas at 26.5 per cent.

The Consolidated Housing Quality Index(CHQI) is a measure of housing adequacy that is a summary of four standalone indices: Crowding Index, Fitness of Structure Index, Water and

Sanitation Fitness Index and Energy Use Fitness Index. The 2019 CHQI shows that 93.6 per cent of households live in inadequate housing in terms of quality. This statistic cannot be directly compared to earlier census findings, which had used a different variation of the CHQI, indicating that in 2009, 86.7 per cent of households lived in moderate to poor housing conditions. However, outcomes from the four distinct standalone indices indicate that the gap between adequacy and inadequacy is not profound. Accordingly, any interventions need to lay greater focus on the standalone indices. That notwithstanding, the quality of housing is generally poor.

6.2. Recommendations

6.2.1. Recommendations for Future Censuses

Some of the choices on construction materials that were combined in the census questionnaire bear characteristics that are not similar, while some that had similar or minimal differences in characteristics were offered as separate options. In future censuses, great care should be taken to ensure options are clear. This will facilitate more precise computing in the analysis of materials used.

Apart from capturing data on the availability of amenities for households such as availability of water points and electricity connection, it may be important to capture the reliability of such services. Other indicators for the quality of housing, such as the distance of the dwelling units from adequate social amenities and infrastructure such as schools, health facilities, markets, water and sewerage mains and electricity mains, will need to be captured in future censuses.

6.2.2. Policy Recommendations

Under policy, there is a need for the national and county governments to expend more resources on programmes that enable the low-income households to access housing, basic services and infrastructure necessary for a healthy living environment. Policies should target enhancing the use of more durable materials for wall and floor construction.

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Appendix 1: Questionnaires

44

C. Information Regarding Persons with Disabilities in Being Activities in Being (P-4)										D. Information Regarding Education Attainment										E. Career History Participation (7-10 years and above)										F. Information Regarding P.E.									
To be filled of persons aged 1 year and above except (P-4)										To be filled of persons aged 1 year and above except (P-4)										To be filled of persons aged 1 year and above except (P-4)										To be filled of persons aged 1 year and above except (P-4)									
To be filled of persons aged 1 year and above except (P-4)										To be filled of persons aged 1 year and above except (P-4)										To be filled of persons aged 1 year and above except (P-4)										To be filled of persons aged 1 year and above except (P-4)									
1. Type of disability 2. Nature of disability 3. Degree of disability 4. Cause of disability 5. Date of onset 6. Date of diagnosis 7. Date of last medical check-up 8. Date of last medical check-up 9. Date of last medical check-up 10. Date of last medical check-up										1. Name of the institution 2. Address of the institution 3. Type of institution 4. Date of admission 5. Date of completion 6. Date of last medical check-up 7. Date of last medical check-up 8. Date of last medical check-up 9. Date of last medical check-up 10. Date of last medical check-up										1. Name of the institution 2. Address of the institution 3. Type of institution 4. Date of admission 5. Date of completion 6. Date of last medical check-up 7. Date of last medical check-up 8. Date of last medical check-up 9. Date of last medical check-up 10. Date of last medical check-up										1. Name of the institution 2. Address of the institution 3. Type of institution 4. Date of admission 5. Date of completion 6. Date of last medical check-up 7. Date of last medical check-up 8. Date of last medical check-up 9. Date of last medical check-up 10. Date of last medical check-up									



Republic of Kenya

POPULATION AND HOUSING CENSUS 24TH/25TH AUGUST 2019



Statistics Act 2006

STRICTLY CONFIDENTIAL

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

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

Line Number (SQ01)	Name (SQ02)	Sex (SQ03)	Age (SQ04)	County/ Country of Birth (SQ05)	Nationality/ Ethnicity (SQ07)
Illustration	What are the names of all persons who spent the night of 24th/25th August, 2019 in this institution? (Record two names for each person.) <i>An illustration of how to write the names is shown below.</i>	What is <NAME>'s sex? 1= Male 2= Female 3= Other	How old is <NAME>? (Record age in completed years using two digits. If under 1 year, record "00". If 95 years and above, code "95".)	What is <NAME>'s country/ county of birth?	What is <NAME>'s Nationality/ Ethnicity?
0 1	JOHN MOGAKA				
0 1					
0 2					
0 3					
0 4					
0 5					
0 6					
0 7					
0 8					
0 9					
1 0					



REPUBLIC OF KENYA

REPUBLIC OF KENYA

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

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



POPULATION AND HOUSING CENSUS 24TH/25TH AUGUST 2019

Republic of Kenya

TRAVELLERS AND PERSONS ON TRANSIT

County		Sub-county		Division		Location		Sub-Location		E.A. Number	
E.A. Type		E.A. Status		Constituency		Ward		Males =		Females =	
Total Population =											
Name of Place/Street/Station/Airport of Enumeration:											

[illegible]



REPUBLIC OF KENYA



POPULATION AND HOUSING CENSUS 24th /25th AUGUST 2019

CONFIDENTIAL

SHORT QUESTIONNAIRE FOR STREET PERSONS/OUTDOOR SLEEPERS/VAGRANTS

County Sub-county Division

Location Sub-Location EA Number

Constituency Ward

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

Line /NO	Name (List at least two names)	SEX 1. Male 2. Female Stated	3. Other 4. Not	AGE in Completed years	COUNTRY/ COUNTRY OF BIRTH	ETHNICITY/ NATIONALITY What is <NAME>'s Nationality/Ethnicity?
1						
2						
3						
4						
5						
6						
7						
8						

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

Appendix 2: Households by Number of Dwelling Units and County

County/Residence	Dwelling Units	Households	Habitable Rooms	Population			Total Population	Persons Per Room
				Male	Female	Intersex		
KENYA	19,397,769	12,040,701	32,322,735	23,236,453	23,867,415	1,366	47,105,234	1.5
Rural	13,324,202	7,376,595	22,641,120	16,075,172	16,475,954	803	32,551,929	1.4
Urban	6,073,567	4,664,106	9,681,615	7,161,281	7,391,461	563	14,553,305	1.5
MOMBASA	489,010	376,212	730,183	596,420	592,202	17	1,188,639	1.6
KWALE	295,702	172,767	510,275	420,183	438,064	16	858,263	1.7
Rural	240,491	135,863	424,452	359,787	375,731	12	735,530	1.7
Urban	55,211	36,904	85,823	60,396	62,333	4	122,733	1.4
KILIFI	512,512	297,935	829,758	695,399	744,871	19	1,440,289	1.7
Rural	353,421	185,363	591,426	507,756	544,942	14	1,052,712	1.8
Urban	159,091	112,572	238,332	187,643	199,929	5	387,577	1.6
TANA RIVER	96,463	66,964	143,427	156,228	157,154	2	313,384	2.2
Rural	70,882	47,210	106,169	118,173	118,307	1	236,481	2.2
Urban	25,581	19,754	37,258	38,055	38,847	1	76,903	2.1
LAMU	56,121	34,223	97,618	70,993	67,152	3	138,148	1.4
Rural	39,260	23,909	69,268	51,997	48,100	2	100,099	1.4
Urban	16,861	10,314	28,350	18,996	19,052	1	38,049	1.3
TAITA-TAVETA	154,691	94,453	289,230	167,911	165,726	6	333,643	1.2
Rural	110,549	65,005	219,829	123,193	119,472	2	242,667	1.1
Urban	44,142	29,448	69,401	44,718	46,254	4	90,976	1.3
GARISSA	287,116	138,917	426,810	452,027	380,850	33	832,910	2.0
Rural	215,139	101,992	324,183	345,140	280,062	26	625,228	1.9
Urban	71,977	36,925	102,627	106,887	100,788	7	207,682	2.0
WAJIR	237,661	126,874	363,817	410,324	363,842	47	774,213	2.1
Rural	177,823	96,880	277,216	317,510	282,017	27	599,554	2.2
Urban	59,838	29,994	86,601	92,814	81,825	20	174,659	2.0
MANDERA	254,543	123,935	371,251	429,423	430,673	36	860,132	2.3
Rural	172,760	84,711	251,007	297,507	297,008	27	594,542	2.4
Urban	81,783	39,224	120,244	131,916	133,665	9	265,590	2.2
MARSABIT	101,143	76,669	150,604	233,406	212,734	17	446,157	3.0
Rural	72,263	56,445	103,925	180,644	160,966	15	341,625	3.3
Urban	28,880	20,224	46,679	52,762	51,768	2	104,532	2.2
ISIOLO	78,321	53,206	116,703	135,411	127,690	4	263,105	2.3
Rural	37,697	25,348	54,975	73,391	65,453	4	138,848	2.5
Urban	40,624	27,858	61,728	62,020	62,237	-	124,257	2.0
MERU	750,821	423,848	1,172,985	759,077	773,825	36	1,532,938	1.3
Rural	682,499	373,233	1,071,400	694,248	704,654	33	1,398,935	1.3
Urban	68,322	50,615	101,585	64,829	69,171	3	134,003	1.3
THARAKA-NITHI	198,067	109,425	338,636	192,370	198,448	7	390,825	1.2
Rural	182,587	97,594	311,800	176,804	182,156	6	358,966	1.2
Urban	15,480	11,831	26,836	15,566	16,292	1	31,859	1.2
EMBU	317,431	182,413	565,366	301,318	303,065	24	604,407	1.1
Rural	279,935	154,290	505,827	266,241	264,976	15	531,232	1.1
Urban	37,496	28,123	59,539	35,077	38,089	9	73,175	1.2
KITUI	519,639	261,787	836,755	544,209	584,658	32	1,128,899	1.3
Rural	495,329	242,581	800,462	519,981	557,549	31	1,077,561	1.3
Urban	24,310	19,206	36,293	24,228	27,109	1	51,338	1.4
MACHAKOS	692,049	399,453	1,200,500	703,786	707,084	31	1,410,901	1.2
Rural	504,450	256,789	897,790	501,119	501,617	24	1,002,760	1.1
Urban	187,599	142,664	302,710	202,667	205,467	7	408,141	1.3
MAKUENI	465,120	243,948	852,730	481,383	494,821	18	976,222	1.1
Rural	430,748	217,026	801,062	446,814	458,572	18	905,404	1.1
Urban	34,372	26,922	51,668	34,569	36,249	-	70,818	1.4
NYANDARUA	308,517	178,205	596,964	313,022	321,447	17	634,486	1.1
Rural	279,387	154,989	545,867	280,948	287,578	14	568,540	1.0
Urban	29,130	23,216	51,097	32,074	33,869	3	65,946	1.3
NYERI	432,599	244,542	788,743	367,776	381,367	27	749,170	0.9
Rural	358,992	189,078	671,345	298,880	305,852	25	604,757	0.9
Urban	73,607	55,464	117,398	68,896	75,515	2	144,413	1.2
KIRINYAGA	328,111	203,554	635,892	298,501	306,457	28	604,986	1.0
Rural	260,047	154,238	515,209	235,618	236,550	17	472,185	0.9
Urban	68,064	49,316	120,683	62,883	69,907	11	132,801	1.1
MURANG'A	569,260	317,459	1,048,569	521,141	531,214	31	1,052,386	1.0
Rural	514,494	276,003	956,583	465,720	470,264	30	936,014	1.0
Urban	54,766	41,456	91,986	55,421	60,950	1	116,372	1.3
KIAMBU	1,088,526	792,147	1,935,510	1,176,418	1,222,935	126	2,399,479	1.2
Rural	353,793	207,522	654,829	353,894	354,493	27	708,414	1.1
Urban	734,733	584,625	1,280,681	822,524	868,442	99	1,691,065	1.3
TURKANA	275,950	162,567	382,793	473,074	446,732	20	919,826	2.4
Rural	233,160	132,583	325,114	403,639	378,260	19	781,918	2.4
Urban	42,790	29,984	57,679	69,435	68,472	1	137,908	2.4

County/Residence	Population							Persons Per Room
	Dwelling Units	Households	Habitable Rooms	Male	Female	Intersex	Total Population	
WEST POKOT	180,221	115,738	244,234	305,054	313,273	14	618,341	2.5
Rural	168,334	107,145	225,747	290,103	297,314	14	587,431	2.6
Urban	11,887	8,593	18,487	14,951	15,959	-	30,910	1.7
SAMBURU	90,334	63,947	125,946	153,330	152,651	6	305,987	2.4
Rural	70,806	51,454	98,795	130,814	129,658	6	260,478	2.6
Urban	19,528	12,493	27,151	22,516	22,993	-	45,509	1.7
TRANS NZOIA	382,606	222,967	615,652	485,229	499,207	26	984,462	1.6
Rural	313,306	173,565	502,019	399,310	410,020	22	809,352	1.6
Urban	69,300	49,402	113,633	85,919	89,187	4	175,110	1.5
UASIN GISHU	485,466	301,065	771,238	569,772	578,915	26	1,148,713	1.5
Rural	269,667	139,935	438,316	322,379	325,600	11	647,990	1.5
Urban	215,799	161,130	332,922	247,393	253,315	15	500,723	1.5
ELGEYO-MARAKWET	172,298	99,104	250,033	225,964	226,637	12	452,613	1.8
Rural	163,194	93,009	236,602	216,213	216,188	9	432,410	1.8
Urban	9,104	6,095	13,431	9,751	10,449	3	20,203	1.5
NANDI	366,934	199,024	605,644	439,638	443,528	22	883,188	1.5
Rural	342,757	180,495	565,259	410,976	414,113	20	825,109	1.5
Urban	24,177	18,529	40,385	28,662	29,415	2	58,079	1.4
BARINGO	222,293	141,867	326,070	333,206	328,869	12	662,087	2.0
Rural	193,470	119,355	280,361	297,372	290,950	11	588,333	2.1
Urban	28,823	22,512	45,709	35,834	37,919	1	73,754	1.6
LAIKIPIA	239,758	145,764	393,986	253,015	257,329	12	510,356	1.3
Rural	182,388	103,013	302,337	194,446	194,164	8	388,618	1.3
Urban	57,370	42,751	91,649	58,569	63,165	4	121,738	1.3
NAKURU	911,184	598,156	1,502,004	1,051,088	1,073,406	87	2,124,581	1.4
Rural	467,584	269,498	780,913	553,198	551,647	24	1,104,869	1.4
Urban	443,600	328,658	721,091	497,890	521,759	63	1,019,712	1.4
NAROK	388,437	238,071	617,214	570,304	575,910	26	1,146,240	1.9
Rural	348,572	206,255	559,457	522,370	526,148	21	1,048,539	1.9
Urban	39,865	31,816	57,757	47,934	49,762	5	97,701	1.7
KAJIADO	451,518	313,130	724,727	547,599	556,437	32	1,104,068	1.5
Rural	175,691	106,510	280,480	246,300	243,351	12	489,663	1.7
Urban	275,827	206,620	444,247	301,299	313,086	20	614,405	1.4
KERICHO	374,663	205,890	577,948	447,303	449,260	28	896,591	1.6
Rural	336,193	175,089	521,917	401,860	404,813	22	806,695	1.5
Urban	38,470	30,801	56,031	45,443	44,447	6	89,896	1.6
BOMET	349,772	187,217	529,055	432,367	440,164	22	872,553	1.6
Rural	337,298	177,874	511,512	419,557	427,142	22	846,721	1.7
Urban	12,474	9,343	17,543	12,810	13,022	-	25,832	1.5
KAKAMEGA	746,890	432,191	1,311,903	892,519	967,558	36	1,860,113	1.4
Rural	664,363	377,522	1,174,096	804,528	873,943	31	1,678,502	1.4
Urban	82,527	54,669	137,807	87,991	93,615	5	181,611	1.3
VIHIGA	241,708	143,265	517,295	282,125	304,905	9	587,039	1.1
Rural	217,503	127,378	468,976	254,627	274,797	9	529,433	1.1
Urban	24,205	15,887	48,319	27,498	30,108	-	57,606	1.2
BUNGOMA	625,679	357,687	1,059,423	807,245	855,417	34	1,662,696	1.6
Rural	550,671	307,128	925,214	717,787	758,513	29	1,476,329	1.6
Urban	75,008	50,559	134,209	89,458	96,904	5	186,367	1.4
BUSIA	333,134	197,921	535,198	421,489	465,071	28	886,588	1.7
Rural	294,209	167,171	465,807	369,932	407,955	28	777,915	1.7
Urban	38,925	30,750	69,391	51,557	57,116	-	108,673	1.6
SIAYA	402,040	249,279	663,774	468,735	519,366	17	988,118	1.5
Rural	368,130	224,358	604,724	429,786	474,905	15	904,706	1.5
Urban	33,910	24,921	59,050	38,949	44,461	2	83,412	1.4
KISUMU	436,217	296,766	760,188	551,030	589,619	23	1,140,672	1.5
Rural	261,545	168,767	474,409	342,355	368,902	8	711,265	1.5
Urban	174,672	127,999	285,779	208,675	220,717	15	429,407	1.5
HOMABAY	426,607	260,262	720,269	535,300	588,704	21	1,124,025	1.6
Rural	382,962	229,154	649,442	483,624	531,049	19	1,014,692	1.6
Urban	43,645	31,108	70,827	51,676	57,655	2	109,333	1.5
MIGORI	434,974	238,078	721,539	531,128	575,616	32	1,106,776	1.5
Rural	368,813	195,326	609,455	452,849	490,144	31	943,024	1.5
Urban	66,161	42,752	112,084	78,279	85,472	1	163,752	1.5
KISII	570,836	307,224	1,095,539	601,550	658,021	37	1,259,608	1.1
Rural	505,898	261,359	984,644	530,206	582,072	29	1,112,307	1.1
Urban	64,938	45,865	110,895	71,344	75,949	8	147,301	1.3
NYAMIRA	297,937	150,489	541,024	289,316	313,530	13	602,859	1.1
Rural	275,142	136,583	500,900	265,576	287,987	13	553,576	1.1
Urban	22,795	13,906	40,124	23,740	25,543	-	49,283	1.2
NAIROBI CITY	1,756,890	1,494,096	2,727,713	2,142,347	2,181,011	194	4,323,552	1.6

Appendix 3: Households by Number of Dwelling Units and Major Urban Centres

Urban Centre	Dwelling		Habitable	Population			Persons Per	
	Units	Households	Rooms	Male	Female	Intersex	Total	Room
Nairobi City	1,756,890	1,494,096	2,727,713	2,142,347	2,181,011	194	4,323,552	1.6
Mombasa	489,010	376,212	730,183	596,420	592,202	17	1,188,639	1.6
Nakuru	241,383	175,743	407,212	273,793	286,730	32	560,555	1.4
Ruiru	204,886	166,815	348,804	236,240	250,023	31	486,294	1.4
Eldoret	201,651	150,923	310,628	230,933	235,745	15	466,693	1.5
Kisumu	159,596	116,318	258,955	189,913	200,062	10	389,985	1.5
Kikuyu	133,249	109,271	266,209	156,319	166,238	17	322,574	1.2
Thika	104,410	90,795	164,133	119,960	126,086	15	246,061	1.5
Naivasha	84,289	68,742	125,835	94,969	98,277	18	193,264	1.5
Karuri	86,853	66,872	149,791	94,562	99,280	10	193,852	1.3
Ongata Rongai	75,421	58,331	120,306	84,045	87,028	7	171,080	1.4
Garissa	47,293	26,941	65,394	68,232	69,321	5	137,558	2.1
Kitale	62,681	45,219	103,009	78,037	80,685	4	158,726	1.5
Juja	73,678	56,675	116,670	76,870	78,446	9	155,325	1.3
Kitengela	71,676	53,148	104,797	74,085	78,288	5	152,378	1.5
Kiambu	64,725	47,675	120,268	69,669	75,954	16	145,639	1.2
Mlolongo	61,158	47,789	96,882	68,398	66,704	0	135,102	1.4
Malindi	47,339	33,486	73,476	56,671	60,804	3	117,478	1.6
Mandera	35,101	17,916	50,935	58,675	54,470	5	113,150	2.2
Kisii	49,408	35,192	81,532	53,265	55,714	7	108,986	1.3
Kakamega	47,394	32,969	81,310	51,618	53,049	2	104,669	1.3
Ngong	40,764	32,758	75,867	49,649	51,330	3	100,982	1.3

Appendix 4: Percentage Distribution of Households by Ownership of Dwelling Unit, Sex of Household Head and County

County/Residence	Households	Owner Occupied				Rented/Provided				Total			
		Male	Female	Intersex	Sub-Total	Male	Female	Intersex	Sub-Total	Male	Female	Intersex	Total
KENYA	12,040,701	37.4	23.9	0.0	61.3	24.5	14.2	0.0	38.7	61.9	38.1	0.0	100.0
Rural	7,376,595	52.5	34.1	0.0	86.6	8.4	5.0	0.0	13.4	60.9	39.1	0.0	100.0
Urban	4,664,106	13.4	7.9	0.0	21.3	49.9	28.8	0.0	78.7	63.3	36.7	0.0	100.0
MOMBASA	376,212	13.3	7.6	0.0	20.8	51.6	27.6	0.0	79.2	64.8	35.2	0.0	100.0
KWALE	172,767	48.9	28.2	0.0	77.1	14.6	8.3	0.0	22.9	63.5	36.5	0.0	100.0
Rural	135,863	56.7	32.4	0.0	89.1	7.3	3.6	0.0	10.9	64.1	35.9	0.0	100.0
Urban	36,904	19.9	12.9	0.0	32.8	41.4	25.9	0.0	67.2	61.2	38.7	0.0	100.0
KILIFI	297,935	41.5	25.4	0.0	66.9	20.4	12.6	0.0	33.1	61.9	38.0	0.0	100.0
Rural	185,363	54.5	33.5	0.0	88.0	8.1	3.9	0.0	12.0	62.6	37.4	0.0	100.0
Urban	112,572	20.2	12.0	0.0	32.2	40.7	27.1	0.0	67.8	60.8	39.1	0.0	100.0
TANA RIVER	66,964	46.3	32.3	0.0	78.5	13.2	8.3	0.0	21.5	59.5	40.5	0.0	100.0
Rural	47,210	54.6	37.1	0.0	91.8	5.1	3.1	0.0	8.2	59.8	40.2	0.0	100.0
Urban	19,754	26.3	20.6	0.0	46.9	32.5	20.6	0.0	53.1	58.8	41.2	0.0	100.0
LAMU	34,223	43.6	24.3	0.0	67.9	22.3	9.8	0.0	32.1	65.9	34.1	0.0	100.0
Rural	23,909	51.9	27.0	0.0	78.9	15.6	5.5	0.0	21.1	67.5	32.5	0.0	100.0
Urban	10,314	24.4	18.1	0.0	42.5	37.9	19.6	0.0	57.5	62.3	37.7	0.0	100.0
TAITA-TAVETA	94,453	41.5	24.9	0.0	66.4	22.3	11.3	0.0	33.6	63.8	36.2	0.0	100.0
Rural	65,005	50.8	30.1	0.0	80.9	13.6	5.5	0.0	19.1	64.4	35.6	0.0	100.0
Urban	29,448	20.9	13.4	0.0	34.3	41.6	24.0	0.0	65.7	62.5	37.5	0.0	100.0
GARISSA	138,917	46.3	41.1	0.0	87.4	6.9	5.6	0.0	12.6	53.2	46.8	0.1	100.0
Rural	101,992	51.3	45.0	0.1	96.4	2.1	1.5	0.0	3.6	53.4	46.6	0.1	100.0
Urban	36,925	32.3	30.3	0.0	62.6	20.4	17.0	0.0	37.4	52.7	47.3	0.0	100.0
WAJIR	126,874	50.6	44.3	0.0	94.9	3.3	1.9	0.0	5.1	53.9	46.1	0.0	100.0
Rural	96,880	52.7	45.6	0.0	98.3	1.0	0.7	0.0	1.7	53.7	46.2	0.0	100.0
Urban	29,994	43.7	40.0	0.1	83.7	10.6	5.7	0.0	16.3	54.2	45.7	0.1	100.0
MANDERA	123,935	41.5	50.9	0.0	92.4	3.7	3.9	0.0	7.6	45.3	54.7	0.0	100.0
Rural	84,711	44.6	53.2	0.0	97.9	1.0	1.1	0.0	2.1	45.7	54.3	0.0	100.0
Urban	39,224	34.8	45.8	0.0	80.6	9.5	9.9	0.0	19.4	44.3	55.6	0.0	100.0
MARSABIT	76,669	44.6	41.6	0.0	86.2	9.5	4.2	0.0	13.8	54.1	45.8	0.0	100.0
Rural	56,445	48.5	48.1	0.0	96.7	2.2	1.2	0.0	3.3	50.7	49.3	0.0	100.0
Urban	20,224	33.6	23.5	0.0	57.1	30.2	12.8	0.0	42.9	63.7	36.3	0.0	100.0
ISIOLO	53,206	42.6	29.4	0.0	72.0	16.9	11.1	0.0	28.0	59.5	40.5	0.0	100.0
Rural	25,348	54.5	39.9	0.0	94.5	3.8	1.7	0.0	5.5	58.3	41.6	0.0	100.0
Urban	27,858	31.7	19.7	0.0	51.5	28.9	19.6	0.0	48.5	60.6	39.4	0.0	100.0
MERU	423,848	49.8	24.3	0.0	74.1	14.3	11.6	0.0	25.9	64.1	35.8	0.0	100.0
Rural	373,233	54.8	26.5	0.0	81.4	10.3	8.3	0.0	18.6	65.1	34.9	0.0	100.0
Urban	50,615	12.8	7.5	0.0	20.3	44.2	35.5	0.0	79.7	57.0	43.0	0.0	100.0
THARAKA-NITHI	109,425	56.4	26.2	0.0	82.6	9.5	7.9	0.0	17.4	65.9	34.1	0.0	100.0
Rural	97,594	60.4	28.1	0.0	88.5	6.1	5.4	0.0	11.5	66.5	33.5	0.0	100.0
Urban	11,831	23.4	10.5	0.0	33.9	37.6	28.6	0.0	66.1	61.0	39.0	0.0	100.0
EMBU	182,413	50.0	22.9	0.0	73.0	15.5	11.6	0.0	27.0	65.5	34.5	0.0	100.0
Rural	154,290	56.8	25.9	0.0	82.7	9.8	7.5	0.0	17.3	66.6	33.4	0.0	100.0
Urban	28,123	13.1	6.6	0.0	19.6	46.6	33.7	0.0	80.4	59.7	40.3	0.0	100.0
KITUI	261,787	47.2	38.6	0.0	85.8	8.0	6.1	0.0	14.2	55.2	44.7	0.0	100.0
Rural	242,581	50.5	41.4	0.0	91.9	4.8	3.3	0.0	8.1	55.3	44.7	0.0	100.0
Urban	19,206	5.6	3.3	0.0	8.9	49.5	41.5	0.0	91.1	55.1	44.9	0.0	100.0
MACHAKOS	399,453	40.9	23.6	0.0	64.6	23.3	12.1	0.0	35.4	64.2	35.8	0.0	100.0
Rural	256,789	55.9	33.3	0.0	89.2	7.2	3.6	0.0	10.8	63.1	36.9	0.0	100.0
Urban	142,664	14.0	6.2	0.0	20.2	52.3	27.5	0.0	79.8	66.3	33.7	0.0	100.0
MAKUENI	243,948	47.6	33.7	0.0	81.3	11.2	7.4	0.0	18.7	58.9	41.1	0.0	100.0
Rural	217,026	52.3	37.0	0.0	89.4	6.9	3.8	0.0	10.6	59.2	40.8	0.0	100.0
Urban	26,922	9.8	6.5	0.0	16.3	46.7	37.0	0.0	83.7	56.5	43.5	0.0	100.0
NYANDARUA	178,205	45.4	24.4	0.0	69.8	18.8	11.4	0.0	30.2	64.2	35.8	0.0	100.0
Rural	154,989	49.9	26.8	0.0	76.7	14.6	8.6	0.0	23.3	64.6	35.4	0.0	100.0
Urban	23,216	15.1	8.7	0.0	23.8	46.4	29.8	0.0	76.2	61.5	38.5	0.0	100.0
NYERI	244,542	43.3	23.6	0.0	66.9	20.1	13.0	0.0	33.1	63.3	36.6	0.0	100.0
Rural	189,078	52.3	28.6	0.0	80.8	12.0	7.1	0.0	19.2	64.3	35.7	0.0	100.0
Urban	55,464	12.7	6.7	0.0	19.4	47.4	33.2	0.0	80.6	60.1	39.9	0.0	100.0
KIRINYAGA	203,554	49.8	20.1	0.0	69.9	17.0	13.2	0.0	30.1	66.8	33.2	0.0	100.0
Rural	154,238	58.7	23.3	0.0	82.0	10.5	7.6	0.0	18.0	69.2	30.8	0.0	100.0
Urban	49,316	22.0	10.0	0.0	32.0	37.3	30.7	0.0	68.0	59.2	40.8	0.0	100.0
MURANG'A	317,459	49.9	26.4	0.0	76.3	14.5	9.2	0.0	23.7	64.3	35.7	0.0	100.0
Rural	276,003	54.3	29.0	0.0	83.4	10.5	6.1	0.0	16.6	64.9	35.1	0.0	100.0
Urban	41,456	20.2	9.1	0.0	29.3	40.6	30.2	0.0	70.7	60.8	39.2	0.0	100.0
KIAMBU	792,147	25.9	11.2	0.0	37.1	40.9	22.0	0.0	62.9	66.8	33.2	0.0	100.0
Rural	207,522	49.6	21.6	0.0	71.2	19.5	9.2	0.0	28.8	69.2	30.8	0.0	100.0
Urban	584,625	17.5	7.5	0.0	25.0	48.5	26.5	0.0	75.0	66.0	34.0	0.0	100.0
TURKANA	162,567	38.2	46.2	0.0	84.4	8.5	7.1	0.0	15.6	46.7	53.3	0.0	100.0
Rural	132,583	40.9	50.3	0.0	91.3	4.2	4.5	0.0	8.7	45.1	54.9	0.0	100.0
Urban	29,984	26.0	27.9	0.0	53.9	27.8	18.3	0.0	46.1	53.8	46.2	0.0	100.0

County/Residence	Owner Occupied					Rented/Provided				Total			
	Households	Male	Female	Intersex	Sub-Total	Male	Female	Intersex	Sub-Total	Male	Female	Intersex	Total
WEST POKOT	115,738	50.9	36.8	0.0	87.7	7.5	4.7	0.0	12.3	58.5	41.5	0.0	100.0
Rural	107,145	53.8	39.0	0.0	92.9	4.5	2.6	0.0	7.1	58.4	41.6	0.0	100.0
Urban	8,593	14.4	8.9	0.0	23.4	44.9	31.7	0.0	76.6	59.4	40.6	0.0	100.0
SAMBURU	63,947	30.8	54.2	0.0	85.1	8.4	6.6	0.0	14.9	39.2	60.8	0.0	100.0
Rural	51,454	33.6	62.7	0.0	96.3	2.0	1.7	0.0	3.7	35.5	64.4	0.0	100.0
Urban	12,493	19.5	19.3	0.0	38.8	34.7	26.5	0.0	61.2	54.2	45.8	0.0	100.0
TRANS NZOIA	222,967	42.2	25.6	0.0	67.7	20.8	11.5	0.0	32.3	63.0	37.0	0.0	100.0
Rural	173,565	49.0	29.8	0.0	78.8	13.8	7.4	0.0	21.2	62.8	37.2	0.0	100.0
Urban	49,402	18.0	10.6	0.0	28.6	45.5	25.8	0.0	71.4	63.6	36.4	0.0	100.0
UASIN GISHU	301,065	32.9	18.0	0.0	50.9	30.7	18.5	0.0	49.1	63.5	36.4	0.0	100.0
Rural	139,935	54.1	29.1	0.0	83.2	10.8	6.0	0.0	16.8	65.0	35.0	0.0	100.0
Urban	161,130	14.4	8.4	0.0	22.8	47.9	29.3	0.0	77.2	62.3	37.7	0.0	100.0
ELGEYO-MARAK'	99,104	56.7	25.2	0.0	82.0	11.7	6.3	0.0	18.0	68.4	31.6	0.0	100.0
Rural	93,009	59.2	26.3	0.0	85.5	9.7	4.9	0.0	14.5	68.9	31.1	0.0	100.0
Urban	6,095	18.9	9.5	0.0	28.3	42.6	29.1	0.0	71.7	61.4	38.6	0.0	100.0
NANDI	199,024	54.9	23.8	0.0	78.6	13.9	7.4	0.0	21.4	68.8	31.2	0.0	100.0
Rural	180,495	58.7	25.2	0.0	83.9	10.7	5.4	0.0	16.1	69.4	30.6	0.0	100.0
Urban	18,529	17.9	9.8	0.0	27.7	45.4	26.9	0.0	72.3	63.4	36.6	0.0	100.0
BARINGO	141,867	49.1	31.0	0.0	80.1	12.4	7.6	0.0	19.9	61.4	38.6	0.0	100.0
Rural	119,355	54.8	34.7	0.0	89.5	6.8	3.7	0.0	10.5	61.6	38.4	0.0	100.0
Urban	22,512	18.7	11.4	0.0	30.1	42.0	28.0	0.0	69.9	60.7	39.3	0.0	100.0
LAIKIPIA	145,764	35.9	25.1	0.0	61.0	23.5	15.5	0.0	39.0	59.4	40.6	0.0	100.0
Rural	103,013	45.7	32.2	0.0	78.0	14.3	7.7	0.0	22.0	60.0	40.0	0.0	100.0
Urban	42,751	12.3	7.9	0.0	20.1	45.5	34.3	0.0	79.9	57.8	42.2	0.0	100.0
NAKURU	598,156	29.2	16.8	0.0	46.0	33.1	20.8	0.0	54.0	62.3	37.7	0.0	100.0
Rural	269,498	47.5	26.8	0.0	74.4	16.5	9.2	0.0	25.6	64.0	36.0	0.0	100.0
Urban	328,658	14.2	8.7	0.0	22.8	46.8	30.4	0.0	77.2	61.0	39.0	0.0	100.0
NAROK	238,071	43.1	33.8	0.0	76.9	13.9	9.2	0.0	23.1	57.1	42.9	0.0	100.0
Rural	206,255	48.3	38.0	0.0	86.3	8.5	5.2	0.0	13.7	56.8	43.2	0.0	100.0
Urban	31,816	9.5	6.5	0.0	16.0	49.1	34.9	0.0	84.0	58.6	41.4	0.0	100.0
KAJIADO	313,130	23.8	16.8	0.0	40.6	37.2	22.1	0.0	59.4	61.1	38.9	0.0	100.0
Rural	106,510	46.8	36.9	0.0	83.7	11.8	4.5	0.0	16.3	58.6	41.4	0.0	100.0
Urban	206,620	12.0	6.4	0.0	18.5	50.3	31.2	0.0	81.5	62.3	37.7	0.0	100.0
KERICHO	205,890	51.3	23.0	0.0	74.3	16.0	9.7	0.0	25.7	67.2	32.8	0.0	100.0
Rural	175,089	58.6	26.2	0.0	84.9	9.3	5.8	0.0	15.1	67.9	32.1	0.0	100.0
Urban	30,801	9.4	4.8	0.0	14.2	53.8	31.9	0.0	85.8	63.2	36.7	0.0	100.0
BOMET	187,217	55.2	27.9	0.0	83.1	9.9	7.0	0.0	16.9	65.2	34.8	0.0	100.0
Rural	177,874	57.7	29.1	0.0	86.7	7.9	5.4	0.0	13.3	65.6	34.4	0.0	100.0
Urban	9,343	8.6	5.2	0.0	13.8	48.8	37.4	0.0	86.2	57.5	42.5	0.0	100.0
KAKAMEGA	432,191	51.7	33.8	0.0	85.5	8.7	5.8	0.0	14.5	60.4	39.6	0.0	100.0
Rural	377,522	55.8	36.6	0.0	92.4	4.5	3.1	0.0	7.6	60.3	39.7	0.0	100.0
Urban	54,669	23.2	14.4	0.0	37.6	38.0	24.4	0.0	62.4	61.2	38.8	0.0	100.0
VIHIGA	143,265	52.3	35.9	0.0	88.1	7.1	4.8	0.0	11.9	59.3	40.7	0.0	100.0
Rural	127,378	54.7	37.6	0.0	92.2	4.8	3.0	0.0	7.8	59.4	40.6	0.0	100.0
Urban	15,887	33.0	22.3	0.0	55.2	25.3	19.5	0.0	44.8	58.3	41.7	0.0	100.0
BUNGOMA	357,687	51.4	30.6	0.0	82.0	10.8	7.2	0.0	18.0	62.2	37.8	0.0	100.0
Rural	307,128	55.7	33.2	0.0	88.9	6.6	4.5	0.0	11.1	62.3	37.6	0.0	100.0
Urban	50,559	25.3	14.9	0.0	40.1	35.8	24.0	0.0	59.9	61.1	38.9	0.0	100.0
BUSIA	197,921	47.5	34.2	0.0	81.7	10.8	7.4	0.0	18.3	58.3	41.7	0.0	100.0
Rural	167,171	52.9	38.3	0.0	91.2	5.1	3.7	0.0	8.8	57.9	42.1	0.0	100.0
Urban	30,750	18.4	11.9	0.0	30.2	42.1	27.7	0.0	69.8	60.5	39.5	0.0	100.0
SIAYA	249,279	40.8	40.4	0.0	81.2	11.8	7.1	0.0	18.8	52.5	47.5	0.0	100.0
Rural	224,358	43.7	43.5	0.0	87.3	8.3	4.4	0.0	12.7	52.1	47.9	0.0	100.0
Urban	24,921	13.9	12.1	0.0	26.1	42.7	31.2	0.0	73.9	56.6	43.3	0.0	100.0
KISUMU	296,766	32.5	27.0	0.0	59.5	26.4	14.0	0.0	40.5	58.9	41.1	0.0	100.0
Rural	168,767	47.1	40.7	0.0	87.8	8.4	3.8	0.0	12.2	55.5	44.5	0.0	100.0
Urban	127,999	13.3	9.0	0.0	22.3	50.2	27.6	0.0	77.7	63.4	36.6	0.0	100.0
HOMABAY	260,262	41.7	39.7	0.0	81.4	11.7	6.9	0.0	18.6	53.4	46.6	0.0	100.0
Rural	229,154	45.7	43.7	0.0	89.5	6.9	3.6	0.0	10.5	52.7	47.3	0.0	100.0
Urban	31,108	12.1	9.6	0.0	21.8	46.7	31.6	0.0	78.2	58.8	41.2	0.0	100.0
MIGORI	238,078	44.9	34.3	0.0	79.3	12.7	8.0	0.0	20.7	57.7	42.3	0.0	100.0
Rural	195,326	50.7	39.2	0.0	89.9	6.3	3.8	0.0	10.1	56.9	43.1	0.0	100.0
Urban	42,752	18.7	12.1	0.0	30.8	42.3	26.9	0.0	69.2	61.0	39.0	0.0	100.0
KISII	307,224	50.3	32.7	0.0	83.0	10.4	6.6	0.0	17.0	60.7	39.3	0.0	100.0
Rural	261,359	55.7	36.8	0.0	92.6	4.5	2.9	0.0	7.4	60.3	39.7	0.0	100.0
Urban	45,865	19.2	9.5	0.0	28.8	43.9	27.4	0.0	71.2	63.1	36.9	0.0	100.0
NYAMIRA	150,489	54.3	31.3	0.0	85.5	9.2	5.2	0.0	14.5	63.5	36.5	0.0	100.0
Rural	136,583	56.7	32.9	0.0	89.6	6.8	3.6	0.0	10.4	63.5	36.5	0.0	100.0
Urban	13,906	30.6	15.0	0.0	45.6	33.2	21.1	0.0	54.4	63.8	36.2	0.0	100.0
NAIROBI CITY	1,494,096	6.2	3.1	0.0	9.3	59.6	31.1	0.0	90.7	65.7	34.3	0.0	100.0

Appendix 5: Percentage Distribution of Households by Ownership of Dwelling Unit, Sex of Household Head and Major Urban Centres

Urban Centre	Owned					Rented/Provided				Total			
	Households	Male	Female	Intersex	Sub-Total	Male	Female	Intersex	Sub-Total	Male	Female	Intersex	Total
Nairobi City	1,494,096	6.2	3.1	0.0	9.3	59.6	31.1	0.0	90.7	65.7	34.3	0.0	100.0
Mombasa	376,212	13.3	7.6	0.0	20.8	51.6	27.6	0.0	79.2	64.8	35.2	0.0	100.0
Nakuru	175,743	14.8	8.6	0.0	23.5	47.0	29.5	0.0	76.5	61.9	38.1	0.0	100.0
Ruiru	166,815	14.7	6.1	0.0	20.8	51.7	27.5	0.0	79.2	66.4	33.6	0.0	100.0
Eldoret	150,923	14.2	8.1	0.0	22.3	48.5	29.2	0.0	77.7	62.7	37.3	0.0	100.0
Kisumu	116,318	13.3	8.9	0.0	22.2	50.5	27.2	0.0	77.8	63.8	36.2	0.0	100.0
Kikuyu	109,271	22.3	9.6	0.0	31.9	43.8	24.4	0.0	68.1	66.1	33.9	0.0	100.0
Thika	90,795	9.6	4.8	0.0	14.4	54.8	30.8	0.0	85.6	64.4	35.6	0.0	100.0
Naivasha	68,742	10.0	5.8	0.0	15.9	51.9	32.2	0.0	84.1	61.9	38.1	0.0	100.0
Karuri	66,872	19.8	8.5	0.0	28.3	46.5	25.2	0.0	71.7	66.2	33.7	0.0	100.0
Ongata Rongai	58,331	8.3	4.6	0.0	12.9	52.6	34.4	0.0	87.1	60.9	39.0	0.0	100.0
Garissa	26,941	25.2	25.0	0.0	50.2	27.1	22.7	0.0	49.8	52.3	47.7	0.0	100.0
Kitale	45,219	17.5	10.2	0.0	27.6	46.7	25.6	0.0	72.4	64.2	35.8	0.0	100.0
Juja	56,675	15.4	6.7	0.0	22.1	50.9	27.0	0.0	77.9	66.3	33.7	0.0	100.0
Kitengela	53,148	8.4	3.6	0.0	12.1	54.0	33.9	0.0	87.9	62.5	37.5	0.0	100.0
Kiambu	47,675	23.3	9.3	0.0	32.6	43.6	23.8	0.0	67.4	66.9	33.0	0.0	100.0
Mlolongo	47,789	10.1	4.1	0.0	14.2	59.8	26.0	0.0	85.8	69.9	30.1	0.0	100.0
Malindi	33,486	21.1	12.0	0.0	33.2	39.9	26.9	0.0	66.8	61.0	39.0	0.0	100.0
Mandera	17,916	28.1	42.1	0.0	70.1	14.6	15.2	0.0	29.9	42.7	57.3	0.0	100.0
Kisii	35,192	17.7	8.4	0.0	26.1	46.6	27.3	0.0	73.9	64.3	35.7	0.0	100.0
Kakamega	32,969	21.7	12.5	0.0	34.2	41.7	24.1	0.0	65.8	63.4	36.6	0.0	100.0
Ngong	32,758	16.8	8.6	0.0	25.3	48.7	26.0	0.0	74.7	65.4	34.5	0.0	100.0

Appendix 6: Percentage Distribution of Households by Tenure Status of Main Dwelling Unit and County

County/Residence	Owner Occupied					Rented/Provided					FBO/NGO/Church/ Temple/Mosque			Sub-Total	Total
	Households	Purchased	Constructed	Inherited	Sub-Total	Government	Local		Private		Individual	e			
							Authority	Parastatal	company	Individual					
KENYA	12,040,701	1.7	57.6	2.0	61.3	0.9	0.5	0.4	2.3	34.3	0.3	38.7	100.0		
Rural	7,376,595	1.4	83.1	2.0	86.6	0.4	0.1	0.2	1.0	11.5	0.3	13.4	100.0		
Urban	4,664,106	2.2	17.2	1.9	21.3	1.7	1.2	0.8	4.4	70.3	0.3	78.7	100.0		
MOMBASA	376,212	2.2	15.5	3.1	20.8	1.5	1.6	1.1	4.3	70.5	0.2	79.2	100.0		
KWALE	172,767	0.8	74.5	1.8	77.1	0.5	0.3	0.2	0.9	20.9	0.2	22.9	100.0		
Rural	135,863	0.7	86.8	1.6	89.1	0.3	0.2	0.1	0.7	9.5	0.1	10.9	100.0		
Urban	36,904	0.8	29.1	2.9	32.8	1.4	0.5	0.3	1.8	63.1	0.2	67.2	100.0		
KILIFI	297,935	1.0	64.5	1.4	66.9	0.7	0.3	0.3	1.8	29.8	0.2	33.1	100.0		
Rural	185,363	0.8	86.3	1.0	88.0	0.6	0.1	0.2	0.7	10.3	0.2	12.0	100.0		
Urban	112,572	1.4	28.6	2.1	32.2	0.8	0.8	0.4	3.7	61.9	0.2	67.8	100.0		
TANA RIVER	66,964	2.5	74.2	1.7	78.5	1.0	0.7	0.6	0.8	18.0	0.3	21.5	100.0		
Rural	47,210	2.6	88.1	1.1	91.8	0.5	0.5	0.2	0.2	6.5	0.4	8.2	100.0		
Urban	19,754	2.4	41.2	3.2	46.9	2.3	1.3	1.6	2.1	45.6	0.2	53.1	100.0		
LAMU	34,223	1.2	61.3	5.4	67.9	1.6	0.2	0.1	0.8	29.0	0.5	32.1	100.0		
Rural	23,909	1.1	73.9	3.8	78.9	1.3	0.2	0.1	0.8	18.4	0.4	21.1	100.0		
Urban	10,314	1.4	32.0	9.2	42.5	2.2	0.1	0.0	0.7	53.7	0.7	57.5	100.0		
TAITA-TAVETA	94,453	0.7	62.1	3.6	66.4	1.4	0.2	0.7	2.2	28.7	0.4	33.6	100.0		
Rural	65,005	0.5	76.6	3.8	80.9	0.9	0.1	0.5	2.7	14.4	0.4	19.1	100.0		
Urban	29,448	1.1	30.2	3.0	34.3	2.5	0.3	1.3	1.1	60.1	0.4	65.7	100.0		
GARISSA	138,917	10.2	74.2	3.0	87.4	0.8	0.7	0.3	0.6	9.4	0.8	12.6	100.0		
Rural	101,992	10.9	82.4	3.2	96.4	0.3	0.2	0.2	0.2	1.8	1.0	3.6	100.0		
Urban	36,925	8.4	51.5	2.7	62.6	2.2	2.0	0.7	1.9	30.4	0.2	37.4	100.0		
WAJIR	126,874	8.6	82.7	3.5	94.9	0.5	0.3	0.1	0.3	3.8	0.0	5.1	100.0		
Rural	96,880	8.0	86.8	3.5	98.3	0.2	0.1	0.0	0.1	1.3	0.0	1.7	100.0		
Urban	29,994	10.5	69.6	3.6	83.7	1.7	1.0	0.2	1.1	12.1	0.1	16.3	100.0		
MANDERA	123,935	11.6	77.0	3.8	92.4	0.3	0.4	0.2	0.4	6.3	0.1	7.6	100.0		
Rural	84,711	10.8	83.0	4.1	97.9	0.1	0.1	0.1	0.1	1.7	0.0	2.1	100.0		
Urban	39,224	13.3	63.9	3.3	80.6	0.7	0.8	0.5	1.0	16.2	0.2	19.4	100.0		
MARSABIT	76,669	1.8	83.0	1.4	86.2	0.7	0.2	0.1	0.3	12.2	0.2	13.8	100.0		
Rural	56,445	1.8	94.1	0.7	96.7	0.3	0.2	0.0	0.1	2.6	0.1	3.3	100.0		
Urban	20,224	1.7	52.1	3.2	57.1	2.1	0.3	0.3	1.0	38.8	0.4	42.9	100.0		
ISIOLO	53,206	2.5	66.7	2.8	72.0	1.5	0.4	0.2	0.6	25.0	0.3	28.0	100.0		
Rural	25,348	2.9	89.9	1.7	94.5	0.6	0.1	0.1	0.1	4.6	0.1	5.5	100.0		
Urban	27,858	2.1	45.6	3.8	51.5	2.3	0.6	0.4	1.1	43.6	0.5	48.5	100.0		
MERU	423,848	0.8	71.1	2.2	74.1	0.4	0.2	0.1	0.6	24.4	0.2	25.9	100.0		
Rural	373,233	0.8	78.3	2.2	81.4	0.3	0.1	0.1	0.6	17.4	0.2	18.6	100.0		
Urban	50,615	0.7	17.4	2.1	20.3	1.5	0.8	0.4	0.9	75.4	0.7	79.7	100.0		
THARAKA-NITHI	109,425	0.6	79.7	2.3	82.6	0.4	0.1	0.1	0.3	16.2	0.3	17.4	100.0		
Rural	97,594	0.7	85.5	2.3	88.5	0.3	0.1	0.1	0.2	10.6	0.2	11.5	100.0		
Urban	11,831	0.4	31.5	2.0	33.9	1.3	0.4	0.4	0.5	62.2	1.3	66.1	100.0		
EMBU	182,413	0.6	70.3	2.1	73.0	1.0	0.1	0.2	0.7	24.9	0.2	27.0	100.0		
Rural	154,290	0.7	79.9	2.2	82.7	0.4	0.1	0.1	0.5	16.1	0.1	17.3	100.0		
Urban	28,123	0.6	17.5	1.5	19.6	4.2	0.2	0.6	1.6	73.2	0.5	80.4	100.0		
KITUI	261,787	0.9	83.6	1.4	85.8	0.5	0.1	0.1	0.5	12.9	0.2	14.2	100.0		
Rural	242,581	0.9	89.6	1.4	91.9	0.3	0.1	0.1	0.2	7.3	0.1	8.1	100.0		
Urban	19,206	0.5	7.4	1.1	8.9	3.0	0.5	0.3	3.2	83.9	0.2	91.1	100.0		
MACHAKOS	399,453	1.3	61.7	1.6	64.6	0.5	0.3	0.4	2.2	31.7	0.2	35.4	100.0		
Rural	256,789	0.7	86.5	1.9	89.2	0.2	0.1	0.2	0.6	9.5	0.2	10.8	100.0		
Urban	142,664	2.2	16.9	1.1	20.2	1.0	0.7	0.9	5.2	71.8	0.3	79.8	100.0		
MAKUENI	243,948	0.6	79.5	1.2	81.3	0.4	0.3	0.1	1.0	16.7	0.2	18.7	100.0		
Rural	217,026	0.6	87.5	1.2	89.4	0.3	0.2	0.1	0.7	9.2	0.2	10.6	100.0		
Urban	26,922	0.6	14.7	1.0	16.3	1.6	1.1	0.3	3.2	77.1	0.5	83.7	100.0		
NYANDARUA	178,205	1.8	64.4	3.6	69.8	0.6	0.1	0.1	0.6	28.4	0.3	30.2	100.0		
Rural	154,989	1.8	71.0	3.9	76.7	0.5	0.1	0.1	0.4	21.9	0.3	23.3	100.0		
Urban	23,216	1.9	20.3	1.6	23.8	1.4	0.2	0.1	1.7	72.2	0.6	76.2	100.0		
NYERI	244,542	0.8	62.2	3.9	66.9	1.3	0.3	0.3	1.3	29.5	0.4	33.1	100.0		
Rural	189,078	0.7	75.8	4.4	80.8	0.6	0.1	0.2	0.7	17.2	0.4	19.2	100.0		
Urban	55,464	1.1	15.9	2.4	19.4	3.6	0.9	0.7	3.5	71.3	0.5	80.6	100.0		
KIRINYAGA	203,554	0.9	66.4	2.5	69.9	0.7	0.1	0.3	0.7	28.1	0.2	30.1	100.0		
Rural	154,238	0.9	78.5	2.7	82.0	0.3	0.1	0.1	0.4	16.9	0.1	18.0	100.0		
Urban	49,316	0.9	28.9	2.2	32.0	1.7	0.3	0.6	1.6	63.3	0.5	68.0	100.0		
MURANG'A	317,459	0.7	72.7	2.9	76.3	0.6	0.1	0.2	1.8	20.8	0.2	23.7	100.0		
Rural	276,003	0.7	79.6	3.1	83.4	0.4	0.1	0.2	1.9	13.9	0.2	16.6	100.0		
Urban	41,456	0.6	26.7	2.0	29.3	1.8	0.3	0.1	1.8	66.5	0.3	70.7	100.0		
KIAMBU	792,147	1.0	33.1	3.0	37.1	0.8	0.5	0.3	3.5	57.4	0.3	62.9	100.0		
Rural	207,522	0.8	65.9	4.5	71.2	0.7	0.1	0.4	3.3	23.8	0.4	28.8	100.0		
Urban	584,625	1.0	21.5	2.5	25.0	0.8	0.6	0.3	3.6	69.3	0.3	75.0	100.0		

Owner Occupied						Rented/Provided					FBO/NGO/Church/ Temple/Mosque		
County/Residence	Households	Purchased	Constructed	Inherited	Sub-Total	Local		Private		Individual	e	Sub-Total	Total
						Government	Authority	Parastatal	company				
TURKANA	162,567	3.8	78.1	2.5	84.4	1.0	0.6	0.1	0.5	8.8	4.7	15.6	100.0
Rural	132,583	4.2	84.7	2.4	91.3	0.4	0.2	0.0	0.2	2.3	5.6	8.7	100.0
Urban	29,984	2.3	48.9	2.7	53.9	4.0	2.2	0.3	1.6	37.4	0.6	46.1	100.0
WEST POKOT	115,738	2.8	82.1	2.9	87.7	0.6	0.4	0.1	0.4	10.6	0.1	12.3	100.0
Rural	107,145	2.8	87.1	3.0	92.9	0.4	0.4	0.1	0.2	5.8	0.1	7.1	100.0
Urban	8,593	2.4	19.5	1.5	23.4	3.5	0.2	0.6	2.2	69.8	0.3	76.6	100.0
SAMBURU	63,947	1.1	82.7	1.2	85.1	0.6	0.4	0.1	0.4	13.2	0.3	14.9	100.0
Rural	51,454	0.9	94.7	0.7	96.3	0.2	0.1	0.0	0.1	3.2	0.1	3.7	100.0
Urban	12,493	2.2	33.3	3.3	38.8	2.3	1.7	0.3	1.7	54.2	1.0	61.2	100.0
TRANS NZOIA	222,967	2.4	63.4	1.9	67.7	1.0	0.4	0.9	0.9	28.7	0.4	32.3	100.0
Rural	173,565	2.5	74.4	2.0	78.8	0.4	0.2	0.9	0.7	18.6	0.3	21.2	100.0
Urban	49,402	2.0	24.7	1.9	28.6	2.9	1.0	1.0	1.5	64.5	0.4	71.4	100.0
UASIN GISHU	301,065	2.0	47.1	1.7	50.9	1.1	0.7	0.6	2.1	44.3	0.3	49.1	100.0
Rural	139,935	1.8	79.7	1.7	83.2	0.6	0.2	0.1	0.6	15.0	0.3	16.8	100.0
Urban	161,130	2.2	18.9	1.7	22.8	1.5	1.1	1.1	3.4	69.8	0.4	77.2	100.0
ELGEYO-MARAKWET	99,104	1.1	78.7	2.2	82.0	0.7	0.2	0.1	0.6	16.3	0.2	18.0	100.0
Rural	93,009	1.1	82.2	2.2	85.5	0.5	0.1	0.1	0.3	13.3	0.2	14.5	100.0
Urban	6,095	1.8	24.8	1.8	28.3	4.0	0.3	0.2	4.2	62.4	0.6	71.7	100.0
NANDI	199,024	1.2	75.7	1.7	78.6	0.5	0.3	0.1	4.1	16.1	0.2	21.4	100.0
Rural	180,495	1.2	80.9	1.7	83.9	0.3	0.1	0.1	4.3	11.2	0.1	16.1	100.0
Urban	18,529	1.2	24.8	1.7	27.7	2.8	1.5	0.5	2.4	64.1	1.0	72.3	100.0
BARINGO	141,867	1.3	77.2	1.6	80.1	1.1	0.2	0.3	0.6	17.5	0.2	19.9	100.0
Rural	119,355	1.0	87.0	1.4	89.5	0.5	0.1	0.1	0.3	9.2	0.2	10.5	100.0
Urban	22,512	2.6	25.1	2.3	30.1	4.2	0.7	1.0	2.1	61.6	0.3	69.9	100.0
LAIKIPIA	145,764	2.1	56.6	2.3	61.0	1.3	0.6	0.2	3.1	33.5	0.3	39.0	100.0
Rural	103,013	2.1	73.4	2.4	78.0	0.4	0.1	0.2	2.5	18.6	0.3	22.0	100.0
Urban	42,751	2.1	15.9	2.1	20.1	3.3	1.9	0.3	4.5	69.3	0.5	79.9	100.0
NAKURU	598,156	2.1	41.5	2.4	46.0	1.3	0.8	0.5	3.5	47.6	0.3	54.0	100.0
Rural	269,498	2.4	68.8	3.1	74.4	0.6	0.1	0.2	2.7	21.8	0.3	25.6	100.0
Urban	328,658	1.9	19.0	1.9	22.8	1.9	1.4	0.8	4.1	68.7	0.3	77.2	100.0
NAROK	238,071	1.1	74.3	1.5	76.9	0.5	0.3	0.1	0.8	21.2	0.2	23.1	100.0
Rural	206,255	1.1	83.7	1.5	86.3	0.2	0.3	0.1	0.5	12.5	0.2	13.7	100.0
Urban	31,816	1.1	13.4	1.6	16.0	2.4	0.7	0.2	2.8	77.3	0.5	84.0	100.0
KAJIADO	313,130	1.8	37.5	1.3	40.6	0.6	0.8	0.3	5.3	51.9	0.3	59.4	100.0
Rural	106,510	1.4	80.9	1.3	83.7	0.2	0.5	0.2	1.7	13.4	0.3	16.3	100.0
Urban	206,620	2.0	15.1	1.3	18.5	0.8	1.0	0.4	7.2	71.8	0.4	81.5	100.0
KERICHO	205,890	0.8	71.6	1.9	74.3	0.8	0.2	0.4	4.7	19.4	0.2	25.7	100.0
Rural	175,089	0.8	82.0	2.1	84.9	0.4	0.1	0.3	4.7	9.5	0.1	15.1	100.0
Urban	30,801	0.8	12.2	1.2	14.2	3.1	0.9	0.9	5.0	75.1	0.6	85.8	100.0
BOMET	187,217	0.8	80.8	1.5	83.1	0.3	0.2	0.1	4.2	11.9	0.2	16.9	100.0
Rural	177,874	0.8	84.4	1.5	86.7	0.1	0.1	0.1	4.2	8.6	0.1	13.3	100.0
Urban	9,343	1.1	11.9	0.7	13.8	3.7	2.1	0.1	4.6	74.5	1.3	86.2	100.0
KAKAMEGA	432,191	0.8	83.3	1.4	85.5	0.6	0.2	0.1	0.6	12.8	0.2	14.5	100.0
Rural	377,522	0.7	90.4	1.3	92.4	0.3	0.1	0.1	0.2	6.7	0.1	7.6	100.0
Urban	54,669	1.1	34.4	2.1	37.6	2.2	1.2	0.3	3.4	54.7	0.5	62.4	100.0
VIHIGA	143,265	0.4	85.1	2.6	88.1	0.4	0.1	0.1	0.3	10.8	0.2	11.9	100.0
Rural	127,378	0.4	89.3	2.6	92.2	0.3	0.1	0.1	0.2	6.9	0.2	7.8	100.0
Urban	15,887	0.4	52.1	2.8	55.2	1.4	0.3	0.2	0.7	42.0	0.2	44.8	100.0
BUNGOMA	357,687	1.3	79.3	1.4	82.0	0.5	0.2	0.2	0.4	16.7	0.1	18.0	100.0
Rural	307,128	1.2	86.4	1.3	88.9	0.2	0.1	0.1	0.2	10.3	0.1	11.1	100.0
Urban	50,559	1.5	36.8	1.9	40.1	1.9	0.2	0.4	1.7	55.5	0.2	59.9	100.0
BUSIA	197,921	0.6	80.1	1.0	81.7	0.6	0.2	0.2	0.4	16.7	0.1	18.3	100.0
Rural	167,171	0.6	89.7	0.9	91.2	0.4	0.1	0.1	0.2	8.0	0.1	8.8	100.0
Urban	30,750	0.8	27.8	1.6	30.2	1.7	1.0	1.0	1.7	64.3	0.1	69.8	100.0
SIAYA	249,279	0.4	79.7	1.1	81.2	0.5	0.3	0.2	0.4	17.3	0.2	18.8	100.0
Rural	224,358	0.4	85.8	1.1	87.3	0.3	0.3	0.2	0.3	11.5	0.2	12.7	100.0
Urban	24,921	0.5	24.3	1.2	26.1	2.6	0.2	0.4	1.0	69.5	0.3	73.9	100.0
KISUMU	296,766	1.0	57.1	1.4	59.5	1.4	0.4	1.0	1.2	36.2	0.3	40.5	100.0
Rural	168,767	0.8	85.9	1.1	87.8	0.4	0.2	0.9	0.7	9.7	0.2	12.2	100.0
Urban	127,999	1.3	19.2	1.8	22.3	2.6	0.8	1.3	1.7	71.1	0.3	77.7	100.0
HOMABAY	260,262	0.6	79.7	1.0	81.4	0.5	0.4	0.2	0.6	16.7	0.2	18.6	100.0
Rural	229,154	0.6	87.8	1.0	89.5	0.3	0.3	0.1	0.3	9.4	0.2	10.5	100.0
Urban	31,108	0.7	20.1	1.0	21.8	2.3	0.9	0.7	2.8	71.1	0.4	78.2	100.0
MIGORI	238,078	0.8	77.4	1.1	79.3	0.5	0.2	0.5	0.5	18.9	0.2	20.7	100.0
Rural	195,326	0.7	88.1	1.1	89.9	0.3	0.2	0.1	0.3	9.0	0.2	10.1	100.0
Urban	42,752	1.0	28.5	1.3	30.8	1.1	0.5	2.1	1.2	63.9	0.3	69.2	100.0
KISII	307,224	0.8	80.4	1.9	83.0	0.4	0.2	0.1	0.4	15.8	0.1	17.0	100.0
Rural	261,359	0.8	90.0	1.8	92.6	0.1	0.1	0.0	0.2	7.0	0.1	7.4	100.0
Urban	45,865	0.9	25.5	2.3	28.8	2.0	1.1	0.4	1.5	66.0	0.3	71.2	100.0
NYAMIRA	150,489	0.8	82.9	1.8	85.5	0.4	0.2	0.1	1.4	12.2	0.1	14.5	100.0
Rural	136,583	0.8	87.0	1.8	89.6	0.3	0.1	0.1	1.5	8.3	0.1	10.4	100.0
Urban	13,906	1.0	42.8	1.8	45.6	1.5	1.0	0.3	1.0	50.5	0.0	54.4	100.0
NAIROBI CITY	1,494,096	2.9	5.0	1.4	9.3	1.9	1.6	1.0	6.6	79.3	0.3	90.7	100.0

Appendix 7: Percentage distribution of Households by Tenure Status in Major Urban Centres

Urban Centre	Owner Occupied					Rented/Provided							
	Households	Purchased	Constructed	Inherited	Sub- Total	Government	Local Authority	Parastatal	Private company	Individual	FBO/NGO /Church/ Temple/M	Sub- Total	Total
											osque		
Nairobi City	1,494,096	2.9	5.0	1.4	9.3	1.9	1.6	1.0	6.6	79.3	0.3	90.7	100.0
Mombasa	376,212	2.2	15.5	3.1	20.8	1.5	1.6	1.1	4.3	70.5	0.2	79.2	100.0
Nakuru	175,743	1.9	19.8	1.8	23.5	1.8	2.1	0.9	3.8	67.5	0.4	76.5	100.0
Ruiru	166,815	1.0	18.3	1.5	20.8	0.9	0.3	0.2	4.1	73.4	0.2	79.2	100.0
Eldoret	150,923	2.1	18.4	1.7	22.3	1.5	1.2	1.2	3.5	70.0	0.4	77.7	100.0
Kisumu	116,318	1.3	19.0	1.9	22.2	2.6	0.7	0.8	1.7	71.6	0.3	77.8	100.0
Kikuyu	109,271	0.8	27.2	3.9	31.9	0.5	0.1	0.1	2.2	64.8	0.4	68.1	100.0
Thika	90,795	1.3	11.9	1.2	14.4	1.6	2.2	0.6	5.1	75.7	0.5	85.6	100.0
Naivasha	68,742	1.3	13.3	1.3	15.9	1.6	0.7	0.9	7.3	73.5	0.2	84.1	100.0
Karuri	66,872	0.7	24.1	3.5	28.3	0.2	0.3	0.1	2.5	68.3	0.2	71.7	100.0
Ongata Rongai	58,331	1.8	9.7	1.5	12.9	0.3	0.7	0.2	5.5	79.9	0.5	87.1	100.0
Garissa	26,941	7.3	40.8	2.1	50.2	2.3	2.1	1.0	2.7	41.7	0.1	49.8	100.0
Kitale	45,219	1.9	23.8	2.0	27.6	3.1	1.0	1.1	1.7	65.1	0.4	72.4	100.0
Juja	56,675	0.9	20.0	1.2	22.1	0.2	0.7	0.2	4.3	72.4	0.1	77.9	100.0
Kitengela	53,148	1.6	10.0	0.4	12.1	0.7	1.6	0.7	13.8	70.8	0.2	87.9	100.0
Kiambu	47,675	1.9	27.4	3.3	32.6	1.3	0.2	0.4	5.1	60.2	0.1	67.4	100.0
Mlolongo	47,789	3.5	10.4	0.3	14.2	0.3	0.9	0.6	7.7	76.2	0.2	85.8	100.0
Malindi	33,486	2.2	27.3	3.7	33.2	0.8	1.1	0.3	2.7	61.7	0.3	66.8	100.0
Mandera	17,916	13.1	54.9	2.2	70.1	1.1	1.4	1.1	1.3	25.0	0.0	29.9	100.0
Kisii	35,192	0.6	23.1	2.4	26.1	2.4	1.2	0.4	1.4	68.3	0.2	73.9	100.0
Kakamega	32,969	1.2	30.7	2.3	34.2	3.0	1.0	0.3	1.4	59.8	0.3	65.8	100.0
Ngong	32,758	2.3	21.0	2.1	25.3	1.2	0.8	0.1	3.5	68.6	0.5	74.7	100.0

Appendix 8: Distribution of Households by Size and Number of Habitable Rooms in Major Urban Centres

Urban Centre	Habitable Room 1			Habitable Rooms 2			Habitable Rooms 3+			Total
	HH Size 1	HH Size 2	HH Size 3+	HH Size 1	HH Size 2	HH Size 3+	HH Size 1	HH Size 2	HH Size 3+	
Nairobi City	365,547	192,343	341,302	57,416	44,710	173,630	38,431	41,774	238,943	1,494,096
Mombasa	88,146	46,961	81,909	12,092	10,957	45,755	8,552	9,577	72,263	376,212
Nakuru	33,091	14,280	25,856	8,103	6,447	27,281	6,782	7,492	46,411	175,743
Ruiru	38,450	17,777	26,074	8,140	6,503	24,948	4,225	4,891	35,807	166,815
Eldoret	35,776	16,651	25,412	6,612	4,954	19,817	4,032	4,373	33,296	150,923
Kisumu	19,034	8,787	18,276	6,767	4,852	20,634	4,234	4,346	29,388	116,318
Kikuyu	19,361	7,718	10,587	6,963	4,103	11,922	6,206	6,992	35,419	109,271
Thika	25,497	11,159	17,044	3,697	3,104	11,315	1,975	2,414	14,590	90,795
Naivasha	17,744	7,885	13,794	3,329	2,464	9,909	1,630	1,668	10,319	68,742
Karuri	13,371	5,648	8,674	4,242	2,630	7,825	3,117	3,400	17,965	66,872
Ongata Rongai	12,941	6,259	10,225	2,825	2,112	7,789	1,949	2,165	12,066	58,331
Garissa	2,873	2,068	4,688	579	945	5,881	290	460	9,157	26,941
Kitale	6,992	3,450	6,921	2,401	1,871	8,929	1,336	1,518	11,801	45,219
Juja	14,541	6,024	8,144	3,408	2,327	6,994	1,722	1,823	11,692	56,675
Kitengela	12,578	7,340	12,061	1,853	1,516	5,856	1,380	1,298	9,266	53,148
Kiambu	8,773	3,543	5,518	2,543	1,636	5,425	2,392	2,545	15,300	47,675
Mlolongo	12,854	6,750	10,998	1,097	849	3,482	1,490	1,310	8,959	47,789
Malindi	6,581	3,530	6,383	1,195	1,038	4,373	944	1,088	8,354	33,486
Mandera	823	621	3,086	620	368	4,243	742	221	7,192	17,916
Kisii	7,248	3,341	4,827	1,571	1,189	4,057	1,510	1,439	10,010	35,192
Kakamega	6,101	2,585	3,167	2,104	1,472	4,577	1,592	1,511	9,860	32,969
Ngong	6,688	2,990	4,864	1,518	1,103	4,127	1,194	1,367	8,907	32,758

Appendix 9: Percentage Distribution of Households by Type of Roof Material by County and Residence

County/Residence	NON-DURABLE MATERIALS								DURABLE MATERIALS						
	Households	Grass	Makuti	Dung / mud	Tin cans	Canvas/Tent	Nylon/Carto	Sub-Total	Iron sheets	Asbestos	Concrete/C	Tiles	Decra/Versa	Shingles	Sub-Total
KENYA	12,040,701	5.1	1.6	0.8	0.1	0.07	0.4	8.0	81.0	1.4	8.0	1.0	0.5	0.0	92.0
Rural	7,376,595	7.9	2.3	1.2	0.1	0.09	0.6	12.2	86.0	0.9	0.4	0.2	0.3	0.0	87.8
Urban	4,664,106	0.6	0.5	0.1	0.1	0.04	0.1	1.4	73.2	2.2	20.1	2.3	0.9	0.1	98.6
MOMBASA	376,212	0.1	0.5	0.1	0.1	0.03	0.1	1.0	80.8	2.1	14.6	1.0	0.4	0.1	99.0
KWALE	172,767	4.0	25.4	0.2	0.1	0.05	0.1	29.7	68.4	0.9	0.7	0.1	0.2	0.0	70.3
Rural	135,863	5.0	29.8	0.2	0.1	0.05	0.1	35.3	63.8	0.5	0.2	0.1	0.1	0.0	64.7
Urban	36,904	0.4	8.9	0.0	0.1	0.02	0.0	9.4	85.4	2.1	2.3	0.4	0.4	0.0	90.6
KILIFI	297,935	2.1	20.5	0.1	0.1	0.07	0.1	23.0	72.0	1.1	3.4	0.4	0.2	0.0	77.0
Rural	185,363	3.2	28.7	0.2	0.1	0.09	0.1	32.3	66.2	0.6	0.5	0.3	0.1	0.0	67.7
Urban	112,572	0.4	7.1	0.0	0.1	0.03	0.0	7.6	81.4	1.9	8.1	0.5	0.4	0.0	92.4
TANARIVER	66,964	33.4	8.8	0.9	0.1	1.33	0.8	45.4	53.5	0.5	0.5	0.0	0.0	0.0	54.6
Rural	47,210	45.1	11.5	0.7	0.1	1.46	1.0	59.8	39.6	0.3	0.3	0.0	0.0	0.0	40.2
Urban	19,754	5.7	2.3	1.6	0.1	1.00	0.5	11.1	86.5	1.2	1.0	0.1	0.0	0.0	88.9
LAMU	34,223	8.9	19.0	0.1	0.0	0.42	0.5	29.1	57.0	1.2	12.6	0.0	0.1	0.0	70.9
Rural	23,909	12.2	19.1	0.2	0.1	0.57	0.7	32.8	63.1	0.7	3.3	0.0	0.1	0.0	67.2
Urban	10,314	1.4	18.9	0.0	0.0	0.09	0.0	20.5	42.9	2.2	34.2	0.1	0.0	0.0	79.5
TAITA-TAVETA	94,453	0.9	0.3	0.1	0.3	0.03	0.1	1.8	95.1	1.5	1.0	0.3	0.3	0.0	98.2
Rural	65,005	1.3	0.4	0.1	0.4	0.04	0.1	2.5	96.1	0.7	0.2	0.3	0.3	0.0	97.5
Urban	29,448	0.0	0.0	0.1	0.1	0.02	0.0	0.3	93.0	3.2	2.6	0.5	0.4	0.1	99.7
GARISSA	138,917	33.8	2.2	4.1	0.7	0.23	0.2	41.2	55.0	1.2	2.1	0.3	0.1	0.0	58.8
Rural	101,992	44.3	2.7	5.0	0.7	0.21	0.3	53.1	45.3	0.4	0.9	0.1	0.0	0.0	46.9
Urban	36,925	4.7	1.0	1.7	0.5	0.28	0.1	8.2	81.9	3.4	5.4	0.9	0.2	0.0	91.8
WAJIR	126,874	50.6	3.0	3.5	0.4	0.27	1.0	58.8	38.2	0.8	1.9	0.2	0.0	0.0	41.2
Rural	96,880	58.8	2.8	3.9	0.3	0.32	1.3	67.5	31.1	0.4	0.8	0.1	0.0	0.0	32.5
Urban	29,994	24.2	3.6	2.2	0.5	0.08	0.1	30.6	61.2	2.0	5.4	0.6	0.1	0.1	69.4
MANDERA	123,935	43.0	4.5	4.2	0.5	0.76	0.7	53.6	43.8	0.6	1.8	0.1	0.0	0.0	46.4
Rural	84,711	52.6	5.2	4.9	0.5	1.00	1.0	65.1	33.9	0.3	0.6	0.0	0.0	0.0	34.9
Urban	39,224	22.3	3.0	2.7	0.4	0.24	0.2	28.9	65.0	1.4	4.3	0.3	0.1	0.0	71.1
MARSABIT	76,669	31.1	10.5	1.6	0.2	0.18	11.2	54.7	43.7	0.8	0.7	0.0	0.1	0.0	45.3
Rural	56,445	40.4	13.2	2.0	0.3	0.23	14.7	70.7	28.5	0.4	0.3	0.0	0.0	0.0	29.3
Urban	20,224	5.1	3.1	0.3	0.0	0.02	1.5	10.1	86.0	1.7	1.9	0.1	0.3	0.0	89.9
ISIOLO	53,206	15.9	1.4	2.3	0.2	0.31	6.0	26.1	70.9	0.7	1.8	0.2	0.4	0.0	73.9
Rural	25,348	28.6	2.6	3.3	0.2	0.60	12.5	47.8	51.4	0.4	0.3	0.1	0.0	0.0	52.2
Urban	27,858	4.2	0.3	1.5	0.2	0.04	0.1	6.4	88.6	1.0	3.1	0.3	0.7	0.0	93.6
MERU	423,848	0.5	0.1	0.2	0.1	0.02	0.1	1.1	94.7	1.9	1.4	0.2	0.7	0.1	98.9
Rural	373,233	0.6	0.1	0.2	0.1	0.03	0.1	1.2	95.6	1.8	0.5	0.1	0.7	0.1	98.8
Urban	50,615	0.0	0.0	0.0	0.1	0.01	0.1	0.2	88.2	2.6	7.7	0.5	0.7	0.1	99.8
THARAKA-NITHI	109,425	0.7	0.1	0.3	0.1	0.01	0.0	1.2	95.9	0.7	1.4	0.1	0.7	0.0	98.8
Rural	97,594	0.8	0.1	0.3	0.1	0.01	0.0	1.4	97.0	0.6	0.3	0.1	0.6	0.0	98.6
Urban	11,831	0.1	0.0	0.0	0.1	0.02	0.0	0.2	86.8	0.7	10.7	0.4	1.2	0.0	99.8
EMBU	182,413	0.2	0.0	0.2	0.1	0.01	0.0	0.5	95.3	0.9	2.3	0.3	0.6	0.0	99.5
Rural	154,290	0.2	0.1	0.2	0.1	0.01	0.0	0.6	97.4	0.8	0.4	0.2	0.6	0.0	99.4
Urban	28,123	0.0	0.0	0.0	0.0	0.01	0.0	0.1	83.6	1.4	12.8	1.3	0.8	0.0	99.9
KITUI	261,787	2.7	0.3	0.3	0.1	0.04	0.0	3.5	93.4	1.5	0.9	0.3	0.5	0.0	96.5
Rural	242,581	2.9	0.3	0.3	0.1	0.04	0.0	3.7	93.8	1.4	0.4	0.2	0.5	0.0	96.3
Urban	19,206	0.0	0.0	0.0	0.0	0.08	0.1	0.2	88.0	3.2	7.2	0.8	0.4	0.1	99.8
MACHAKOS	399,453	0.2	0.0	0.1	0.1	0.03	0.0	0.5	86.4	1.9	8.7	1.2	1.2	0.0	99.5
Rural	256,789	0.4	0.1	0.1	0.1	0.02	0.0	0.7	95.8	1.8	0.6	0.2	0.8	0.0	99.3
Urban	142,664	0.0	0.0	0.0	0.1	0.05	0.0	0.2	69.5	2.0	23.3	2.9	2.0	0.1	99.8
MAKUENI	243,948	0.6	0.1	0.1	0.1	0.02	0.0	1.0	96.2	1.6	0.6	0.2	0.5	0.0	99.0
Rural	217,026	0.7	0.1	0.1	0.1	0.02	0.0	1.0	96.6	1.5	0.3	0.1	0.5	0.0	99.0
Urban	26,922	0.1	0.0	0.0	0.1	0.01	0.0	0.3	93.2	2.3	3.1	0.5	0.6	0.0	99.7
NYANDARUA	178,205	0.1	0.0	0.1	0.1	0.01	0.1	0.3	97.6	0.8	0.8	0.1	0.3	0.0	99.7
Rural	154,989	0.1	0.0	0.1	0.1	0.01	0.1	0.4	98.2	0.7	0.3	0.1	0.3	0.0	99.6
Urban	23,216	0.0	0.0	0.0	0.1	0.01	0.0	0.1	93.7	1.5	4.2	0.3	0.2	0.0	99.9
NYERI	244,542	0.1	0.0	0.0	0.1	0.01	0.1	0.4	94.1	1.6	2.9	0.5	0.5	0.1	99.6
Rural	189,078	0.1	0.0	0.0	0.1	0.01	0.1	0.4	97.0	1.2	0.5	0.3	0.5	0.1	99.6
Urban	55,464	0.0	0.0	0.0	0.1	0.02	0.0	0.1	84.3	2.9	10.8	1.1	0.7	0.1	99.9
KIRINYAGA	203,554	0.0	0.0	0.1	0.1	0.01	0.0	0.2	95.2	1.5	2.1	0.2	0.7	0.0	99.8
Rural	154,238	0.0	0.0	0.1	0.1	0.00	0.0	0.2	97.0	1.4	0.5	0.2	0.7	0.0	99.8
Urban	49,316	0.0	0.0	0.1	0.0	0.01	0.0	0.2	89.5	1.7	7.3	0.4	0.8	0.0	99.8
MURANG'A	317,459	0.0	0.0	0.1	0.2	0.01	0.0	0.3	93.8	1.5	3.4	0.3	0.6	0.0	99.7
Rural	276,003	0.0	0.0	0.2	0.2	0.01	0.0	0.4	96.2	1.4	1.2	0.3	0.5	0.0	99.6
Urban	41,456	0.0	0.0	0.1	0.1	0.03	0.0	0.2	78.1	2.2	17.8	0.7	1.0	0.0	99.8
KIAMBU	792,147	0.0	0.0	0.0	0.1	0.02	0.0	0.1	77.3	1.8	17.8	1.4	1.4	0.1	99.9
Rural	207,522	0.0	0.0	0.0	0.1	0.02	0.1	0.2	94.8	1.6	1.7	0.8	0.8	0.1	99.8
Urban	584,625	0.0	0.0	0.0	0.1	0.02	0.0	0.1	71.1	1.9	23.5	1.6	1.6	0.1	99.9
TURKANA	162,567	41.3	19.5	1.1	0.3	0.86	2.7	65.7	33.5	0.4	0.3	0.0	0.0	0.0	34.3
Rural	132,583	48.4	22.5	1.1	0.3	0.99	3.0	76.4	23.2	0.3	0.2	0.0	0.0	0.0	23.6
Urban	29,984	9.9	6.1	0.8	0.1	0.28	1.4	18.5	79.3	1.1	0.8	0.1	0.2	0.0	81.5

County/Residence	NON-DURABLE MATERIALS								DURABLE MATERIALS						
	Households	Grass thatch	Makuti	Dung / mud	Tin cans	Canvas/Tents	Nylon/Cartons/Cardboard	Sub-Total	Iron sheets	Asbestos sheet	Concrete/Cement	Tile	Decra/Versatile	Shingles	Sub-Total
		Households	Households	Households	Households	Households	Households	Households	Households	Households	Households	Households	Households	Households	Households
WEST POKOT	115,738	50.1	0.6	2.8	0.1	0.03	0.1	53.7	45.6	0.3	0.2	0.1	0.1	0.0	46.3
Rural	107,145	54.1	0.7	3.0	0.1	0.03	0.1	57.9	41.6	0.3	0.1	0.0	0.0	0.0	42.1
Urban	8,593	0.3	0.0	0.3	0.1	0.01	0.0	0.7	95.6	1.1	1.3	0.7	0.6	0.0	99.3
SAMBURU	63,947	21.7	6.7	19.5	0.3	0.07	18.9	67.2	31.5	0.8	0.5	0.0	0.1	0.0	32.8
Rural	51,454	26.2	8.1	23.8	0.3	0.08	23.1	81.5	17.7	0.5	0.2	0.0	0.0	0.0	18.5
Urban	12,493	3.1	0.9	2.2	0.3	0.01	1.7	8.1	88.3	1.7	1.5	0.2	0.2	0.0	91.9
TRANS NZOIA	222,967	2.3	0.1	0.8	0.1	0.03	0.1	3.4	94.3	1.0	0.5	0.5	0.2	0.0	96.6
Rural	173,565	2.9	0.1	1.0	0.1	0.02	0.1	4.2	94.5	0.7	0.2	0.2	0.2	0.0	95.8
Urban	49,402	0.0	0.0	0.2	0.1	0.06	0.1	0.5	93.8	2.2	1.6	1.7	0.3	0.0	99.5
UASIN GISHU	301,065	0.9	0.1	0.3	0.1	0.02	0.0	1.4	93.3	1.6	1.4	1.7	0.6	0.0	98.6
Rural	139,935	1.9	0.1	0.5	0.1	0.02	0.1	2.7	95.5	1.0	0.1	0.3	0.3	0.0	97.3
Urban	161,130	0.0	0.0	0.1	0.1	0.01	0.0	0.3	91.3	2.1	2.6	2.9	0.8	0.0	99.7
ELGEYO-MARAKA	99,104	16.6	0.2	0.8	0.1	0.03	0.1	17.8	80.8	0.8	0.2	0.2	0.1	0.0	82.2
Rural	93,009	17.6	0.2	0.8	0.1	0.03	0.1	18.9	79.9	0.7	0.2	0.1	0.1	0.0	81.1
Urban	6,095	0.2	0.0	0.1	0.1	0.00	0.0	0.4	95.3	1.9	0.5	1.7	0.2	0.0	99.6
NANDI	199,024	2.0	0.1	0.7	0.1	0.02	0.0	2.9	95.2	1.1	0.3	0.3	0.2	0.0	97.1
Rural	180,495	2.2	0.1	0.7	0.1	0.02	0.0	3.2	95.2	1.0	0.2	0.2	0.2	0.0	96.8
Urban	18,529	0.0	0.0	0.2	0.0	0.02	0.0	0.3	95.2	2.1	1.1	1.0	0.3	0.0	99.7
BARINGO	141,867	22.3	0.4	1.1	0.1	0.04	0.1	24.0	74.6	0.8	0.3	0.2	0.1	0.0	76.0
Rural	119,355	26.5	0.4	1.3	0.1	0.04	0.1	28.4	70.6	0.6	0.1	0.1	0.1	0.0	71.6
Urban	22,512	0.2	0.0	0.1	0.2	0.03	0.0	0.5	95.5	1.6	1.2	0.9	0.3	0.0	99.5
LAikipia	145,764	5.4	0.2	1.3	0.2	0.14	1.7	8.9	86.8	1.1	2.5	0.4	0.3	0.0	91.1
Rural	103,013	7.6	0.3	1.9	0.1	0.18	2.4	12.4	86.4	0.6	0.3	0.1	0.1	0.0	87.6
Urban	42,751	0.1	0.0	0.0	0.3	0.05	0.0	0.5	87.7	2.2	7.6	1.4	0.6	0.0	99.5
NAKURU	598,156	1.8	0.1	0.2	0.1	0.05	0.2	2.5	91.8	1.6	2.8	0.8	0.4	0.0	97.5
Rural	269,498	3.9	0.2	0.4	0.1	0.07	0.4	5.1	93.2	0.9	0.3	0.2	0.2	0.0	94.9
Urban	328,658	0.0	0.0	0.1	0.1	0.03	0.1	0.3	90.6	2.2	4.9	1.3	0.6	0.1	99.7
NAROK	238,071	14.6	0.6	6.2	0.1	0.42	1.6	23.7	75.0	0.8	0.4	0.0	0.1	0.0	76.3
Rural	206,255	16.9	0.7	7.2	0.1	0.48	1.9	27.3	71.8	0.6	0.2	0.0	0.1	0.0	72.7
Urban	31,816	0.1	0.2	0.1	0.1	0.03	0.0	0.6	95.4	1.6	2.0	0.2	0.2	0.0	99.4
Kajiado	313,130	6.1	0.2	3.3	0.1	0.08	0.7	10.7	70.4	2.0	13.7	2.0	1.2	0.0	89.3
Rural	106,510	18.0	0.6	9.8	0.2	0.16	2.1	30.8	66.3	1.2	0.9	0.5	0.3	0.0	69.2
Urban	206,620	0.0	0.0	0.0	0.1	0.04	0.1	0.3	72.5	2.4	20.3	2.8	1.6	0.0	99.7
KERICHO	205,890	2.2	0.1	0.5	0.1	0.02	0.0	3.0	94.7	0.9	0.8	0.2	0.3	0.0	97.0
Rural	175,089	2.6	0.2	0.5	0.1	0.01	0.0	3.4	94.9	0.9	0.4	0.2	0.3	0.0	96.6
Urban	30,801	0.0	0.0	0.1	0.1	0.08	0.1	0.4	94.0	1.3	3.2	0.6	0.3	0.0	99.6
BOMET	187,217	6.8	0.2	0.5	0.1	0.01	0.0	7.6	90.8	0.6	0.7	0.2	0.1	0.0	92.4
Rural	177,874	7.2	0.2	0.6	0.1	0.01	0.0	8.0	90.5	0.6	0.5	0.2	0.1	0.0	92.0
Urban	9,343	0.1	0.0	0.0	0.1	0.00	0.0	0.2	95.1	0.6	3.8	0.2	0.1	0.0	99.8
KAKAMEGA	432,191	3.7	0.1	1.0	0.1	0.00	0.0	5.0	93.5	0.8	0.4	0.1	0.2	0.0	95.0
Rural	377,522	4.2	0.1	1.1	0.1	0.00	0.0	5.6	93.3	0.7	0.2	0.1	0.2	0.0	94.4
Urban	54,669	0.2	0.0	0.5	0.1	0.00	0.0	0.8	95.2	1.6	1.8	0.4	0.3	0.0	99.2
VIHIGA	143,265	0.2	0.1	0.8	0.1	0.00	0.0	1.2	97.7	0.4	0.4	0.2	0.1	0.0	98.8
Rural	127,378	0.2	0.1	0.9	0.1	0.00	0.0	1.3	97.9	0.4	0.2	0.2	0.1	0.0	98.7
Urban	15,887	0.1	0.1	0.4	0.1	0.02	0.0	0.8	95.7	0.8	2.3	0.2	0.2	0.0	99.2
BUNGOMA	357,687	2.0	0.1	1.0	0.1	0.01	0.0	3.3	95.1	0.9	0.3	0.1	0.2	0.0	96.7
Rural	307,128	2.4	0.1	1.1	0.1	0.01	0.0	3.8	95.2	0.7	0.2	0.1	0.1	0.0	96.2
Urban	50,559	0.0	0.0	0.3	0.1	0.02	0.0	0.6	94.6	2.0	1.5	0.6	0.6	0.1	99.4
BUSIA	197,921	10.8	0.2	0.5	0.1	0.02	0.0	11.5	86.8	0.8	0.5	0.1	0.2	0.0	88.5
Rural	167,171	12.6	0.2	0.5	0.1	0.01	0.0	13.5	85.4	0.7	0.2	0.1	0.2	0.0	86.5
Urban	30,750	0.7	0.1	0.1	0.1	0.03	0.1	1.1	94.5	1.6	2.2	0.2	0.4	0.0	98.9
SIAYA	249,279	4.4	0.2	0.4	0.1	0.01	0.0	5.0	93.2	0.8	0.4	0.2	0.4	0.0	95.0
Rural	224,358	4.8	0.2	0.4	0.1	0.01	0.0	5.5	93.1	0.7	0.2	0.2	0.3	0.0	94.5
Urban	24,921	0.4	0.1	0.1	0.2	0.00	0.0	0.8	94.3	2.0	1.9	0.6	0.5	0.0	99.2
KISUMU	296,766	0.4	0.1	0.4	0.1	0.01	0.0	1.0	93.9	1.5	2.4	0.7	0.5	0.0	99.0
Rural	168,767	0.7	0.1	0.7	0.1	0.00	0.0	1.6	96.7	0.9	0.3	0.2	0.4	0.0	98.4
Urban	127,999	0.0	0.0	0.1	0.1	0.01	0.0	0.3	90.3	2.3	5.2	1.4	0.5	0.0	99.7
HOMABAY	260,262	0.9	0.1	0.6	0.2	0.01	0.0	1.8	96.6	0.8	0.4	0.1	0.4	0.0	98.2
Rural	229,154	1.0	0.1	0.7	0.2	0.01	0.0	2.0	96.7	0.7	0.2	0.1	0.4	0.0	98.0
Urban	31,108	0.0	0.0	0.1	0.2	0.02	0.0	0.3	95.9	1.2	1.8	0.2	0.5	0.0	99.7
MIGORI	238,078	2.5	0.2	0.8	0.1	0.01	0.0	3.6	94.5	1.0	0.5	0.1	0.3	0.0	96.4
Rural	195,326	3.0	0.2	0.9	0.1	0.01	0.0	4.2	94.5	0.6	0.3	0.1	0.3	0.0	95.8
Urban	42,752	0.1	0.1	0.2	0.1	0.01	0.0	0.5	94.4	2.7	1.3	0.4	0.7	0.0	99.5
KISHI	307,224	1.0	0.1	0.9	0.1	0.00	0.0	2.1	95.5	0.5	1.5	0.1	0.3	0.0	97.9
Rural	261,359	1.2	0.1	1.0	0.1	0.00	0.0	2.4	96.5	0.4	0.3	0.1	0.3	0.0	97.6
Urban	45,865	0.1	0.0	0.1	0.1	0.00	0.0	0.3	90.0	0.7	8.2	0.4	0.4	0.0	99.7
NYAMIRA	150,489	0.7	0.1	1.0	0.1	0.01	0.0	1.9	96.4	0.6	0.7	0.2	0.3	0.0	98.1
Rural	136,583	0.8	0.1	1.1	0.1	0.01	0.0	2.1	96.6	0.6	0.3	0.1	0.3	0.0	97.9
Urban	13,906	0.1	0.0	0.2	0.1	0.00	0.0	0.5	93.8	0.6	4.4	0.5	0.2	0.0	99.5
NAIROBI CITY	1,494,096	0.0	0.0	0.0	0.1	0.04	0.0	0.2	53.4	2.5	38.6	4.3	1.0	0.1	99.8

Appendix 10: Percentage distribution of households by Main Roof Materials in Major Urban Centres

Urban Centre	Households	NON-DURABLE MATERIALS							DURABLE MATERIALS							Total
		Grass thatch/tw igs	Makuti thatch	Dung / mud	Tin cans	Canvas/T ents	Nylon/Cartons/Car dboard	Sub-Total	Iron sheets	Asbestos sheet	Concrete/C ement	Tiles	Decra/Versa tile	Shingles	Sub-Total	
Nairobi City	1,494,096	0.0	0.0	0.0	0.1	0.0	0.0	0.2	53.4	2.5	38.6	4.3	1.0	0.1	99.8	100.0
Mombasa	376,212	0.1	0.5	0.1	0.1	0.0	0.1	1.0	80.8	2.1	14.6	1.0	0.4	0.1	99.0	100.0
Nakuru	175,743	0.0	0.0	0.1	0.1	0.0	0.0	0.3	88.4	2.5	6.0	2.0	0.8	0.1	99.7	100.0
Ruiru	166,815	0.0	0.0	0.0	0.0	0.0	0.0	0.1	58.8	2.2	34.6	1.9	2.2	0.1	99.9	100.0
Eldoret	150,923	0.0	0.0	0.1	0.1	0.0	0.0	0.3	91.0	2.2	2.7	3.1	0.8	0.0	99.7	100.0
Kisumu	116,318	0.0	0.0	0.1	0.1	0.0	0.0	0.3	89.8	2.3	5.5	1.5	0.6	0.0	99.7	100.0
Kikuyu	109,271	0.0	0.0	0.0	0.1	0.0	0.0	0.1	78.9	1.7	16.8	1.4	0.9	0.1	99.9	100.0
Thika	90,795	0.0	0.0	0.0	0.1	0.0	0.0	0.1	74.4	2.2	19.9	2.1	1.1	0.1	99.9	100.0
Naivasha	68,742	0.0	0.0	0.0	0.1	0.0	0.1	0.2	91.9	1.8	4.7	0.6	0.6	0.1	99.8	100.0
Karuri	66,872	0.0	0.0	0.0	0.1	0.0	0.0	0.1	78.1	1.7	17.5	1.3	1.2	0.1	99.9	100.0
Ongata Rongai	58,331	0.0	0.0	0.0	0.1	0.0	0.0	0.2	68.0	1.8	25.7	2.9	1.4	0.0	99.8	100.0
Garissa	26,941	1.7	0.6	1.0	0.3	0.1	0.1	3.8	84.9	3.7	6.2	1.2	0.2	0.0	96.2	100.0
Kitale	45,219	0.0	0.0	0.2	0.1	0.1	0.1	0.5	93.3	2.3	1.7	1.8	0.3	0.0	99.5	100.0
Juja	56,675	0.0	0.0	0.0	0.0	0.0	0.0	0.1	68.6	1.7	27.0	0.8	1.7	0.1	99.9	100.0
Kitengela	53,148	0.0	0.0	0.0	0.2	0.1	0.0	0.3	57.3	3.0	34.7	2.3	2.3	0.0	99.7	100.0
Kiambu	47,675	0.0	0.0	0.0	0.1	0.0	0.0	0.1	72.2	1.3	21.1	2.0	3.2	0.1	99.9	100.0
Mlolongo	47,789	0.0	0.0	0.0	0.1	0.0	0.0	0.2	52.2	1.2	38.1	5.0	3.3	0.2	99.8	100.0
Malindi	33,486	0.3	5.6	0.0	0.1	0.0	0.0	6.1	78.7	1.8	12.8	0.3	0.2	0.0	93.9	100.0
Mandera	17,916	22.2	2.5	1.8	0.3	0.3	0.2	27.3	66.1	1.6	4.5	0.4	0.1	0.1	72.7	100.0
Kisii	35,192	0.1	0.0	0.1	0.1	0.0	0.0	0.3	88.7	0.7	9.4	0.4	0.4	0.0	99.7	100.0
Kakamega	32,969	0.0	0.0	0.3	0.1	0.0	0.0	0.4	94.6	1.7	2.5	0.5	0.3	0.0	99.6	100.0
Ngong	32,758	0.0	0.0	0.0	0.1	0.1	0.1	0.2	77.0	2.1	13.6	5.2	1.8	0.0	99.8	100.0

Appendix 11: Percentage Distribution of Households by Type of Wall Material by County and Residence

NON-DURABLE MATERIALS															DURABLE MATERIALS					
County/Residence	Households	Cane/pa ks	Grass/ree ds	Mud/co w dung	Stonewith mud	Covered adobe	Uncovere d adobe	Off cuts/Reus				Canvas/T ents	Nylon/Ca rtons	Concrete/Co Stone			Bricks	Timber	Prefabricated panels	Sub-Total
								Plywood/ Cardboar	wood/Wo od planks	Iron sheets	ncrete blocks/			with lime/						
KENYA	12,040,701	0.8	1.9	27.2	3.5	2.7	1.0	0.4	1.4	9.6	0.1	0.2	48.7	16.6	16.8	10.2	7.7	0.0	51.3	
Rural	7,376,595	1.2	2.9	40.9	4.2	3.0	1.4	0.4	1.8	6.0	0.1	0.3	62.1	6.8	8.6	11.2	11.2	0.0	37.9	
Urban	4,664,106	0.2	0.4	5.5	2.4	2.2	0.3	0.3	0.7	15.3	0.0	0.0	27.4	31.9	29.9	8.5	2.3	0.0	72.6	
MOMBASA	376,212	0.0	0.0	4.8	5.9	4.9	1.2	0.1	0.1	2.0	0.0	0.0	19.1	32.8	38.3	9.7	0.0	0.1	80.9	
KWALE	172,767	0.4	0.6	46.2	7.8	1.5	0.7	0.0	0.1	0.9	0.0	0.1	58.4	9.6	27.3	4.7	0.1	0.0	41.6	
Rural	135,863	0.5	0.7	57.5	8.8	1.2	0.7	0.0	0.1	0.8	0.0	0.1	70.5	6.5	19.5	3.4	0.1	0.0	29.5	
Urban	36,904	0.1	0.0	4.9	4.1	2.7	1.1	0.0	0.0	1.2	0.0	0.0	14.2	20.6	55.9	9.2	0.1	0.0	85.8	
KILIFI	297,935	0.4	0.6	38.7	10.2	1.6	0.8	0.0	0.1	0.9	0.1	0.1	53.5	16.1	19.8	10.4	0.1	0.0	46.5	
Rural	185,363	0.5	0.8	56.6	12.3	1.2	0.8	0.0	0.1	0.8	0.1	0.1	73.4	8.0	12.3	6.1	0.1	0.0	26.6	
Urban	112,572	0.2	0.1	9.4	6.8	2.2	0.8	0.0	0.1	1.1	0.0	0.0	20.7	29.5	32.2	17.5	0.0	0.0	79.3	
TANA RIVER	66,964	1.8	21.5	37.9	14.1	1.0	0.4	0.1	0.5	1.9	1.1	0.6	80.9	8.7	5.9	4.3	0.2	0.0	19.1	
Rural	47,210	2.3	28.7	43.4	12.7	0.6	0.3	0.1	0.7	1.4	1.2	0.7	92.0	3.2	3.1	1.6	0.1	0.0	8.0	
Urban	19,754	0.6	4.3	24.8	17.6	1.9	0.5	0.2	0.1	3.2	0.9	0.5	54.4	21.9	12.6	10.7	0.3	0.1	45.6	
LAMU	34,223	2.1	1.9	40.6	11.6	2.8	0.8	0.1	0.2	1.3	0.4	0.7	62.4	15.8	14.4	7.1	0.3	0.1	37.6	
Rural	23,909	1.0	2.1	55.7	12.3	1.3	0.6	0.1	0.2	1.4	0.5	0.8	76.0	9.3	9.9	4.3	0.3	0.2	24.0	
Urban	10,314	4.5	1.5	5.5	9.9	6.2	1.2	0.1	0.3	1.2	0.1	0.3	30.9	30.9	24.7	13.3	0.1	0.0	69.1	
TAITA-TAVETA	94,453	0.2	0.1	19.4	5.5	16.2	7.1	0.0	0.2	2.7	0.1	0.1	51.6	11.6	8.0	28.7	0.1	0.1	48.4	
Rural	65,005	0.3	0.1	25.0	6.2	17.7	9.4	0.1	0.2	3.4	0.1	0.1	62.6	8.4	6.6	22.2	0.1	0.0	37.4	
Urban	29,448	0.1	0.0	7.2	3.7	13.0	2.1	0.0	0.1	1.1	0.1	0.0	27.4	18.5	11.1	42.8	0.1	0.1	72.6	
GARISSA	138,917	5.7	29.0	13.1	12.0	2.6	0.7	0.2	0.6	13.4	0.1	0.1	77.5	8.2	6.9	6.6	0.8	0.0	22.5	
Rural	101,992	7.3	38.0	16.4	11.9	1.9	0.5	0.2	0.6	15.1	0.1	0.1	92.2	2.4	3.0	1.5	0.8	0.0	7.8	
Urban	36,925	1.2	4.1	4.0	12.3	4.6	1.3	0.1	0.4	8.5	0.2	0.1	36.8	24.4	17.5	20.6	0.7	0.1	63.2	
WAJIR	126,874	9.3	41.0	9.5	10.8	1.3	0.5	0.2	0.7	7.5	0.1	0.9	81.9	6.9	5.7	4.3	1.2	0.0	18.1	
Rural	96,880	10.9	47.0	11.4	10.8	1.0	0.4	0.2	0.9	6.8	0.1	1.2	90.7	3.1	2.5	2.4	1.3	0.0	9.3	
Urban	29,994	4.1	21.5	3.4	10.7	2.4	1.1	0.2	0.4	9.5	0.1	0.1	53.4	19.1	15.9	10.4	1.2	0.0	46.6	
MANDERA	123,935	12.6	33.4	9.9	11.8	0.9	0.3	0.1	1.8	7.9	0.5	0.7	80.0	5.8	6.9	5.4	1.8	0.0	20.0	
Rural	84,711	14.1	41.6	11.9	10.5	0.6	0.3	0.2	2.0	6.8	0.7	0.9	89.6	2.0	3.2	3.1	2.1	0.0	10.4	
Urban	39,224	9.4	15.7	5.6	14.6	1.4	0.5	0.1	1.5	10.4	0.1	0.2	59.5	14.1	15.0	10.4	1.0	0.0	40.5	
MARSABIT	76,669	19.4	7.7	20.4	3.6	2.6	0.6	0.4	3.4	5.2	0.2	9.6	73.2	11.2	8.4	5.7	1.5	0.0	26.8	
Rural	56,445	25.0	10.2	24.4	3.2	1.2	0.6	0.6	3.7	5.4	0.2	12.7	87.2	4.6	4.4	2.3	1.6	0.0	12.8	
Urban	20,224	3.8	0.7	9.1	4.7	6.5	0.8	0.1	2.6	4.8	0.0	0.8	33.9	29.6	19.6	15.3	1.5	0.0	66.1	
ISIOLO	53,206	1.4	12.5	30.8	5.8	0.9	0.3	1.0	2.7	5.3	0.1	1.5	62.4	11.2	8.5	3.4	14.4	0.0	37.6	
Rural	25,348	2.8	21.9	47.9	6.5	1.1	0.4	0.1	0.4	7.2	0.2	3.2	91.7	2.8	3.0	0.7	1.8	0.0	8.3	
Urban	27,858	0.2	4.0	15.3	5.1	0.6	0.2	1.8	4.8	3.6	0.0	0.0	35.7	18.9	13.5	5.9	26.0	0.1	64.3	
MERU	423,848	0.4	0.2	5.1	0.5	0.5	0.4	1.9	5.5	1.8	0.0	0.1	16.3	8.8	14.0	3.0	57.8	0.0	83.7	
Rural	373,233	0.4	0.3	5.7	0.6	0.5	0.4	2.0	5.5	1.8	0.0	0.2	17.4	6.4	11.0	2.9	62.3	0.0	82.6	
Urban	50,615	0.1	0.0	0.2	0.1	0.3	0.1	1.0	5.2	1.4	0.0	0.0	8.5	26.9	36.3	3.9	24.4	0.0	91.5	
THARAKA-NITHI	109,425	0.4	0.2	26.8	1.6	2.5	1.9	0.8	1.8	1.4	0.0	0.0	37.4	6.2	17.2	6.6	32.5	0.1	62.6	
Rural	97,594	0.5	0.2	29.9	1.7	2.7	2.1	0.7	1.7	1.4	0.0	0.0	41.0	4.5	13.6	6.7	34.2	0.1	59.0	
Urban	11,831	0.0	0.0	1.3	0.7	0.4	0.1	1.3	2.2	1.2	0.0	0.0	7.3	20.6	46.9	6.0	19.2	0.0	92.7	
EMBU	182,413	0.1	0.1	16.0	2.0	5.6	3.5	0.2	1.2	3.3	0.0	0.0	32.0	8.1	18.9	20.9	20.2	0.0	68.0	
Rural	154,290	0.1	0.1	18.6	2.3	6.4	4.1	0.2	1.1	2.6	0.0	0.0	35.5	5.4	13.9	23.1	22.0	0.0	64.5	
Urban	28,123	0.1	0.0	1.4	0.3	1.1	0.3	0.1	2.1	7.0	0.0	0.0	12.4	22.6	46.4	8.6	10.0	0.0	87.6	
KITUI	261,787	0.5	0.4	11.6	4.4	8.5	7.5	0.0	0.5	1.8	0.0	0.0	35.2	10.8	7.4	46.4	0.2	0.0	64.8	
Rural	242,581	0.5	0.4	12.5	4.7	8.7	8.1	0.0	0.5	1.7	0.0	0.0	37.3	8.5	6.4	47.5	0.2	0.0	62.7	
Urban	19,206	0.0	0.0	0.2	0.5	5.8	0.3	0.0	0.1	1.9	0.0	0.0	8.7	39.2	19.9	32.1	0.0	0.0	91.3	
MACHAKOS	399,453	0.0	0.0	0.8	2.5	6.8	4.8	0.1	0.1	9.2	0.0	0.0	24.4	19.7	24.3	31.5	0.1	0.0	75.6	
Rural	256,789	0.0	0.0	1.1	3.5	9.5	7.2	0.1	0.1	3.8	0.0	0.0	25.4	10.0	18.7	45.9	0.1	0.0	74.6	
Urban	142,664	0.0	0.0	0.3	0.5	2.1	0.4	0.1	0.1	19.0	0.0	0.0	22.6	37.0	34.5	5.6	0.2	0.1	77.4	
MAKUENI	243,948	0.1	0.0	3.5	3.3	14.5	6.4	0.0	0.1	2.4	0.1	0.0	30.4	7.9	6.0	55.7	0.1	0.0	69.6	
Rural	217,026	0.1	0.0	3.9	3.6	14.4	7.1	0.0	0.1	2.2	0.1	0.0	31.4	5.7	5.4	57.4	0.1	0.1	68.6	
Urban	26,922	0.0	0.0	0.4	1.4	15.3	1.1	0.0	0.0	3.8	0.0	0.0	22.1	25.4	10.7	41.5	0.2	0.0	77.9	
NYANDARUA	178,205	0.1	0.0	17.5	1.1	0.5	0.4	1.0	9.4	12.2	0.0	0.1	42.4	7.3	19.7	0.8	29.8	0.0	57.6	
Rural	154,989	0.1	0.0	20.0	1.2	0.6	0.5	1.0	10.3	13.5	0.0	0.1	47.3	5.0	15.2	0.8	31.7	0.0	52.7	
Urban	23,216	0.1	0.0	1.0	0.6	0.1	0.0	0.8	3.4	3.9	0.0	0.0	9.9	23.0	49.4	0.7	17.0	0.0	90.1	
NYERI	244,542	0.1	0.0	1.7	0.3	1.2	0.8	0.5	6.4	4.0	0.0	0.1	15.1	12.2	18.6	2.5	51.5	0.0	84.9	
Rural	189,078	0.1	0.0	2.1	0.3	1.3	1.1	0.6	6.9	4.2	0.0	0.1	16.7	7.0	13.5	2.9	59.7	0.0	83.3	
Urban	55,464	0.0	0.0	0.2	0.3	0.8	0.1	0.3	4.6	3.4	0.0	0.0	9.6	29.7	35.8	1.2	23.7	0.0	90.4	
KIRINYAGA	203,554	0.0	0.0	10.2	1.9	4.7	2.2	0.3	2.8	3.7	0.0									

NON-DURABLE MATERIALS													DURABLE MATERIALS							
County/Residence	Households	Off cuts/Reus										Concrete/Co Stone				Prefabricated		Sub-Total		
		Cane/pa		Mud/co		Stone with		Covered		Uncovere		Plywood/ ed		Concrete/Co Stone						
		Im/trun	Grass/ree	Mud/co	Stone with	Covered	Uncovere	Cardboar	wood/Wo	Iron	Canvas/T	Nylon/Ca	Sub-Total	blocks/	time/	Bricks	Timber			
WEST POKOT	115,738	1.0	3.0	74.7	5.6	1.5	0.2	0.1	0.3	0.8	0.0	0.0	87.3	4.4	2.0	5.9	0.5	0.0	12.7	
Rural	107,145	1.0	3.3	79.2	5.7	1.1	0.1	0.1	0.3	0.7	0.0	0.0	91.6	3.1	1.7	3.1	0.5	0.0	8.4	
Urban	8,593	0.0	0.0	18.9	4.0	7.0	1.5	0.1	0.1	2.3	0.0	0.0	34.0	19.8	5.3	40.7	0.3	0.0	66.0	
SAMBURU	63,947	6.3	1.7	52.8	1.6	0.5	0.1	0.3	2.1	2.7	0.0	7.1	75.2	10.7	7.8	1.6	4.7	0.0	24.8	
Rural	51,454	7.3	2.1	62.5	1.4	0.2	0.1	0.3	2.0	2.6	0.0	8.7	87.2	4.2	4.6	0.8	3.2	0.0	12.8	
Urban	12,493	2.0	0.2	12.9	2.4	1.8	0.2	0.3	2.3	3.2	0.0	0.4	25.8	37.1	20.9	5.2	11.0	0.0	74.2	
TRANSN ZOI A	222,967	0.0	0.2	58.7	6.6	2.8	0.4	0.1	0.1	1.3	0.0	0.0	70.3	7.5	3.5	18.5	0.2	0.0	29.7	
Rural	173,565	0.0	0.2	68.3	7.6	2.3	0.4	0.1	0.1	1.0	0.0	0.0	80.0	5.0	2.8	12.0	0.1	0.0	20.0	
Urban	49,402	0.0	0.0	25.1	2.8	4.7	0.4	0.1	0.2	2.5	0.1	0.0	36.0	16.3	6.2	41.1	0.4	0.0	64.0	
UASIN GISHU	301,065	0.0	0.1	33.3	2.8	2.1	0.3	0.4	1.3	9.7	0.0	0.0	49.9	24.0	8.7	12.2	5.1	0.0	50.1	
Rural	139,935	0.1	0.1	54.2	3.7	1.8	0.3	0.4	2.2	6.0	0.0	0.0	68.7	8.7	3.9	9.1	9.6	0.0	31.3	
Urban	161,130	0.0	0.0	15.1	2.0	2.3	0.4	0.5	0.5	12.8	0.0	0.0	33.6	37.3	13.0	14.9	1.3	0.0	66.4	
ELGEYO-MARAKWET	99,104	0.2	0.6	36.5	11.7	1.0	0.3	0.4	2.1	9.5	0.0	0.0	62.3	5.9	4.0	8.1	19.7	0.0	37.7	
Rural	93,009	0.3	0.6	38.4	12.4	0.9	0.3	0.3	2.0	9.4	0.0	0.0	64.7	5.0	3.9	6.1	20.3	0.0	35.3	
Urban	6,095	0.0	0.0	7.2	1.3	1.8	0.3	1.0	3.0	10.5	0.0	0.0	25.1	18.6	5.5	39.2	11.6	0.0	74.9	
NANDI	199,024	0.0	0.1	59.0	3.1	3.4	0.4	0.3	0.6	2.4	0.0	0.0	69.4	10.1	4.4	12.1	3.9	0.0	30.6	
Rural	180,495	0.0	0.1	62.8	3.2	2.5	0.4	0.2	0.6	2.1	0.0	0.0	72.0	9.5	4.4	9.9	4.1	0.0	28.0	
Urban	18,529	0.0	0.0	22.3	1.6	12.2	0.8	0.4	1.0	5.7	0.0	0.0	44.0	15.5	5.1	33.6	1.8	0.0	56.0	
BARINGO	141,867	1.9	3.2	36.3	3.0	0.2	0.1	0.3	3.1	18.5	0.0	0.0	66.7	7.5	5.6	1.3	18.8	0.0	33.3	
Rural	119,355	2.2	3.8	41.0	3.4	0.2	0.1	0.3	2.8	18.5	0.0	0.1	72.4	4.6	3.8	0.9	18.2	0.0	27.6	
Urban	22,512	0.0	0.0	11.6	0.8	0.3	0.1	0.7	4.3	18.5	0.0	0.0	36.3	22.9	15.3	3.3	22.3	0.0	63.7	
LAIKIPIA	145,764	0.4	0.2	19.5	1.0	0.3	0.1	0.8	8.2	9.1	0.0	0.5	40.2	12.2	14.5	1.4	31.7	0.0	59.8	
Rural	103,013	0.5	0.3	26.7	1.1	0.3	0.1	0.6	8.7	10.9	0.1	0.6	50.0	6.0	6.7	1.3	36.0	0.0	50.0	
Urban	42,751	0.2	0.0	2.3	0.5	0.4	0.0	1.2	7.2	4.8	0.0	0.0	16.7	27.1	33.4	1.7	21.1	0.0	83.3	
NAKURU	598,156	0.1	0.1	24.3	2.4	1.3	0.2	0.4	2.8	6.3	0.0	0.1	38.0	18.2	32.7	2.6	8.5	0.0	62.0	
Rural	269,498	0.2	0.2	43.4	2.0	0.8	0.2	0.5	4.2	8.8	0.1	0.2	60.5	7.5	15.7	2.0	14.4	0.0	39.5	
Urban	328,658	0.0	0.0	8.6	2.7	1.6	0.2	0.4	1.6	4.3	0.0	0.0	19.5	26.9	46.7	3.1	3.7	0.0	80.5	
NAROK	238,071	0.4	0.7	60.3	1.9	0.8	0.1	0.7	1.8	7.5	0.1	0.2	74.5	6.8	6.8	2.0	9.8	0.0	25.5	
Rural	206,255	0.4	0.8	68.9	2.0	0.6	0.1	0.7	2.0	5.1	0.1	0.2	81.0	4.1	2.7	1.2	11.0	0.0	19.0	
Urban	31,816	0.2	0.0	4.4	1.7	2.0	0.2	0.5	0.7	23.2	0.0	0.0	32.8	24.5	33.5	7.1	2.1	0.0	67.2	
KAJIADO	313,130	0.4	0.5	12.1	1.3	0.9	0.2	0.9	0.7	31.8	0.1	0.5	49.2	22.7	21.8	3.3	2.9	0.0	50.8	
Rural	106,510	1.2	1.5	35.1	2.5	0.8	0.2	1.1	1.0	33.6	0.2	1.5	78.7	6.4	5.8	3.1	5.9	0.0	21.3	
Urban	206,620	0.0	0.0	0.2	0.7	0.9	0.1	0.8	0.5	30.8	0.0	0.0	34.0	31.1	30.1	3.3	1.4	0.0	66.0	
KERICHO	205,890	0.0	0.1	40.0	1.6	1.1	0.2	0.4	3.1	8.6	0.0	0.0	55.1	10.2	5.7	13.0	16.0	0.0	44.9	
Rural	175,089	0.0	0.1	46.5	1.8	1.1	0.2	0.4	3.1	6.0	0.0	0.0	59.3	8.5	4.8	10.0	17.4	0.0	40.7	
Urban	30,801	0.1	0.0	2.9	0.4	1.3	0.2	0.3	2.7	23.2	0.0	0.0	31.2	19.8	10.7	30.3	8.0	0.0	68.8	
BOMET	187,217	0.0	0.1	50.9	1.5	0.5	0.1	0.5	2.5	1.2	0.1	0.0	57.4	6.6	4.4	8.7	22.8	0.0	42.6	
Rural	177,874	0.0	0.1	53.4	1.5	0.4	0.1	0.5	2.5	1.1	0.1	0.0	59.6	6.0	4.0	7.1	23.3	0.0	40.4	
Urban	9,343	0.0	0.0	3.1	0.5	2.2	0.0	0.6	3.6	4.2	0.0	0.0	14.3	19.3	13.2	39.5	13.8	0.0	85.7	
KAKAMEGA	432,191	0.0	0.1	71.3	3.2	1.8	0.3	0.0	0.0	0.9	0.0	0.0	77.7	9.2	3.7	9.4	0.1	0.0	22.3	
Rural	377,522	0.0	0.1	77.0	3.3	1.6	0.3	0.0	0.0	0.7	0.0	0.0	83.1	6.8	3.1	6.9	0.1	0.0	16.9	
Urban	54,669	0.0	0.1	31.7	2.8	3.5	0.2	0.1	0.0	1.9	0.0	0.0	40.4	25.5	7.3	26.7	0.1	0.0	59.6	
VIHIGA	143,265	0.1	0.1	69.9	2.7	3.2	0.3	0.0	0.0	0.6	0.0	0.0	76.8	9.6	3.5	10.0	0.1	0.0	23.2	
Rural	127,378	0.1	0.1	73.7	2.7	2.9	0.3	0.0	0.0	0.6	0.0	0.0	80.3	7.8	3.2	8.7	0.1	0.0	19.7	
Urban	15,887	0.0	0.0	39.1	2.6	5.5	0.4	0.0	0.1	1.2	0.0	0.0	48.9	24.1	6.5	20.4	0.0	0.0	51.1	
BUNGOMA	357,687	0.1	0.1	59.1	10.7	3.1	0.9	0.0	0.1	0.9	0.0	0.0	75.1	7.4	3.7	13.7	0.2	0.0	24.9	
Rural	307,128	0.1	0.2	64.5	11.5	2.6	1.0	0.0	0.1	0.8	0.0	0.0	80.8	5.1	3.0	11.0	0.2	0.0	19.2	
Urban	50,559	0.0	0.0	26.6	5.9	6.2	0.7	0.1	0.1	1.2	0.0	0.0	40.9	21.2	7.9	29.9	0.1	0.0	59.1	
BUSIA	197,921	0.1	0.2	60.4	4.0	3.3	0.7	0.0	0.1	0.9	0.0	0.0	69.7	8.2	5.2	16.7	0.1	0.0	30.3	
Rural	167,171	0.1	0.2	68.4	4.0	2.6	0.7	0.0	0.1	0.7	0.0	0.0	76.8	6.3	4.4	12.3	0.2	0.0	23.2	
Urban	30,750	0.0	0.0	17.1	3.9	6.9	0.7	0.1	0.1	1.9	0.0	0.0	30.7	18.9	9.4	40.9	0.1	0.0	69.3	
SIAYA	249,279	0.0	0.1	57.0	3.8	5.9	0.8	0.0	0.0	1.7	0.0	0.0	69.4	13.4	8.5	8.5	0.1	0.0	30.6	
Rural	224,358	0.0	0.1	61.8	3.9	5.5	0.8	0.0	0.0	1.6	0.0	0.0	73.7	11.6	8.1	6.5	0.1	0.0	26.3	
Urban	24,921	0.0	0.0	13.7	2.8	10.3	0.8	0.0	0.0	2.7	0.0	0.0	30.4	29.8	12.8	26.8	0.0	0.2	69.6	
KISUMU	296,766	0.0	0.1	42.3	6.2	3.5	0.5	0.1	0.1	7.9	0.0	0.0	60.7	18.9	9.6	10.6	0.1	0.0	39.3	
Rural	168,767	0.0	0.1	61.0	5.0	3.0	0.5	0.0	0.1	4.3	0.0	0.0	73.9	11.9	6.8	7.3	0.1	0.0	26.1	
Urban	127,999	0.0	0.0	17.8	7.8	4.2	0.5	0.3	0.1	12.6	0.0	0.0	43.3	28.2	13.4	15.0	0.1	0.0	56.7	
HOMABAY	260,262	0.1	0.2	58.0	3.1	2.9	0.5	0.0	0.0	10.4	0.0	0.0	75.4	10.7	6.2	7.6	0.1	0.0	24.6	
Rural	229,154	0.1	0.2	64.8	3.3	2.9	0.5	0.0	0.0	6.3	0.0	0.0	78.1	9.5	5.8	6.6	0.1	0.0	21.9	
Urban	31,108	0.0	0.0	8.2	1.8	3.5														

Appendix 12: Percentage Distribution of Households by Type of Wall Material in Major Urban Centres

Urban Centre	NON-DURABLE MATERIALS												DURABLE MATERIALS							
	Households	Cane/palm/trunks	Grass/reeds	Mud/cow dung	Stone with mud	Covered adobe	Uncovered adobe	Plywood/Carboard	Off cuts/Reused wood/Wood planks	Iron sheets	Canvas/Tents	Nylon/Carpenters	Sub-Total	Concrete blocks/Precast wall	Concrete/Stone with lime/cement	Bricks	Timber	Prefabricated pannels	Sub-Total	Total
Nairobi City	1,494,096	0.0	0.0	1.5	1.1	0.8	0.1	0.2	0.2	25.0	0.0	0.0	29.0	40.9	27.2	2.5	0.4	0.1	71.0	100.0
Mombasa	376,212	0.0	0.0	4.8	5.9	4.9	1.2	0.1	0.1	2.0	0.0	0.0	19.1	32.8	38.3	9.7	0.0	0.1	80.9	100.0
Nakuru	175,743	0.0	0.0	9.5	3.8	2.0	0.3	0.2	0.5	2.6	0.0	0.0	18.9	30.5	47.1	2.6	0.9	0.0	81.1	100.0
Ruiru	166,815	0.0	0.0	0.1	0.3	1.2	0.1	0.1	0.1	9.0	0.0	0.0	11.0	35.7	51.3	1.5	0.4	0.1	89.0	100.0
Eldoret	150,923	0.0	0.0	14.7	2.0	2.3	0.4	0.5	0.5	13.2	0.0	0.0	33.7	38.5	13.2	13.5	1.1	0.0	66.3	100.0
Kisumu	116,318	0.0	0.0	18.0	8.4	3.9	0.5	0.3	0.1	11.7	0.0	0.0	42.8	28.9	13.9	14.3	0.1	0.0	57.2	100.0
Kikuyu	109,271	0.0	0.0	0.0	0.0	0.3	0.1	1.8	1.1	42.2	0.0	0.0	45.6	20.2	30.7	1.3	2.1	0.0	54.4	100.0
Thika	90,795	0.0	0.0	1.0	0.6	1.4	0.2	0.1	0.5	7.5	0.0	0.0	11.3	30.7	54.3	2.9	0.8	0.0	88.7	100.0
Naivasha	68,742	0.0	0.0	3.9	2.0	1.4	0.1	0.3	0.6	6.7	0.0	0.0	15.1	26.0	54.0	3.5	1.4	0.0	84.9	100.0
Karuri	66,872	0.0	0.0	0.0	0.2	0.7	0.1	1.5	1.4	32.6	0.0	0.0	36.5	24.6	33.1	2.5	3.4	0.0	63.5	100.0
Ongata Rongai	58,331	0.0	0.0	0.1	0.5	0.7	0.0	0.3	0.3	24.6	0.0	0.0	26.5	33.4	36.6	3.2	0.3	0.0	73.5	100.0
Garissa	26,941	0.5	1.3	2.7	6.5	5.6	1.5	0.1	0.1	6.5	0.0	0.0	24.9	27.3	19.2	27.9	0.6	0.1	75.1	100.0
Kitale	45,219	0.0	0.0	24.9	2.9	4.6	0.4	0.1	0.2	2.6	0.1	0.1	35.9	17.0	6.1	40.6	0.4	0.0	64.1	100.0
Juja	56,675	0.0	0.0	0.2	0.5	1.6	0.3	0.0	0.1	3.2	0.0	0.0	5.9	28.9	62.6	2.4	0.2	0.0	94.1	100.0
Kitengela	53,148	0.0	0.0	0.0	0.7	1.5	0.1	0.1	0.1	28.5	0.0	0.0	31.2	37.3	29.0	2.2	0.3	0.0	68.8	100.0
Kiambu	47,675	0.0	0.0	0.0	0.2	1.2	0.1	1.4	0.8	25.9	0.0	0.0	29.7	26.3	40.7	1.2	2.1	0.0	70.3	100.0
Mlolongo	47,789	0.0	0.0	0.0	0.3	1.0	0.0	0.1	0.1	23.5	0.0	0.0	25.2	42.8	29.1	2.9	0.1	0.0	74.8	100.0
Malindi	33,486	0.4	0.2	7.1	6.7	1.6	0.9	0.0	0.1	0.9	0.0	0.0	18.0	34.9	26.4	20.7	0.0	0.0	82.0	100.0
Mandera	17,916	10.2	14.0	4.0	7.9	1.3	0.4	0.0	2.1	9.9	0.1	0.1	50.0	20.1	15.1	14.2	0.6	0.0	50.0	100.0
Kisii	35,192	0.0	0.0	11.8	1.3	6.9	0.6	0.2	0.2	6.7	0.0	0.0	27.7	16.5	6.0	49.4	0.3	0.0	72.3	100.0
Kakamega	32,969	0.0	0.0	29.3	2.9	3.5	0.2	0.2	0.0	2.3	0.0	0.0	38.6	26.6	8.1	26.7	0.1	0.0	61.4	100.0
Ngong	32,758	0.0	0.0	0.0	0.5	0.5	0.2	1.9	0.8	41.0	0.0	0.0	45.1	19.9	32.2	1.5	1.3	0.0	54.9	100.0

Appendix 13: Percentage Distribution of Households by Type of Floor Material by County and Residence

County/Residence	NON-DURABLE MATERIALS				DURABLE MATERIALS									Sub-Total	Total
	Households	Earth/sand	Dung	Palm/ bamboo	Sub-Total	Wood				Ceramic tiles	Concrete/ Cement/Te rrazo	Wall to Carpet			
						planks/ shingles/ti mber	Parquet or polished wood	Vinyl or asphalt strips							
KENYA	12,040,701	30.1	13.4	0.1	43.6	0.4	0.3	0.1	10.3	43.7	1.5	56.4	100.0		
Rural	7,376,595	42.4	21.1	0.1	63.5	0.4	0.1	0.1	3.8	31.3	0.7	36.5	100.0		
Urban	4,664,106	10.6	1.4	0.0	12.0	0.4	0.7	0.3	20.6	63.3	2.8	88.0	100.0		
MOMBASA	376,212	13.1	0.3	0.0	13.5	0.1	0.2	0.1	19.6	62.3	4.1	86.5	100.0		
KWALE	172,767	58.7	0.5	0.0	59.2	0.0	0.1	0.0	4.4	35.1	1.2	40.8	100.0		
Rural	135,863	70.8	0.5	0.0	71.3	0.0	0.1	0.0	2.2	25.9	0.5	28.7	100.0		
Urban	36,904	13.9	0.4	0.0	14.4	0.0	0.1	0.0	12.8	68.9	3.8	85.6	100.0		
KILIFI	297,935	54.3	0.3	0.0	54.7	0.1	0.1	0.1	5.7	38.3	1.1	45.3	100.0		
Rural	185,363	75.7	0.3	0.0	76.0	0.1	0.1	0.0	1.7	21.7	0.5	24.0	100.0		
Urban	112,572	19.2	0.3	0.1	19.6	0.1	0.1	0.1	12.1	65.7	2.2	80.4	100.0		
TANA RIVER	66,964	75.3	0.8	0.2	76.3	0.3	0.1	0.1	1.8	20.4	1.1	23.7	100.0		
Rural	47,210	88.0	0.8	0.2	89.0	0.3	0.0	0.2	0.7	9.5	0.3	11.0	100.0		
Urban	19,754	44.7	1.0	0.1	45.8	0.3	0.3	0.1	4.4	46.2	3.0	54.2	100.0		
LAMU	34,223	51.3	0.7	0.0	52.0	0.1	0.0	0.0	4.7	40.3	2.9	48.0	100.0		
Rural	23,909	65.0	0.9	0.0	65.9	0.1	0.0	0.0	2.3	29.8	1.8	34.1	100.0		
Urban	10,314	19.4	0.1	0.1	19.6	0.1	0.1	0.0	10.4	64.5	5.4	80.4	100.0		
TAITA-TAVETA	94,453	38.8	0.2	0.0	39.0	0.0	0.1	0.0	6.8	53.1	1.0	61.0	100.0		
Rural	65,005	51.4	0.3	0.0	51.6	0.0	0.1	0.0	3.9	43.5	0.8	48.4	100.0		
Urban	29,448	11.0	0.1	0.0	11.1	0.0	0.0	0.1	13.2	74.1	1.4	88.9	100.0		
GARISSA	138,917	68.3	3.4	0.9	72.6	2.2	0.7	0.5	3.3	18.9	1.9	27.4	100.0		
Rural	101,992	83.1	4.1	0.9	88.1	2.5	0.6	0.4	0.8	6.8	0.9	11.9	100.0		
Urban	36,925	27.3	1.6	0.8	29.7	1.4	1.1	0.7	10.0	52.6	4.4	70.3	100.0		
WAJIR	126,874	78.2	2.6	0.6	81.4	1.8	0.7	0.3	2.2	12.7	0.9	18.6	100.0		
Rural	96,880	87.3	2.9	0.4	90.6	1.9	0.6	0.2	0.9	5.3	0.6	9.4	100.0		
Urban	29,994	48.9	1.7	1.3	51.8	1.7	1.0	0.5	6.4	36.7	1.8	48.2	100.0		
MANDERA	123,935	78.6	3.1	0.6	82.3	2.1	0.3	0.2	1.4	13.0	0.7	17.7	100.0		
Rural	84,711	88.4	3.3	0.6	92.2	2.0	0.3	0.2	0.4	4.5	0.3	7.8	100.0		
Urban	39,224	57.6	2.6	0.5	60.7	2.3	0.3	0.2	3.4	31.5	1.6	39.3	100.0		
MARSABIT	76,669	65.5	5.6	0.3	71.4	0.7	0.1	0.0	3.2	23.9	0.7	28.6	100.0		
Rural	56,445	81.0	6.4	0.3	87.7	0.9	0.1	0.0	0.6	10.4	0.3	12.3	100.0		
Urban	20,224	22.4	3.2	0.4	26.0	0.1	0.1	0.0	10.4	61.6	1.7	74.0	100.0		
ISIOLO	53,206	61.9	1.1	0.4	63.5	0.6	0.2	0.2	5.2	29.3	1.0	36.5	100.0		
Rural	25,348	89.3	1.9	0.6	91.8	0.4	0.3	0.3	1.0	5.9	0.2	8.2	100.0		
Urban	27,858	37.0	0.4	0.3	37.7	0.8	0.1	0.1	9.1	50.5	1.6	62.3	100.0		
MERU	423,848	44.0	1.9	0.1	46.0	1.3	0.3	0.1	5.9	45.0	1.4	54.0	100.0		
Rural	373,233	48.8	2.2	0.1	51.0	1.4	0.3	0.1	4.9	41.0	1.2	49.0	100.0		
Urban	50,615	8.7	0.2	0.0	8.9	0.2	0.2	0.1	13.3	74.7	2.6	91.1	100.0		
THARAKA-NITHI	109,425	50.9	0.6	0.0	51.5	0.3	0.1	0.1	4.2	43.0	0.6	48.5	100.0		
Rural	97,594	55.8	0.7	0.0	56.6	0.3	0.1	0.1	3.1	39.5	0.4	43.4	100.0		
Urban	11,831	10.0	0.0	0.0	10.0	0.3	0.2	0.6	13.9	72.7	2.3	90.0	100.0		
EMBU	182,413	39.5	0.8	0.0	40.4	0.1	0.1	0.1	7.6	50.9	0.9	59.6	100.0		
Rural	154,290	45.2	0.9	0.0	46.1	0.1	0.1	0.1	5.7	47.3	0.7	53.9	100.0		
Urban	28,123	8.6	0.5	0.0	9.1	0.1	0.0	0.0	18.4	70.6	1.8	90.9	100.0		
KITUI	261,787	52.1	0.5	0.0	52.7	0.2	0.2	0.0	4.4	42.1	0.4	47.3	100.0		
Rural	242,581	55.8	0.6	0.0	56.4	0.2	0.2	0.0	3.3	39.6	0.3	43.6	100.0		
Urban	19,206	5.8	0.0	0.0	5.9	0.2	0.1	0.1	18.1	73.6	2.0	94.1	100.0		
MACHAKOS	399,453	25.5	0.3	0.0	25.9	0.1	0.2	0.1	16.5	56.3	0.8	74.1	100.0		
Rural	256,789	36.5	0.4	0.0	36.9	0.1	0.2	0.1	9.2	53.1	0.4	63.1	100.0		
Urban	142,664	5.9	0.1	0.0	6.0	0.2	0.3	0.1	29.7	62.1	1.6	94.0	100.0		
MAKUENI	243,948	36.6	0.5	0.0	37.0	0.0	0.1	0.0	5.9	56.4	0.5	63.0	100.0		
Rural	217,026	39.8	0.5	0.0	40.3	0.0	0.1	0.0	4.8	54.4	0.4	59.7	100.0		
Urban	26,922	10.5	0.1	0.0	10.7	0.0	0.6	0.2	14.6	72.4	1.6	89.3	100.0		
NYANDARUA	178,205	50.6	0.3	0.0	50.9	0.7	0.2	0.1	6.3	39.5	2.2	49.1	100.0		
Rural	154,989	56.7	0.4	0.0	57.0	0.8	0.2	0.1	5.4	34.5	1.9	43.0	100.0		
Urban	23,216	10.0	0.0	0.2	10.2	0.3	0.1	0.5	12.2	72.8	3.9	89.8	100.0		
NYERI	244,542	39.8	0.1	0.0	39.8	0.8	0.2	0.1	6.2	51.7	1.2	60.2	100.0		
Rural	189,078	47.8	0.0	0.0	47.9	0.9	0.2	0.1	4.8	45.4	0.8	52.1	100.0		
Urban	55,464	12.2	0.1	0.0	12.3	0.5	0.4	0.1	10.9	73.3	2.5	87.7	100.0		
KIRINYAGA	203,554	42.2	0.2	0.0	42.5	0.1	0.0	0.1	8.6	47.3	1.5	57.5	100.0		
Rural	154,238	49.7	0.2	0.0	49.9	0.1	0.0	0.0	6.9	42.0	1.1	50.1	100.0		
Urban	49,316	18.9	0.2	0.0	19.1	0.1	0.1	0.1	13.9	63.9	2.8	80.9	100.0		
MURANG'A	317,459	39.9	0.2	0.0	40.1	0.2	0.2	0.1	7.9	50.5	1.0	59.9	100.0		
Rural	276,003	44.1	0.2	0.0	44.3	0.2	0.1	0.1	6.4	48.1	0.8	55.7	100.0		
Urban	41,456	12.1	0.2	0.0	12.3	0.1	0.5	0.2	18.3	66.2	2.4	87.7	100.0		
KIAMBU	792,147	10.6	0.1	0.0	10.7	0.2	0.4	0.2	22.2	63.9	2.5	89.3	100.0		
Rural	207,522	25.5	0.1	0.0	25.7	0.3	0.2	0.1	12.0	60.0	1.7	74.3	100.0		
Urban	584,625	5.3	0.0	0.0	5.4	0.2	0.4	0.2	25.8	65.3	2.8	94.6	100.0		
TURKANA	162,567	82.2	2.7	0.4	85.3	1.5	0.2	0.2	1.2	10.9	0.8	14.7	100.0		
Rural	132,583	89.6	2.9	0.4	92.9	1.7	0.2	0.2	0.3	4.1	0.7	7.1	100.0		
Urban	29,984	49.4	1.9	0.2	51.4	0.7	0.2	0.3	5.2	41.0	1.2	48.6	100.0		

County/Residence	NON-DURABLE MATERIALS					DURABLE MATERIALS							
	Households	Earth/sand	Dung	Palm/ bamboo	Sub-Total	Wood	Parquet or	Vinyl or	Ceramic	Concrete/	Wall to	Sub-Total	Total
						planks/ shingles/ti mber	polished wood	asphalt strips		tiles	Cement/Te rrazo		
WEST POKOT	115,738	45.5	35.1	0.1	80.7	0.5	0.2	0.0	1.5	16.9	0.2	19.3	100.0
Rural	107,145	48.1	37.5	0.1	85.7	0.5	0.1	0.0	0.7	12.8	0.1	14.3	100.0
Urban	8,593	13.5	4.7	0.0	18.3	0.2	1.3	0.0	11.3	67.5	1.5	81.7	100.0
SAMBURU	63,947	72.8	4.4	0.1	77.3	0.5	0.2	0.1	2.6	19.0	0.5	22.7	100.0
Rural	51,454	84.2	5.1	0.1	89.4	0.6	0.1	0.0	0.9	8.8	0.2	10.6	100.0
Urban	12,493	25.6	1.4	0.1	27.1	0.1	0.4	0.1	9.9	60.7	1.6	72.9	100.0
TRANS NZOIA	222,967	20.4	39.7	0.0	60.1	0.2	0.1	0.1	6.1	32.2	1.1	39.9	100.0
Rural	173,565	22.4	48.2	0.0	70.7	0.2	0.1	0.1	3.5	24.6	0.8	29.3	100.0
Urban	49,402	13.3	9.7	0.0	23.0	0.2	0.2	0.2	15.4	58.7	2.3	77.0	100.0
UASIN GISHU	301,065	14.0	20.6	0.0	34.6	0.3	0.3	0.2	13.2	49.7	1.7	65.4	100.0
Rural	139,935	19.8	38.7	0.0	58.5	0.5	0.1	0.0	5.0	34.9	0.9	41.5	100.0
Urban	161,130	9.0	4.8	0.0	13.8	0.2	0.4	0.3	20.4	62.6	2.3	86.2	100.0
ELGEYO-MARAKWET	99,104	29.2	39.5	0.1	68.9	0.5	0.1	0.0	2.6	27.4	0.5	31.1	100.0
Rural	93,009	30.2	41.8	0.1	72.1	0.5	0.1	0.0	1.9	24.9	0.4	27.9	100.0
Urban	6,095	14.8	4.3	0.0	19.1	0.2	0.1	0.0	13.5	65.6	1.4	80.9	100.0
NANDI	199,024	17.2	39.9	0.0	57.1	0.2	0.1	0.0	4.9	36.9	0.9	42.9	100.0
Rural	180,495	17.8	42.9	0.0	60.8	0.2	0.1	0.0	3.9	34.4	0.6	39.2	100.0
Urban	18,529	10.9	10.2	0.0	21.1	0.2	0.1	0.1	14.3	60.9	3.3	78.9	100.0
BARINGO	141,867	47.2	15.4	0.1	62.7	1.3	0.2	0.0	2.5	32.8	0.4	37.3	100.0
Rural	119,355	53.0	17.8	0.1	70.8	1.0	0.1	0.0	1.7	26.2	0.2	29.2	100.0
Urban	22,512	16.5	2.8	0.0	19.3	3.2	0.6	0.0	7.0	68.3	1.5	80.7	100.0
LAIKIPIA	145,764	49.9	3.0	0.0	52.9	0.5	0.2	0.1	4.8	39.8	1.7	47.1	100.0
Rural	103,013	64.9	4.2	0.0	69.1	0.5	0.1	0.1	2.2	27.1	0.8	30.9	100.0
Urban	42,751	13.6	0.3	0.0	13.9	0.3	0.2	0.2	11.1	70.5	3.9	86.1	100.0
NAKURU	598,156	27.9	7.7	0.0	35.6	0.3	0.2	0.2	10.6	51.5	1.7	64.4	100.0
Rural	269,498	46.3	16.1	0.0	62.4	0.4	0.1	0.1	4.2	32.0	0.8	37.6	100.0
Urban	328,658	12.7	0.8	0.0	13.6	0.2	0.3	0.2	15.9	67.4	2.4	86.4	100.0
NAROK	238,071	46.3	28.1	0.1	74.5	0.3	0.2	0.1	3.2	20.9	0.9	25.5	100.0
Rural	206,255	51.6	32.2	0.1	83.9	0.4	0.2	0.1	1.5	13.4	0.6	16.1	100.0
Urban	31,816	12.2	1.3	0.0	13.4	0.1	0.1	0.1	14.6	68.9	2.8	86.6	100.0
KAJIADO	313,130	21.7	1.2	0.1	22.9	0.3	0.3	0.2	18.8	56.1	1.4	77.1	100.0
Rural	106,510	54.0	3.3	0.1	57.4	0.4	0.2	0.1	5.1	36.1	0.6	42.6	100.0
Urban	206,620	5.0	0.1	0.0	5.2	0.2	0.4	0.2	25.8	66.3	1.8	94.8	100.0
KERICHO	205,890	16.8	37.3	0.0	54.1	0.4	0.2	0.1	4.7	39.2	1.4	45.9	100.0
Rural	175,089	18.3	43.2	0.0	61.6	0.5	0.2	0.1	3.6	32.9	1.2	38.4	100.0
Urban	30,801	8.1	3.3	0.0	11.4	0.2	0.2	0.1	10.8	74.6	2.7	88.6	100.0
BOMET	187,217	22.7	41.2	0.0	63.9	0.2	0.1	0.0	3.7	30.6	1.5	36.1	100.0
Rural	177,874	23.5	43.3	0.0	66.8	0.2	0.1	0.0	3.1	28.4	1.4	33.2	100.0
Urban	9,343	6.9	2.0	0.0	9.0	0.1	0.2	0.1	14.4	71.7	4.5	91.0	100.0
KAKAMEGA	432,191	16.2	55.3	0.0	71.5	0.1	0.1	0.0	3.5	24.2	0.6	28.5	100.0
Rural	377,522	16.7	60.8	0.0	77.5	0.1	0.1	0.0	2.4	19.6	0.3	22.5	100.0
Urban	54,669	12.4	17.7	0.0	30.1	0.1	0.1	0.2	11.4	55.9	2.3	69.9	100.0
VIHIGA	143,265	17.1	50.7	0.0	67.9	0.1	0.0	0.0	3.8	27.5	0.6	32.1	100.0
Rural	127,378	17.3	53.9	0.0	71.3	0.1	0.0	0.0	3.3	24.8	0.5	28.7	100.0
Urban	15,887	15.7	25.0	0.0	40.7	0.1	0.1	0.1	8.4	49.3	1.4	59.3	100.0
BUNGOMA	357,687	23.4	43.9	0.0	67.3	0.2	0.1	0.1	4.0	27.4	0.9	32.7	100.0
Rural	307,128	25.0	48.6	0.0	73.6	0.2	0.1	0.1	2.2	23.4	0.4	26.4	100.0
Urban	50,559	13.6	15.3	0.0	29.0	0.1	0.2	0.1	14.9	51.8	4.0	71.0	100.0
BUSIA	197,921	15.0	46.3	0.0	61.4	0.1	0.1	0.1	4.5	33.3	0.5	38.6	100.0
Rural	167,171	15.6	53.4	0.0	69.0	0.1	0.1	0.1	2.7	27.8	0.3	31.0	100.0
Urban	30,750	11.9	7.9	0.1	20.0	0.1	0.3	0.1	14.2	63.5	1.8	80.0	100.0
SIAYA	249,279	20.4	34.4	0.0	54.9	0.1	0.1	0.1	4.8	39.3	0.9	45.1	100.0
Rural	224,358	21.3	37.7	0.0	59.0	0.1	0.1	0.1	3.7	36.3	0.7	41.0	100.0
Urban	24,921	12.5	4.7	0.0	17.2	0.0	0.1	0.1	14.0	66.3	2.3	82.8	100.0
KISUMU	296,766	22.7	19.3	0.0	41.9	0.1	0.1	0.1	11.3	44.5	1.9	58.1	100.0
Rural	168,767	29.1	31.6	0.0	60.7	0.1	0.1	0.1	5.8	32.2	1.0	39.3	100.0
Urban	127,999	14.1	3.0	0.0	17.1	0.1	0.2	0.2	18.5	60.8	3.2	82.9	100.0
HOMABAY	260,262	28.1	29.8	0.1	58.0	0.2	0.1	0.1	4.4	36.5	0.7	42.0	100.0
Rural	229,154	30.5	33.5	0.1	64.1	0.2	0.1	0.1	3.4	31.7	0.5	35.9	100.0
Urban	31,108	10.5	3.0	0.1	13.6	0.1	0.2	0.2	11.8	72.0	2.1	86.4	100.0
MIGORI	238,078	39.2	20.1	0.1	59.3	0.1	0.2	0.1	4.9	34.8	0.6	40.7	100.0
Rural	195,326	43.8	23.7	0.0	67.6	0.1	0.2	0.1	3.1	28.5	0.4	32.4	100.0
Urban	42,752	17.8	3.2	0.1	21.1	0.1	0.2	0.2	13.5	63.4	1.5	78.9	100.0
KISII	307,224	38.1	28.8	0.0	66.9	0.2	0.0	0.1	4.3	27.8	0.7	33.1	100.0
Rural	261,359	41.8	32.9	0.0	74.7	0.2	0.0	0.0	2.6	22.0	0.4	25.3	100.0
Urban	45,865	16.8	5.5	0.0	22.4	0.1	0.1	0.1	14.1	60.7	2.6	77.6	100.0
NYAMIRA	150,489	35.9	33.1	0.0	69.1	0.1	0.1	0.1	4.4	25.6	0.7	30.9	100.0
Rural	136,583	37.2	35.5	0.0	72.8	0.1	0.1	0.1	3.6	22.8	0.6	27.2	100.0
Urban	13,906	23.6	9.5	0.0	33.0	0.1	0.1	0.3	12.3	52.8	1.4	67.0	100.0
NAIROBI CITY	1,494,096	6.2	0.1	0.0	6.3	0.6	1.4	0.4	25.4	62.6	3.2	93.7	100.0

Appendix 14: Percentage Distribution of Households by Type of Floor Material in Major Urban Centres

Urban Centre	Households	NON-DURABLE MATERIALS				DURABLE MATERIALS						Sub-Total	Total
		Earth/sand	Dung	Palm/bamboo	Sub-Total	Wood planks/shingles/timber	Parquet or polished wood	Vinyl or asphalt strips	Ceramic tiles	Concrete/Cement/Terrazzo	Wall to Wall Carpet		
Nairobi City	1,494,096	6.2	0.1	0.0	6.3	0.6	1.4	0.4	25.4	62.6	3.2	93.7	100.0
Mombasa	376,212	13.1	0.3	0.0	13.5	0.1	0.2	0.1	19.6	62.3	4.1	86.5	100.0
Nakuru	175,743	10.5	0.8	0.0	11.4	0.2	0.3	0.1	19.0	66.7	2.2	88.6	100.0
Ruiru	166,815	3.3	0.0	0.0	3.4	0.2	0.4	0.1	29.0	64.2	2.7	96.6	100.0
Eldoret	150,923	8.9	4.7	0.0	13.6	0.2	0.4	0.3	21.2	61.9	2.4	86.4	100.0
Kisumu	116,318	14.4	2.7	0.0	17.1	0.1	0.2	0.2	18.9	60.2	3.3	82.9	100.0
Kikuyu	109,271	4.2	0.0	0.0	4.2	0.3	0.4	0.3	24.5	69.3	1.0	95.8	100.0
Thika	90,795	9.2	0.1	0.0	9.3	0.1	0.1	0.1	24.1	62.7	3.6	90.7	100.0
Naivasha	68,742	9.8	0.2	0.0	10.1	0.1	0.2	0.6	14.4	71.6	3.1	89.9	100.0
Karuri	66,872	5.4	0.0	0.0	5.4	0.3	0.2	0.4	24.6	66.1	2.9	94.6	100.0
Ongata Rongai	58,331	4.1	0.1	0.0	4.3	0.1	0.2	0.3	30.2	63.0	1.9	95.7	100.0
Garissa	26,941	18.5	1.0	0.6	20.1	1.0	0.9	0.7	13.2	59.2	4.8	79.9	100.0
Kitale	45,219	12.9	9.1	0.0	22.0	0.2	0.2	0.2	16.0	58.9	2.5	78.0	100.0
Juja	56,675	5.6	0.1	0.0	5.7	0.2	0.2	0.2	30.4	58.6	4.7	94.3	100.0
Kitengela	53,148	4.5	0.1	0.1	4.7	0.3	0.4	0.1	32.1	60.8	1.6	95.3	100.0
Kiambu	47,675	4.5	0.0	0.0	4.5	0.4	1.5	0.2	28.2	63.1	2.2	95.5	100.0
Mlolongo	47,789	3.6	0.1	0.0	3.7	0.3	0.3	0.1	35.8	58.1	1.8	96.3	100.0
Malindi	33,486	15.4	0.2	0.1	15.7	0.0	0.2	0.2	10.6	71.7	1.6	84.3	100.0
Mandera	17,916	50.1	1.7	0.6	52.4	3.6	0.3	0.2	5.0	36.6	2.0	47.6	100.0
Kisii	35,192	14.3	5.2	0.0	19.6	0.1	0.1	0.1	16.1	61.1	3.0	80.4	100.0
Kakamega	32,969	11.5	14.1	0.0	25.6	0.1	0.1	0.1	14.0	57.1	3.0	74.4	100.0
Ngong	32,758	5.8	0.1	0.0	5.8	0.5	0.7	0.2	24.5	65.4	2.8	94.2	100.0

Appendix 15: Percentage distribution of households by main source of drinking water by county and by residence

County/Residence	No. of households	Unimproved							Improved								
		Pond	Dam/Lake	Stream/River	Unprotected Spring	Unprotected Well	Water Vendor	Sub-total	Protected Well	Protected Spring	Borehole/Tube well	Piped into dwelling	Piped to yard/plot	Bottled water	Rain/Harvested water	Public tap/Stand pipe	Sub-total
Kenya	12,040,701	1.6	3.3	16.8	2.4	2.6	8.5	35.2	7.1	7.0	9.9	10.1	14.1	2.8	3.9	9.9	64.8
Rural	7,376,595	2.4	4.9	25.8	3.7	4.0	3.3	44.1	10.5	9.0	11.8	5.1	7.8	0.3	5.0	6.4	55.9
Urban	4,664,106	0.2	0.8	2.6	0.3	0.5	16.7	21.1	1.8	4.0	6.8	18.1	23.9	6.7	2.0	15.6	78.9
Mombasa	376,212	0.1	0.2	0.1	0.1	0.4	43.5	44.4	1.2	4.6	5.2	7.2	5.2	11.4	0.3	20.5	55.6
Kwale	172,767	17.2	10.4	3.2	1.7	8.3	2.9	43.7	1.3	10.3	12.7	4.3	5.5	2.1	1.7	18.3	56.3
Rural	135,863	21.7	13.2	3.8	2.1	10.2	1.8	52.8	1.2	8.8	11.4	2.4	4.1	0.5	2.0	16.9	47.2
Urban	36,904	0.7	0.2	0.9	0.0	1.4	6.9	10.2	1.8	15.6	17.5	11.3	11.0	8.1	0.8	23.7	89.8
Kilifi	297,935	6.0	6.8	2.6	0.6	3.5	9.6	29.1	0.8	4.4	4.0	10.2	13.2	2.0	0.4	36.0	70.9
Rural	185,363	9.6	10.9	4.1	0.9	5.4	6.3	37.2	0.7	4.2	3.9	4.6	9.8	0.4	0.5	38.8	62.8
Urban	112,572	0.1	0.2	0.1	0.1	0.3	14.9	15.7	0.9	4.8	4.3	19.3	18.7	4.6	0.4	31.3	84.3
Tana River	66,964	2.6	9.8	19.5	0.5	7.5	5.1	45.0	1.1	9.8	22.1	2.9	7.8	0.4	0.1	10.8	55.0
Rural	47,210	3.4	11.2	23.7	0.4	10.5	5.0	54.1	0.5	12.8	23.1	0.7	1.7	0.1	0.1	6.8	45.9
Urban	19,754	0.6	6.5	9.4	0.6	0.4	5.5	23.1	2.7	2.6	19.6	8.0	22.3	1.2	0.1	20.5	76.9
Lamu	34,223	4.2	1.8	1.1	0.5	16.6	7.0	31.3	1.4	17.3	7.0	8.4	3.7	2.5	10.2	18.3	68.7
Rural	23,909	6.0	2.5	1.6	0.7	19.4	5.0	35.1	1.3	14.3	6.4	2.6	3.7	1.0	11.7	23.8	64.9
Urban	10,314	0.3	0.2	0.0	0.1	10.2	11.5	22.4	1.6	24.2	8.3	21.8	3.8	5.9	6.7	5.4	77.6
Taita-Taveta	94,453	0.2	1.3	15.4	1.9	1.0	11.4	31.3	3.6	1.9	5.1	12.0	24.1	0.4	1.3	20.3	68.7
Rural	65,005	0.3	1.9	21.9	2.7	1.5	9.8	38.1	4.1	2.6	7.3	7.0	16.0	0.3	1.8	22.7	61.9
Urban	29,448	0.0	0.1	1.0	0.1	0.0	15.0	16.2	2.3	0.3	0.3	23.2	42.0	0.6	0.2	15.0	83.8
Garissa	138,917	12.6	17.9	8.8	0.5	3.4	3.1	46.4	0.9	2.4	26.3	3.4	8.6	0.5	0.4	11.2	53.6
Rural	101,992	16.0	21.8	6.1	0.6	4.1	1.4	50.1	0.7	2.2	33.5	1.1	2.4	0.5	0.4	9.1	49.9
Urban	36,925	3.1	7.2	16.1	0.4	1.4	7.8	36.0	1.3	2.8	6.2	9.7	25.8	0.6	0.6	17.0	64.0
Wajir	126,874	5.8	28.0	0.3	0.6	8.8	7.2	50.8	0.6	11.1	31.7	1.4	1.9	0.6	0.3	1.6	49.2
Rural	96,880	6.4	32.5	0.2	0.5	7.0	8.8	55.4	0.4	4.9	36.0	0.7	1.0	0.3	0.3	0.9	44.6
Urban	29,994	3.6	13.5	0.7	1.0	14.6	2.3	35.7	1.4	31.0	17.9	3.5	4.9	1.8	0.2	3.6	64.3
Mandera	123,935	12.6	22.6	7.7	0.3	4.1	16.7	64.0	0.6	6.8	21.3	1.1	2.3	0.4	0.9	2.6	36.0
Rural	84,711	15.3	27.4	8.5	0.2	3.7	9.6	64.8	0.4	1.8	28.9	0.3	0.8	0.1	0.9	2.1	35.2
Urban	39,224	6.8	12.2	6.0	0.3	5.1	32.1	62.5	0.9	17.6	4.7	2.9	5.7	1.0	1.0	3.7	37.5
Marsabit	76,669	1.2	15.8	1.7	0.9	18.0	16.0	53.5	1.4	9.1	23.2	0.7	1.2	0.6	2.9	7.3	46.5
Rural	56,445	1.4	18.7	2.2	1.0	22.5	6.4	52.2	0.9	8.4	28.9	0.6	1.1	0.1	2.5	5.5	47.8
Urban	20,224	0.6	7.5	0.6	0.5	5.3	42.7	57.3	3.0	11.3	7.5	1.0	1.8	2.0	4.1	12.1	42.7
Isiolo	53,206	0.6	3.1	17.7	1.9	8.5	3.9	35.8	1.2	3.9	12.0	6.0	27.2	0.7	0.5	12.7	64.2
Rural	25,348	1.0	4.6	31.6	1.3	13.6	1.4	53.5	1.4	5.2	22.4	1.4	5.3	0.1	0.5	10.2	46.5
Urban	27,858	0.1	1.8	5.1	2.6	3.9	6.3	19.7	1.0	2.6	2.6	10.2	47.2	1.2	0.5	14.9	80.3
Meru	423,848	0.3	0.2	21.5	1.9	1.4	11.0	36.4	2.4	2.0	7.5	17.9	24.6	0.8	1.4	6.8	63.6
Rural	373,233	0.3	0.3	23.4	2.1	1.5	11.9	39.5	2.5	2.2	8.5	16.8	21.6	0.7	1.6	6.6	60.5
Urban	50,615	0.2	0.0	7.3	0.7	0.4	4.8	13.4	1.9	0.5	0.6	26.1	46.7	1.6	0.3	8.9	86.6
Tharaka-Nithi	109,425	0.4	0.1	34.6	1.0	3.1	1.8	41.0	0.6	3.0	5.1	18.8	24.1	0.3	0.3	6.9	59.0
Rural	97,594	0.5	0.1	37.9	1.1	3.4	1.9	44.8	0.6	3.2	5.6	16.7	21.8	0.2	0.3	6.8	55.2
Urban	11,831	0.0	0.1	7.4	0.3	0.2	1.3	9.4	0.4	1.7	1.0	36.0	42.8	1.3	0.2	7.3	90.6
Embu	182,413	0.7	3.0	20.1	0.9	3.0	4.5	32.1	0.5	3.0	5.5	20.7	28.6	0.2	1.3	8.1	67.9
Rural	154,290	0.8	3.5	23.3	1.1	3.5	4.8	36.9	0.6	3.4	6.4	16.2	26.9	0.1	1.5	8.1	63.1
Urban	28,123	0.0	0.0	2.8	0.1	0.1	2.7	5.8	0.3	0.5	0.6	45.3	38.4	0.6	0.2	8.5	94.2
Kitui	261,787	0.7	5.5	42.3	0.8	6.2	5.9	61.4	0.9	6.7	13.2	2.8	2.3	0.9	2.4	9.3	38.6
Rural	242,581	0.8	5.9	45.6	0.9	6.6	4.2	63.9	1.0	7.0	14.0	1.8	1.3	0.4	2.6	8.0	36.1
Urban	19,206	0.0	1.1	1.0	0.1	0.4	27.5	30.2	0.4	2.1	3.5	15.6	14.2	6.7	0.6	26.7	69.8
Machakos	399,453	0.8	3.9	13.6	4.1	4.4	16.8	43.5	3.5	5.5	23.2	3.4	3.1	5.7	5.1	7.1	56.5
Rural	256,789	1.2	5.5	20.8	6.2	6.6	5.3	45.6	4.8	7.4	26.4	1.7	1.3	1.1	6.2	5.5	54.4
Urban	142,664	0.2	0.9	0.5	0.3	0.4	37.5	39.8	1.1	2.0	17.5	6.3	6.4	13.9	3.1	9.8	60.2
Makueni	243,948	0.6	2.7	29.1	5.5	7.3	10.6	55.8	2.6	5.9	11.8	3.0	3.7	1.5	5.9	9.8	44.2
Rural	217,026	0.7	3.0	31.8	6.0	8.1	7.9	57.5	2.8	6.5	12.8	2.1	1.9	0.7	6.5	9.3	42.5
Urban	26,922	0.2	0.8	7.9	0.9	0.7	31.8	42.2	0.4	1.5	3.9	10.7	17.7	7.9	1.2	14.5	57.8
Nyandarua	178,205	0.5	2.6	11.3	1.2	4.0	2.8	22.4	1.6	20.4	5.4	8.8	18.8	0.3	19.0	3.3	77.6
Rural	154,989	0.6	2.9	12.5	1.2	4.4	2.4	24.0	1.7	22.6	5.6	7.9	14.5	0.2	20.4	2.9	76.0
Urban	23,216	0.0	0.4	3.3	1.0	1.2	5.4	11.4	0.9	5.1	3.9	14.7	47.6	1.2	9.5	5.7	88.6
Nyeri	244,542	0.2	0.3	13.4	0.4	1.1	2.2	17.5	0.5	2.2	1.0	24.1	40.2	0.2	8.9	5.3	82.5
Rural	189,078	0.3	0.4	16.4	0.5	1.4	1.8	20.7	0.6	2.5	1.1	20.5	38.5	0.1	11.3	4.6	79.3
Urban	55,464	0.0	0.0	3.1	0.1	0.1	3.3	6.7	0.3	1.2	0.8	36.3	45.8	0.4	0.8	7.8	93.3
Kirinyaga	203,554	0.1	0.1	27.8	1.0	1.3	1.9	32.1	1.4	7.4	3.7	17.2	30.0	1.0	1.3	5.9	67.9
Rural	154,238	0.1	0.1	31.4	1.2	1.6	1.7	36.1	1.6	7.9	3.6	16.9	27.4	0.2	1.5	4.8	63.9
Urban	49,316	0.0	0.0	16.5	0.2	0.2	2.7	19.6	0.7	5.9	3.8	18.2	38.2	3.4	0.6	9.5	80.4
Murang'a	317,459	0.5	0.4	25.1	1.6	2.2	4.1	33.9	1.6	7.9	6.2	16.7	20.7	0.4	7.6	5.0	66.1
Rural	276,003	0.5	0.5	28.2	1.9	2.5	3.0	36.5	1.7	8.4	6.2	14.9	19.3	0.1	8.5	4.3	63.5
Urban	41,456	0.0	0.2	4.0	0.1	0.7	11.7	16.7	0.9	4.6	6.4	28.8	29.5	2.3	1.3	9.5	83.3
Kiambu	792,147	0.2	0.3	4.2	0.2	0.3	8.9	14.0	0.6	8.9	10.3	22.8	30.2	3.6	1.6	8.0	86.0
Rural	207,522	0.4	0.4	11.7	0.6	0.6	5.4	19.1	0.7	16.3	12.7	15.3	25.5	0.4	3.3	6.6	80.9
Urban	584,625	0.1	0.2	1.6	0.1	0.2	10.1	12.2	0.6	6.3	9.4	25.5	31.9	4.7	0.9	8.6	87.8
Turkana	162,567	0.7	5.1	30.1	1.4	11.7	2.9	51.9	1.2	3.3	13.2	2.5	6.5	0.1	0.2	21.2	48.1
Rural	132,583	0.8	5.9	33.9	1.7	14.1	1.3	57.7	1.3	3.4	14.4	0.9	2.2	0.0	0.2	19.9	42.3
Urban	29,984	0.2	1.6	13.0	0.2	1.2	10.1	26.3	1.2	2.5	7.9	9.2	25.7	0.2	0.1	26.9	73.7

County/Residence	No. of households	Pond	Unimproved						Improved										
			Dam/Lake	Stream/River	Unprotected Spring	Unprotected Well	Water Vendor	Sub-total	Protected Well	Protected Spring	Borehole/Tube well	Piped into dwelling	Piped to yard/plot	Bottled water	Rain/Harvested water			Public tap/Stand pipe	Sub-total
															vested	water	pipe		
West Pokot	115,738	1.3	2.8	59.5	2.2	2.2	0.6	68.8	2.9	4.4	11.5	3.4	5.1	0.2	0.6	3.1	31.2		
Rural	107,145	1.4	3.1	62.4	2.2	2.4	0.2	71.7	2.4	2.6	11.4	3.4	5.2	0.1	0.4	2.8	28.3		
Urban	8,593	0.4	0.2	23.4	2.1	0.6	5.7	32.5	9.4	25.8	13.7	2.9	4.2	1.6	3.4	6.6	67.5		
Samburu	63,947	2.2	7.9	35.0	2.3	12.9	3.1	63.4	1.5	4.2	15.8	2.0	4.9	0.7	1.5	6.1	36.6		
Rural	51,454	2.7	8.9	40.6	2.7	15.2	0.4	70.6	1.7	4.0	15.9	0.5	1.6	0.2	0.8	4.8	29.4		
Urban	12,493	0.1	3.8	12.0	0.3	3.3	14.1	33.7	0.8	5.2	15.4	8.1	18.4	2.6	4.3	11.5	66.3		
Trans Nzoia	222,967	1.0	0.3	15.0	2.5	2.9	2.7	24.3	15.5	22.7	16.3	5.3	7.4	0.3	0.8	7.4	75.7		
Rural	173,565	1.0	0.3	18.6	3.0	3.5	1.3	27.7	17.4	26.8	18.8	1.9	2.6	0.1	0.9	3.7	72.3		
Urban	49,402	0.8	0.2	2.6	0.9	0.7	7.4	12.5	8.6	8.2	7.5	17.4	24.1	0.6	0.6	20.4	87.5		
Uasin Gishu	301,065	0.8	0.4	5.1	1.5	7.4	2.7	17.9	2.5	23.4	14.9	13.2	16.5	0.8	1.3	9.4	82.1		
Rural	139,935	1.4	0.6	10.6	2.8	14.4	0.3	30.1	3.8	34.5	21.5	2.2	3.7	0.2	1.5	2.5	69.9		
Urban	161,130	0.3	0.2	0.3	0.4	1.4	4.7	7.3	1.4	13.7	9.3	22.7	27.7	1.4	1.2	15.4	92.7		
Elgeyo-Marakwet	99,104	0.8	0.4	48.8	2.9	3.6	0.3	56.8	2.7	10.6	5.1	5.6	13.0	0.2	1.0	4.9	43.2		
Rural	93,009	0.8	0.4	51.6	3.1	3.8	0.3	60.1	2.7	10.9	5.3	4.5	11.2	0.2	1.0	4.2	39.9		
Urban	6,095	0.1	0.0	5.6	0.2	0.6	0.8	7.2	1.8	6.1	2.4	22.6	41.2	1.0	1.1	16.6	92.8		
Nandi	199,024	1.1	1.3	37.2	10.2	3.9	0.6	54.2	9.3	12.6	6.9	4.9	7.3	0.2	1.4	3.2	45.8		
Rural	180,495	1.1	1.3	39.1	10.9	4.2	0.3	57.1	9.4	13.0	7.2	4.0	5.5	0.1	1.3	2.4	42.9		
Urban	18,529	0.2	0.6	19.2	2.7	0.9	3.0	26.5	8.4	8.4	4.6	13.3	25.1	1.6	1.9	10.4	73.5		
Baringo	141,867	2.2	10.4	46.5	1.9	1.2	3.2	65.3	1.6	3.2	10.1	3.6	9.1	0.3	3.4	3.4	34.7		
Rural	119,355	2.6	11.9	52.2	2.1	1.3	1.4	71.6	1.7	2.9	9.5	2.5	6.1	0.2	3.1	2.3	28.4		
Urban	22,512	0.4	2.5	16.2	0.3	0.4	12.2	32.1	0.9	4.5	13.3	9.1	24.8	1.3	4.6	9.3	67.9		
Laikipia	145,764	0.8	5.7	20.8	1.7	2.7	3.0	34.9	1.2	8.7	10.3	12.5	19.7	0.4	5.8	6.5	65.1		
Rural	103,013	1.1	8.0	28.3	2.3	3.7	2.7	46.1	1.4	11.0	13.8	5.6	10.7	0.2	7.9	3.3	53.9		
Urban	42,751	0.1	0.1	2.9	0.2	0.4	4.0	7.7	0.6	3.2	1.9	29.2	41.3	1.1	0.9	14.1	92.3		
Nakuru	598,156	0.3	1.3	12.0	1.6	1.0	12.3	28.4	1.4	6.7	10.4	9.4	18.1	3.6	13.4	8.6	71.6		
Rural	269,498	0.6	2.0	24.4	3.3	2.0	7.3	39.5	2.5	10.7	12.9	3.3	7.3	0.5	17.0	6.3	60.5		
Urban	328,658	0.1	0.6	1.7	0.2	0.2	16.5	19.3	0.6	3.3	8.5	14.5	26.9	6.1	10.4	10.4	80.7		
Narok	238,071	5.6	7.2	41.3	6.4	2.9	6.3	69.8	5.6	4.3	4.5	1.5	3.1	1.7	5.6	3.8	30.2		
Rural	206,255	6.4	8.2	46.9	7.3	3.2	2.6	74.6	6.3	4.5	4.9	0.4	0.7	0.6	5.4	2.6	25.4		
Urban	31,816	0.5	0.7	5.0	0.9	1.0	30.7	38.7	1.3	2.6	2.3	8.3	18.8	9.2	7.4	11.4	61.3		
Kajiado	313,130	0.5	2.9	5.2	0.8	0.8	23.3	33.5	2.0	2.0	22.3	7.9	10.1	11.9	1.6	8.6	66.5		
Rural	106,510	1.3	8.1	13.7	2.0	2.4	9.7	37.1	3.5	4.1	36.3	3.4	3.8	0.9	1.6	9.4	62.9		
Urban	206,620	0.1	0.3	0.8	0.2	0.1	30.3	31.6	1.3	1.0	15.1	10.3	13.4	17.6	1.5	8.2	68.4		
Kericho	205,890	0.8	0.9	42.3	5.0	2.0	2.1	53.2	7.4	6.2	4.0	9.1	10.1	0.2	3.9	5.8	46.8		
Rural	175,089	0.9	1.0	48.2	5.9	2.3	0.8	59.1	8.3	7.1	4.5	7.1	6.1	0.2	4.1	3.6	40.9		
Urban	30,801	0.1	0.3	8.7	0.2	0.4	9.9	19.7	1.9	1.3	1.6	20.7	33.3	0.7	2.6	18.1	80.3		
Bomet	187,217	7.7	4.2	40.1	5.4	1.8	1.5	60.7	5.8	2.4	2.0	5.0	5.7	0.3	13.8	4.3	39.3		
Rural	177,874	8.1	4.4	41.6	5.6	1.9	0.9	62.5	6.0	2.5	2.1	4.5	4.3	0.2	14.1	3.9	37.5		
Urban	9,343	0.2	0.2	12.4	0.8	0.1	12.6	26.3	1.6	0.7	1.2	13.1	31.6	3.3	9.8	12.4	73.7		
Kakamega	432,191	0.9	0.3	18.3	5.1	2.0	1.0	27.7	34.6	16.1	10.1	3.1	3.7	0.2	0.7	3.8	72.3		
Rural	377,522	1.0	0.3	19.1	5.6	2.2	0.4	28.6	37.6	17.1	10.3	1.3	2.0	0.1	0.7	2.2	71.4		
Urban	54,669	0.5	0.3	13.0	1.7	0.4	5.2	21.0	14.3	9.0	8.0	15.1	15.7	0.9	1.2	14.7	79.0		
Vihiga	143,265	0.6	0.3	24.8	4.4	0.7	1.0	31.8	53.2	3.6	2.1	1.5	2.8	0.3	3.3	1.6	68.2		
Rural	127,378	0.6	0.3	25.6	4.8	0.7	0.5	32.4	55.0	3.6	1.7	1.1	1.7	0.1	3.2	1.1	67.6		
Urban	15,887	0.3	0.5	18.9	1.2	0.1	5.4	26.4	38.3	3.2	4.6	5.0	11.6	1.5	4.3	5.1	73.6		
Bungoma	357,687	0.8	0.2	9.2	4.8	2.7	1.7	19.5	38.3	15.7	11.6	3.7	4.8	0.2	0.5	5.7	80.5		
Rural	307,128	0.9	0.2	10.0	5.3	3.0	1.0	20.5	41.6	16.5	12.2	1.6	2.7	0.1	0.5	4.2	79.5		
Urban	50,559	0.5	0.1	4.0	1.9	1.0	5.8	13.2	17.8	10.9	7.9	16.7	17.3	0.8	0.5	15.0	86.8		
Busia	197,921	0.8	3.4	11.8	4.6	3.4	2.1	26.1	17.2	15.9	28.6	1.8	3.3	0.5	0.7	5.8	73.9		
Rural	167,171	0.9	2.9	12.6	5.4	3.9	0.8	26.4	19.0	15.4	29.7	1.2	2.4	0.2	0.8	4.9	73.6		
Urban	30,750	0.6	6.0	7.4	0.7	0.9	9.1	24.7	7.3	18.2	22.6	5.3	8.3	2.4	0.5	10.7	75.3		
Siaya	249,279	3.1	13.2	19.9	3.2	1.5	4.1	44.9	11.5	5.0	12.9	1.7	3.4	0.4	7.2	13.0	55.1		
Rural	224,358	3.5	13.9	21.6	3.5	1.6	2.8	46.8	12.4	5.0	13.2	1.2	2.3	0.2	7.5	11.3	53.2		
Urban	24,921	0.3	7.1	3.9	0.7	0.3	15.3	27.7	3.5	4.3	10.0	6.3	12.7	1.7	5.0	28.8	72.3		
Kisumu	296,766	0.9	1.8	14.9	1.0	1.0	7.6	27.1	2.3	8.3	11.4	8.3	10.9	0.9	8.7	22.2	72.9		
Rural	168,767	1.5	2.8	24.7	1.6	1.7	2.6	34.7	3.1	13.6	18.2	1.9	3.5	0.4	13.5	11.1	65.3		
Urban	127,999	0.1	0.7	1.9	0.2	0.1	14.1	17.1	1.3	1.3	2.5	16.6	20.6	1.6	2.3	36.7	82.9		
Homabay	260,262	2.9	16.3	20.8	2.8	2.2	3.1	48.0	7.3	7.1	12.5	1.0	2.0	0.7	15.5	5.8	52.0		
Rural	229,154	3.2	16.2	23.3	3.2	2.5	1.3	49.6	7.9	7.6	13.6	0.4	0.6	0.4	16.5	3.5	50.4		
Urban	31,108	0.5	17.5	2.4	0.2	0.2	15.6	36.3	3.3	3.6	4.5	5.2	12.5	3.1	8.2	23.3	63.7		
Migori	238,078	2.4	7.3	31.2	6.6	4.4	2.0	53.9	9.5	11.1	8.1	1.2	1.5	1.3	10.4	3.0	46.1		
Rural	195,326	2.9	7.8	35.7	7.5	5.0	1.0	59.8	10.0	10.2	8.3	0.3	0.5	0.6	8.6	1.6	40.2		
Urban	42,752	0.3	5.0	10.6	2.5	1.9	6.6	26.9	7.0	15.1	7.5	5.2	5.8	4.3	18.9	9.4	73.1		
Kisii	307,224	0.3	0.2	38.6	7.5	0.9	0.5	48.0	40.5	3.0	1.1	1.0	1.1	0.6	3.8	1.0	52.0		
Rural	261,359	0.3	0.2	38.8	8.6	0.9	0.2	48.9	43.3	2.5	0.8	0.4	0.5	0.1	3.0	0.6	51.1		
Urban	45,865	0.4	0.2	37.7	1.4	0.5	2.4	42.7	24.9	5.5	3.0	4.5	4.7	3.4	8.2	3.1	57.3		
Nyamira	150,489	0.5	0.5	36.6	9.4	1.2	0.4	48.6	36.4	3.9	1.0	0.9	1.0	0.3	7.4	0.6	51.4		
Rural	136,583	0.6																	

Appendix 16: Percentage distribution of households by main source of drinking water in major urban areas

Region	No. of households	Unimproved							Improved									
		Pond	Dam/Lake	stream/River	Unprotected Spring	Unprotected Well	Water Vendor	Sub-total	Protected Well	Protected Spring	Borehole/Tube well	Piped into dwelling	Piped to yard/plot	Bottled water	Rain/Harvested water	Public tap/Stand pipe	Sub-total	
Nairobi City	1,494,096	0.0	0.1	0.0	0.0	0.0	15.4	15.7	0.5	0.5	4.3	22.7	28.4	8.6	0.3	18.9	84.3	
Mombasa	376,212	0.1	0.2	0.1	0.1	0.4	43.5	44.4	4.6	1.2	5.2	7.2	5.2	11.4	0.3	20.5	55.6	
Nakuru	175,743	0.0	0.2	0.3	0.0	0.0	9.5	10.1	0.5	0.4	7.2	20.3	33.9	5.5	11.4	10.7	89.9	
Ruiru	166,815	0.1	0.1	1.3	0.0	0.1	13.4	15.0	0.9	0.5	8.8	26.3	32.9	5.0	1.6	9.0	85.0	
Eldoret	150,923	0.2	0.3	0.3	0.3	1.3	4.8	7.3	11.7	1.2	8.3	23.9	29.3	1.3	1.1	15.9	92.7	
Kisumu	116,318	0.1	0.7	1.6	0.1	0.1	14.6	17.2	0.7	1.4	1.0	17.7	21.2	1.6	1.7	37.5	82.8	
Kikuyu	109,271	0.0	0.1	1.5	0.2	0.4	11.3	13.6	12.1	0.6	13.2	22.0	25.5	6.5	0.8	5.7	86.4	
Thika	90,795	0.0	0.1	1.2	0.1	0.1	2.3	3.7	0.2	0.7	0.3	35.4	47.5	1.6	0.1	10.4	96.3	
Naivasha	68,742	0.1	1.9	0.7	0.0	0.0	32.5	35.3	1.0	0.3	12.4	5.0	14.6	12.5	9.9	9.0	64.7	
Karuri	66,872	0.0	0.1	1.3	0.2	0.3	10.3	12.2	20.3	0.4	19.9	16.4	15.7	8.7	0.5	5.8	87.8	
Ongata Rongai	58,331	0.1	0.2	0.1	0.0	0.0	18.8	19.3	0.4	0.3	15.8	11.5	11.5	29.6	1.4	10.3	80.7	
Garissa	26,941	1.7	1.8	14.3	0.2	0.6	8.7	27.4	1.1	0.7	9.1	10.6	30.5	0.7	0.5	19.4	72.6	
Kitale	45,219	0.4	0.2	2.7	0.9	0.7	7.0	11.8	7.3	7.2	5.8	18.7	26.2	0.7	0.6	21.8	88.2	
Juja	56,675	0.1	0.1	2.4	0.0	0.1	11.1	13.8	1.3	0.3	4.4	27.5	37.2	2.3	1.2	12.0	86.2	
Kitengela	53,148	0.2	0.1	0.1	0.1	0.0	50.2	50.7	0.6	1.8	17.6	5.8	3.9	14.4	0.8	4.4	49.3	
Kiambu	47,675	0.1	1.5	3.2	0.3	0.3	7.5	12.8	5.1	1.0	9.9	28.2	24.9	5.9	0.7	11.5	87.2	
Mlolongo	47,789	0.3	0.0	0.1	0.1	0.1	40.1	40.7	0.3	0.6	15.3	6.3	5.5	16.8	2.1	12.3	59.3	
Malindi	33,486	0.0	0.2	0.1	0.1	0.1	11.3	11.8	0.6	0.8	3.3	30.5	21.9	2.5	0.3	28.2	88.2	
Mandera	17,916	5.1	4.0	7.1	0.1	1.1	62.3	79.7	5.9	1.2	1.7	2.3	4.0	1.0	0.6	3.6	20.3	
Kisii	35,192	0.4	0.3	40.5	0.9	0.4	2.4	45.0	5.1	21.9	3.3	5.0	4.9	4.0	7.5	3.2	55.0	
Kakamega	32,969	0.4	0.3	16.0	1.7	0.2	4.7	23.2	4.8	10.4	5.8	16.9	19.2	1.0	1.7	16.9	76.8	
Ngong	32,758	0.0	0.1	0.2	0.0	0.0	23.1	23.4	1.1	1.6	11.4	14.1	19.0	17.2	1.8	10.4	76.6	

Appendix 17: Percentage distribution of households by main mode of human waste disposal by county and by residence

County/Residence	No. of households	Improved							Un-improved			
		Main Sewer	Septic tank	Cess pool	VIP Pit Latrin	Pit latrine covered	Bio-septic tank/Biodigester	Sub-total	Pit Latrine uncovered	Bucket latrine	Bush	Sub-Total
Kenya	12,040,701	9.7	9.2	0.3	11.9	51.2	9.4	82.5	9.4	0.8	7.4	17.5
Rural	7,376,595	0.3	1.7	0.1	11.5	61.8	12.5	75.5	12.5	0.5	11.5	24.5
Urban	4,664,106	24.6	21.1	0.6	12.5	34.4	4.4	93.5	4.4	1.2	0.8	6.5
Mombasa	376,212	16.6	31.3	1.1	11.1	30.8	5.5	91.2	5.5	2.4	0.9	8.8
Kwale	172,767	0.9	8.8	0.5	8.7	38.2	9.8	57.2	9.8	1.2	31.7	42.8
Rural	135,863	0.4	4.4	0.3	7.8	36.2	10.4	49.2	10.4	0.8	39.6	50.8
Urban	36,904	2.9	24.9	1.4	12.0	45.7	7.9	87.0	7.9	2.4	2.7	13.0
Kilifi	297,935	2.4	18.7	0.6	10.1	40.1	9.2	72.0	9.2	1.8	17.0	28.0
Rural	185,363	0.9	7.2	0.3	8.7	44.3	10.9	61.5	10.9	1.3	26.2	38.5
Urban	112,572	4.9	37.7	0.9	12.5	33.1	6.5	89.3	6.5	2.6	1.7	10.7
Tana River	66,964	0.8	4.0	0.5	4.6	31.8	9.0	41.8	9.0	0.6	48.6	58.2
Rural	47,210	0.4	1.4	0.2	2.2	23.6	6.5	27.9	6.5	0.5	65.1	72.1
Urban	19,754	1.9	10.4	1.2	10.2	51.2	14.8	75.2	14.8	0.7	9.3	24.8
Lamu	34,223	2.1	9.4	0.7	11.5	42.8	14.0	66.7	14.0	1.4	17.9	33.3
Rural	23,909	0.9	3.4	0.1	10.2	44.5	16.8	59.2	16.8	0.9	23.1	40.8
Urban	10,314	4.7	23.2	2.2	14.6	39.0	7.5	83.9	7.5	2.5	6.1	16.1
Taita-Taveta	94,453	1.1	11.2	0.2	13.8	58.7	12.1	85.2	12.1	0.3	2.4	14.8
Rural	65,005	0.4	3.3	0.2	14.4	63.2	14.9	81.5	14.9	0.2	3.3	18.5
Urban	29,448	2.6	28.7	0.3	12.6	48.9	5.9	93.2	5.9	0.6	0.2	6.8
Garissa	138,917	5.2	4.9	0.7	3.6	29.7	16.7	44.3	16.7	2.9	36.2	55.7
Rural	101,992	2.9	2.3	0.8	2.8	23.9	17.4	32.8	17.4	2.7	47.1	67.2
Urban	36,925	11.4	12.2	0.5	5.9	45.7	14.7	76.0	14.7	3.3	6.1	24.0
Wajir	126,874	1.7	3.9	0.3	2.1	21.6	16.0	29.9	16.0	10.5	43.6	70.1
Rural	96,880	0.9	2.0	0.3	1.6	19.7	17.1	24.6	17.1	4.5	53.7	75.4
Urban	29,994	4.4	9.9	0.4	3.8	27.8	12.5	46.7	12.5	29.7	11.1	53.3
Mandera	123,935	1.2	2.0	0.3	2.8	28.3	23.4	34.8	23.4	2.4	39.4	65.2
Rural	84,711	0.5	1.4	0.2	1.7	19.9	20.3	23.9	20.3	2.2	53.6	76.1
Urban	39,224	2.8	3.2	0.4	5.1	46.7	30.1	58.3	30.1	2.7	8.9	41.7
Marsabit	76,669	0.1	0.7	0.1	5.1	37.0	9.3	42.8	9.3	0.4	47.5	57.2
Rural	56,445	0.0	0.3	0.1	3.0	23.9	10.1	27.3	10.1	0.4	62.2	72.7
Urban	20,224	0.2	1.5	0.1	10.9	73.5	7.2	86.2	7.2	0.2	6.4	13.8
Isiolo	53,206	4.0	3.1	0.4	17.8	36.8	6.7	62.1	6.7	0.6	30.6	37.9
Rural	25,348	0.1	0.6	0.0	12.0	23.6	6.1	36.5	6.1	0.5	56.9	63.5
Urban	27,858	7.5	5.3	0.7	23.0	48.8	7.3	85.4	7.3	0.7	6.6	14.6
Meru	423,848	0.7	5.2	0.2	21.3	62.3	8.5	89.8	8.5	0.3	1.4	10.2
Rural	373,233	0.3	2.4	0.2	20.8	65.1	9.3	88.9	9.3	0.3	1.6	11.1
Urban	50,615	3.9	25.8	0.2	24.4	42.1	2.8	96.6	2.8	0.5	0.2	3.4
Tharaka-Nithi	109,425	0.6	3.8	0.1	15.6	66.5	12.0	86.7	12.0	0.2	1.1	13.3
Rural	97,594	0.3	1.5	0.1	13.4	69.9	13.2	85.4	13.2	0.2	1.2	14.6
Urban	11,831	2.8	22.7	0.1	33.0	38.2	2.4	97.2	2.4	0.1	0.3	2.8
Embu	182,413	2.2	7.2	0.3	14.5	66.2	8.6	90.5	8.6	0.3	0.7	9.5
Rural	154,290	0.4	2.5	0.1	15.4	71.1	9.4	89.6	9.4	0.2	0.8	10.4
Urban	28,123	12.1	33.1	1.2	9.9	39.1	3.8	95.5	3.8	0.6	0.0	4.5
Kitui	261,787	0.5	2.8	0.1	13.0	62.0	12.0	78.4	12.0	0.3	9.2	21.6
Rural	242,581	0.2	1.1	0.1	12.3	63.7	12.5	77.3	12.5	0.3	9.9	22.7
Urban	19,206	4.4	24.2	0.3	22.1	41.0	6.1	92.3	6.1	0.5	1.1	7.7
Machakos	399,453	5.7	12.6	0.3	14.9	54.9	10.1	88.8	10.1	0.3	0.9	11.2
Rural	256,789	0.5	2.0	0.2	15.6	66.4	13.7	84.7	13.7	0.2	1.3	15.3
Urban	142,664	15.1	31.7	0.4	13.6	34.2	3.4	96.1	3.4	0.3	0.2	3.9
Makueni	243,948	0.4	2.4	0.1	15.2	67.1	13.4	85.2	13.4	0.2	1.2	14.8
Rural	217,026	0.1	1.1	0.1	13.5	69.2	14.4	84.2	14.4	0.2	1.3	15.8
Urban	26,922	2.1	12.1	0.5	28.8	49.8	5.4	93.8	5.4	0.5	0.3	6.2
Nyandarua	178,205	0.3	3.1	0.1	17.8	71.8	6.6	93.2	6.6	0.1	0.2	6.8
Rural	154,989	0.2	1.2	0.1	15.4	76.0	7.0	92.8	7.0	0.0	0.2	7.2
Urban	23,216	1.3	15.4	0.4	34.2	44.2	4.0	95.7	4.0	0.2	0.1	4.3
Nyeri	244,542	6.7	7.1	0.2	14.0	66.4	5.3	94.5	5.3	0.1	0.1	5.5
Rural	189,078	0.5	3.8	0.1	14.3	75.2	5.9	93.9	5.9	0.1	0.1	6.1
Urban	55,464	28.0	18.6	0.7	13.0	36.3	3.0	96.6	3.0	0.3	0.1	3.4
Kirinyaga	203,554	0.7	8.4	0.2	17.9	68.5	3.9	95.7	3.9	0.2	0.2	4.3
Rural	154,238	0.2	2.7	0.1	17.6	74.7	4.2	95.4	4.2	0.1	0.2	4.6
Urban	49,316	2.0	26.0	0.4	18.9	49.1	3.1	96.6	3.1	0.3	0.1	3.4
Murang'a	317,459	2.3	4.5	0.1	15.8	71.4	5.4	94.2	5.4	0.1	0.2	5.8
Rural	276,003	0.4	2.4	0.1	15.2	75.9	5.5	94.1	5.5	0.1	0.3	5.9
Urban	41,456	15.3	18.7	0.4	19.3	41.3	4.7	95.1	4.7	0.1	0.0	4.9
Kiambu	792,147	9.1	24.9	0.5	15.4	46.0	3.3	96.3	3.3	0.3	0.1	3.7
Rural	207,522	0.5	5.1	0.1	17.5	72.1	4.0	95.6	4.0	0.1	0.2	4.4
Urban	584,625	12.2	31.9	0.7	14.6	36.7	3.0	96.5	3.0	0.4	0.1	3.5
Turkana	162,567	0.4	1.4	0.2	3.3	18.9	6.8	24.3	6.8	0.8	68.1	75.7
Rural	132,583	0.3	0.7	0.1	1.6	12.0	6.6	14.9	6.6	0.9	77.7	85.1
Urban	29,984	1.0	4.1	0.4	10.9	49.3	7.6	65.9	7.6	0.7	25.9	34.1

County/Residence	No. of households	Improved							Un-improved			
		Main Sewer	Septic tank	Cess pool	Bio-septic			Sub-total	Pit Latrine uncovered	Bucket latrine	Bush	Sub-Total
					VIP Pit Latrin	Pit latrine covered	tank/Biodiges ter					
West Pokot	115738	0.2	1.2	0.1	5.3	41.7	8.1	48.5	8.1	0.7	42.7	51.5
Rural	107145	0.1	0.7	0.1	4.4	39.8	8.2	45.1	8.2	0.6	46.1	54.9
Urban	8593	1.1	7.5	0.1	16.2	65.9	7.7	91.0	7.7	0.8	0.4	9.0
Samburu	63947	0.4	1.4	0.0	4.2	23.6	4.2	29.7	4.2	0.6	65.6	70.3
Rural	51454	0.3	0.3	0.0	1.7	13.8	3.8	16.3	3.8	0.5	79.4	83.7
Urban	12493	0.8	5.7	0.1	14.2	64.0	5.8	84.8	5.8	0.9	8.5	15.2
Trans Nzoia	222967	1.7	4.0	0.2	13.9	64.6	13.8	84.4	13.8	0.4	1.4	15.6
Rural	173565	0.3	1.0	0.1	13.7	67.0	16.0	82.2	16.0	0.3	1.6	17.8
Urban	49402	6.5	14.3	0.5	14.5	56.4	6.3	92.3	6.3	0.7	0.7	7.7
Uasin Gishu	301065	9.6	10.9	0.2	14.4	55.3	8.6	90.6	8.6	0.3	0.5	9.4
Rural	139935	0.2	1.2	0.1	14.0	70.3	13.2	85.8	13.2	0.2	0.8	14.2
Urban	161130	17.9	19.3	0.3	14.7	42.2	4.6	94.7	4.6	0.5	0.2	5.3
Elgeyo-Marakwet	99104	0.3	1.1	0.0	8.8	57.7	24.9	68.0	24.9	0.3	6.8	32.0
Rural	93009	0.2	0.5	0.0	8.2	57.4	26.1	66.3	26.1	0.3	7.3	33.7
Urban	6095	2.0	11.2	0.3	17.8	62.2	6.5	93.4	6.5	0.0	0.1	6.6
Nandi	199024	0.4	1.8	0.1	17.3	67.1	11.5	86.8	11.5	0.2	1.5	13.2
Rural	180495	0.1	0.7	0.1	16.6	68.7	12.0	86.2	12.0	0.2	1.6	13.8
Urban	18529	4.0	12.7	0.0	24.3	51.8	6.7	92.9	6.7	0.1	0.2	7.1
Baringo	141867	0.3	2.1	0.1	12.4	45.8	8.3	60.7	8.3	0.3	30.8	39.3
Rural	119355	0.1	1.0	0.1	11.0	42.4	8.8	54.6	8.8	0.3	36.4	45.4
Urban	22512	1.2	8.1	0.1	20.1	63.4	5.8	93.0	5.8	0.1	1.1	7.0
Laikipia	145764	8.9	5.2	0.1	12.0	55.8	8.3	82.1	8.3	0.2	9.4	17.9
Rural	103013	0.3	2.1	0.1	9.3	64.4	10.5	76.2	10.5	0.2	13.1	23.8
Urban	42751	29.8	12.7	0.1	18.4	35.3	3.1	96.4	3.1	0.1	0.3	3.6
Nakuru	598156	7.7	10.1	0.2	17.8	53.2	9.4	89.2	9.4	0.5	0.8	10.8
Rural	269498	0.5	2.3	0.1	13.3	66.6	15.2	82.8	15.2	0.3	1.6	17.2
Urban	328658	13.7	16.4	0.3	21.6	42.3	4.7	94.5	4.7	0.7	0.1	5.5
Narok	238071	0.5	2.1	0.1	8.6	49.2	10.6	60.6	10.6	0.6	28.2	39.4
Rural	206255	0.1	0.4	0.1	6.7	48.4	11.4	55.6	11.4	0.5	32.5	44.4
Urban	31816	2.8	13.5	0.2	21.5	54.8	5.3	92.8	5.3	1.2	0.6	7.2
Kajiado	313130	2.8	21.3	0.4	14.0	41.2	5.5	80.2	5.5	0.6	13.7	19.8
Rural	106510	0.8	2.0	0.2	12.0	38.2	6.7	53.3	6.7	0.5	39.6	46.7
Urban	206620	3.9	31.3	0.5	15.1	42.7	5.0	94.1	5.0	0.7	0.3	5.9
Kericho	205890	1.7	2.6	0.1	10.0	69.8	13.7	84.4	13.7	0.4	1.5	15.6
Rural	175089	0.2	1.2	0.0	8.2	72.9	15.4	82.6	15.4	0.3	1.7	17.4
Urban	30801	10.3	10.6	0.4	20.6	52.3	4.2	94.5	4.2	1.0	0.2	5.5
Bomet	187217	0.3	1.2	0.1	6.7	77.6	13.0	85.8	13.0	0.2	1.0	14.2
Rural	177874	0.1	0.7	0.1	5.9	78.6	13.3	85.4	13.3	0.2	1.1	14.6
Urban	9343	2.7	10.6	0.7	21.9	57.5	5.9	93.6	5.9	0.3	0.2	6.4
Kakamega	432191	0.8	2.4	0.1	12.3	73.4	9.5	89.1	9.5	0.4	1.1	10.9
Rural	377522	0.2	0.8	0.1	11.9	75.5	9.9	88.5	9.9	0.4	1.2	11.5
Urban	54669	5.3	13.5	0.3	15.3	58.4	6.2	92.8	6.2	0.5	0.4	7.2
Vihiga	143265	0.3	1.3	0.1	18.4	70.1	9.1	90.2	9.1	0.2	0.6	9.8
Rural	127378	0.2	0.8	0.1	17.4	71.2	9.5	89.7	9.5	0.2	0.6	10.3
Urban	15887	0.9	5.8	0.0	26.1	61.1	5.7	93.9	5.7	0.2	0.2	6.1
Bungoma	357687	1.0	2.8	0.2	10.9	68.6	14.7	83.5	14.7	0.5	1.4	16.5
Rural	307128	0.1	0.9	0.2	10.2	70.7	15.9	82.1	15.9	0.4	1.5	17.9
Urban	50559	6.1	13.9	0.4	15.6	55.8	7.1	92.0	7.1	0.5	0.4	8.0
Busia	197921	0.6	2.2	0.2	11.1	68.0	14.9	82.2	14.9	0.4	2.5	17.8
Rural	167171	0.1	0.7	0.1	10.0	69.5	16.3	80.5	16.3	0.4	2.8	19.5
Urban	30750	3.5	10.1	0.3	16.9	60.0	7.7	91.2	7.7	0.5	0.7	8.8
Siaya	249279	0.3	1.4	0.1	10.8	69.0	12.0	81.6	12.0	0.3	6.0	18.4
Rural	224358	0.1	0.7	0.1	10.3	69.4	12.4	80.6	12.4	0.3	6.6	19.4
Urban	24921	2.0	7.8	0.2	15.4	65.2	8.4	90.7	8.4	0.3	0.6	9.3
Kisumu	296766	4.8	6.1	0.2	8.7	65.4	10.5	85.3	10.5	0.5	3.6	14.7
Rural	168767	0.5	1.5	0.1	7.0	72.4	12.0	81.6	12.0	0.5	6.0	18.4
Urban	127999	10.5	12.2	0.2	11.0	56.2	8.7	90.3	8.7	0.5	0.6	9.7
Homabay	260262	1.1	1.2	0.1	10.1	62.0	14.7	74.5	14.7	0.6	10.2	25.5
Rural	229154	0.3	0.7	0.1	9.2	62.0	15.6	72.3	15.6	0.7	11.4	27.7
Urban	31108	7.0	4.8	0.1	16.4	62.2	8.0	90.6	8.0	0.4	1.0	9.4
Migori	238078	0.5	1.7	0.2	10.3	62.2	15.1	74.9	15.1	0.6	9.4	25.1
Rural	195326	0.1	0.8	0.2	8.5	62.0	16.7	71.6	16.7	0.6	11.1	28.4
Urban	42752	2.5	5.8	0.3	18.4	63.1	7.7	90.1	7.7	0.7	1.5	9.9
Kisii	307224	1.9	2.1	0.3	11.0	59.6	23.7	74.9	23.7	0.5	0.9	25.1
Rural	261359	0.2	1.1	0.2	10.1	60.1	26.7	71.7	26.7	0.5	1.1	28.3
Urban	45865	12.0	8.2	0.4	16.0	56.4	6.4	93.1	6.4	0.4	0.1	6.9
Nyamira	150489	0.3	1.7	0.2	13.3	60.4	22.6	75.9	22.6	0.5	1.0	24.1
Rural	136583	0.2	1.0	0.2	12.7	60.3	24.0	74.5	24.0	0.5	1.0	25.5
Urban	13906	1.2	7.7	0.2	18.7	61.3	9.2	89.3	9.2	1.3	0.2	10.7
Nairobi City	1494096	54.4	18.1	0.6	6.3	16.8	2.1	96.5	2.1	1.3	0.1	3.5

Appendix 18: Percentage distribution of sharing of human waste disposal facility by County and by residence, 2019

County/Residence	No. of households	Share	Do not share
Kenya	8,812,933	49.0	51.0
Rural	6,361,431	37.8	62.2
Urban	2,451,502	78.0	22.0
Mombasa	187,341	77.9	22.1
Kwale	100,019	55.0	45.0
Rural	74,933	47.5	52.5
Urban	25,086	77.3	22.7
Kilifi	182,474	59.7	40.3
Rural	120,902	53.0	47.0
Urban	61,572	73.0	27.0
Tana River	30,742	68.0	32.0
Rural	15,541	58.6	41.4
Urban	15,201	77.7	22.3
Lamu	23,878	37.6	62.4
Rural	17,305	31.9	68.1
Urban	6,573	52.6	47.4
Taita-Taveta	80,283	41.8	58.2
Rural	60,253	31.5	68.5
Urban	20,030	72.6	27.4
Garissa	73,436	54.2	45.8
Rural	47,752	50.0	50.0
Urban	25,684	62.1	37.9
Wajir	63,784	49.7	50.3
Rural	41,646	51.0	49.0
Urban	22,138	47.3	52.7
Mandera	70,601	61.4	38.6
Rural	37,412	61.4	38.6
Urban	33,189	61.4	38.6
Marsabit	39,645	70.8	29.2
Rural	21,084	67.8	32.2
Urban	18,561	74.2	25.8
Isiolo	32,931	70.6	29.4
Rural	10,691	71.6	28.4
Urban	22,240	70.0	30.0
Meru	391,519	43.0	57.0
Rural	356,241	39.1	60.9
Urban	35,278	82.5	17.5
Tharaka-Nithi	103,194	33.3	66.7
Rural	94,478	30.1	69.9
Urban	8,716	68.5	31.5
Embu	163,340	40.8	59.2
Rural	148,324	37.0	63.0
Urban	15,016	78.7	21.3
Kitui	228,737	32.8	67.2
Rural	215,368	29.4	70.6
Urban	13,369	87.6	12.4
Machakos	319,793	44.4	55.6
Rural	246,267	33.9	66.1
Urban	73,526	79.4	20.6
Makueni	233,946	34.8	65.2
Rural	211,204	29.5	70.5
Urban	22,742	84.1	15.9
Nyan darua	171,636	33.6	66.4
Rural	152,442	28.4	71.6
Urban	19,194	74.2	25.8
Nyeri	209,734	40.8	59.2
Rural	180,547	34.5	65.5
Urban	29,187	79.4	20.6
Kirinyaga	184,313	47.8	52.2
Rural	149,098	42.2	57.8
Urban	35,215	71.3	28.7
Murang'a	294,226	43.1	56.9
Rural	267,121	40.1	59.9
Urban	27,105	72.5	27.5
Kiambu	514,227	66.8	33.2
Rural	194,509	49.6	50.4
Urban	319,718	77.2	22.8
Turkana	48,439	64.2	35.8
Rural	27,917	56.4	43.6
Urban	20,522	74.8	25.2

County/Residence	No. of households	Total	Yes
West Pokot	64,527	33.1	66.9
Rural	56,736	27.2	72.8
Urban	7,791	76.3	23.7
Samburu	20,813	67.8	32.2
Rural	10,212	54.8	45.2
Urban	10,601	80.4	19.6
Trans Nzoia	206,726	39.6	60.4
Rural	168,214	32.4	67.6
Urban	38,512	71.2	28.8
Uasin Gishu	236,651	47.6	52.4
Rural	136,687	29.9	70.1
Urban	99,964	71.7	28.3
Elgeyo-Marakwet	90,828	28.8	71.2
Rural	85,556	26.3	73.7
Urban	5,272	70.5	29.5
Nandi	191,263	34.5	65.5
Rural	175,893	31.2	68.8
Urban	15,370	73.1	26.9
Baringo	94,666	35.7	64.3
Rural	74,517	26.0	74.0
Urban	20,149	71.8	28.2
Laikipia	111,248	42.5	57.5
Rural	86,896	33.7	66.3
Urban	24,352	73.8	26.2
Nakuru	484,635	52.5	47.5
Rural	257,209	33.9	66.1
Urban	227,426	73.7	26.3
Narok	164,406	49.4	50.6
Rural	138,076	42.4	57.6
Urban	26,330	86.3	13.7
Kajiado	192,065	73.6	26.4
Rural	61,083	56.0	44.0
Urban	130,982	81.9	18.1
Kericho	193,492	38.0	62.0
Rural	169,391	31.4	68.6
Urban	24,101	84.1	15.9
Bomet	182,284	33.3	66.7
Rural	174,287	30.9	69.1
Urban	7,997	85.7	14.3
Kakamega	412,905	40.2	59.8
Rural	368,915	36.7	63.3
Urban	43,990	70.1	29.9
Vihiga	140,024	40.0	60.0
Rural	125,239	37.5	62.5
Urban	14,785	60.9	39.1
Bungoma	338,579	39.2	60.8
Rural	298,639	36.1	63.9
Urban	39,940	63.1	36.9
Busia	186,959	54.2	45.8
Rural	160,831	49.9	50.1
Urban	26,128	80.3	19.7
Siaya	229,562	51.7	48.3
Rural	207,297	48.7	51.3
Urban	22,265	78.8	21.2
Kisumu	252,750	61.9	38.1
Rural	155,019	46.2	53.8
Urban	97,731	86.9	13.1
Homabay	227,568	50.1	49.9
Rural	200,505	45.5	54.5
Urban	27,063	84.0	16.0
Migori	209,876	54.7	45.3
Rural	171,467	49.8	50.2
Urban	38,409	76.6	23.4
Kisii	290,962	35.0	65.0
Rural	254,634	29.7	70.3
Urban	36,328	72.1	27.9
Nyamira	145,675	29.5	70.5
Rural	133,093	26.9	73.1
Urban	12,582	56.9	43.1
Nairobi City	396,231	90.0	10.0

Appendix 19: Percentage distribution of households by main mode of human waste disposal by Major Urban Centres

Region	No. of Households	Main Sewer	Septic		VIP Pit Latrine	Pit latrine covered	Bio-septic tank/Bio digester	Pit Latrine uncovered	Bucket latrine	Bush
			tank	Cess pool						
Nairobi City	1,494,096	54.4	18.1	0.6	6.3	16.8	0.3	2.1	1.3	0.1
Mombasa	376,212	16.6	31.3	1.1	11.1	30.8	0.3	5.5	2.4	0.9
Nakuru	175,743	21.3	21.1	0.4	18.1	34.3	0.2	3.9	0.6	0.1
Ruiru	166,815	15.2	37.3	0.6	14.0	28.4	0.6	3.5	0.4	0.0
Eldoret	150,923	19.0	20.2	0.3	14.4	40.5	0.3	4.5	0.5	0.1
Kisumu	116,318	11.4	12.7	0.2	10.5	55.2	0.1	8.7	0.5	0.5
Kikuyu	109,271	1.5	30.1	0.4	17.4	47.7	0.4	2.3	0.1	0.0
Thika	90,795	34.6	34.7	1.1	8.6	18.1	0.3	2.0	0.4	0.1
Naivasha	68,742	7.9	13.6	0.4	25.5	45.0	0.3	5.8	1.5	0.2
Karuri	66,872	3.0	25.3	0.6	14.6	52.4	0.8	3.1	0.2	0.1
Ongata Rongai	58,331	3.2	40.3	0.8	8.7	41.0	0.4	5.1	0.5	0.1
Garissa	26,941	12.7	15.6	0.3	6.1	45.3	0.2	14.8	3.0	1.9
Kitale	45,219	7.1	15.4	0.5	15.3	54.2	0.1	6.0	0.8	0.7
Juja	56,675	5.8	39.3	0.8	15.1	33.8	0.5	3.7	0.8	0.1
Kitengela	53,148	5.8	39.1	0.3	11.4	36.8	1.0	4.3	1.0	0.2
Kiambu	47,675	10.1	29.3	0.5	10.0	45.0	1.1	3.8	0.3	0.0
Mlolongo	47,789	8.4	50.2	0.3	9.4	25.3	2.8	3.3	0.3	0.1
Malindi	33,486	7.4	52.1	0.5	11.5	19.4	0.4	4.6	2.3	1.8
Mandera	17,916	3.9	3.9	0.3	5.6	46.0	0.1	32.4	2.6	5.1
Kisii	35,192	14.9	8.9	0.5	14.8	54.3	0.1	6.0	0.5	0.1
Kakamega	32,969	5.6	16.0	0.3	15.8	55.1	0.1	6.4	0.3	0.5
Ngong	32,758	4.4	33.0	0.8	17.6	38.5	0.4	4.6	0.6	0.1

Appendix 20: Percentage distribution of sharing of human waste disposal facility by Major Urban Centres, 2019

Town code	Total	Yes - Sharing	No
Nairobi City	396,231	90.0	10.0
Mombasa	187,341	77.9	22.1
Nakuru	100,031	68.7	31.3
Ruiru	77,231	76.2	23.8
Eldoret	90,587	71.8	28.2
Kisumu	87,154	87.6	12.4
Kikuyu	73,782	77.3	22.7
Thika	26,291	81.9	18.1
Naivasha	53,395	83.4	16.6
Karuri	46,998	81.6	18.4
Ongata Rongai	32,199	88.4	11.6
Garissa	16,689	65.3	34.7
Kitale	34,454	72.6	27.4
Juja	30,292	73.6	26.4
Kitengela	28,450	82.8	17.2
Kiambu	28,168	77.6	22.4
Mlolongo	18,260	86.5	13.5
Malindi	12,666	66.0	34.0
Mandera	15,516	65.2	34.8
Kisii	26,071	74.5	25.5
Kakamega	25,589	72.5	27.5
Ngong	20,084	80.8	19.2

Appendix 21: Percentage distribution of households by main mode of solid waste disposal by County and by residence

County/Residence	No. of households	Collected by County Government	Collected by Community Association(CBOs Youth Groups Faith based organizations)	Collected by private company	Dumped in the compound	Dumped in the street/vacant plot/drain/waterways	Dumped in the Latrine	Burnt in open	Buried	Compost pit	Burnt in a pit
Kenya	12,040,701	6.3	6.9	8.8	8.4	2.4	3.6	27.1	3.2	18.4	14.9
Rural	7,376,595	0.7	0.1	0.7	11.7	1.1	4.3	33.7	4.8	25.1	17.9
Urban	4,664,106	15.3	17.5	21.8	3.2	4.4	2.5	16.5	0.8	7.8	10.1
Mombasa	376,212	5.6	36.7	19.5	3.9	5.2	2.6	16.1	0.6	4.9	4.9
Kwale	172,767	5.2	1.1	1.2	20.9	2.0	4.4	33.2	2.7	12.4	16.7
Rural	135,863	0.6	0.1	0.4	25.1	2.1	4.9	33.7	3.2	13.4	16.4
Urban	36,904	22.3	4.9	4.2	5.4	1.4	2.8	31.6	0.8	8.8	17.9
Kilifi	297,935	6.2	2.9	3.9	11.5	1.9	4.7	34.8	2.7	12.0	19.4
Rural	185,363	0.9	0.1	0.3	15.5	1.3	5.4	35.9	3.6	14.8	22.1
Urban	112,572	14.9	7.4	9.8	4.9	3.0	3.6	32.9	1.2	7.3	15.0
Tana River	66,964	0.7	0.5	0.6	10.6	2.6	4.6	49.5	9.8	7.5	13.6
Rural	47,210	0.1	0.2	0.1	11.9	2.4	3.3	50.2	11.4	8.2	12.2
Urban	19,754	2.3	1.3	1.9	7.2	3.0	7.5	47.6	6.1	5.9	17.1
Lamu	34,223	3.8	2.0	1.3	16.0	6.4	4.5	38.9	3.3	9.7	14.0
Rural	23,909	0.1	0.0	0.4	17.6	4.6	4.8	43.2	3.8	9.5	15.8
Urban	10,314	12.3	6.6	3.3	12.2	10.8	3.8	29.0	2.2	10.1	9.6
Taita-Taveta	94,453	5.9	0.6	0.9	9.6	1.0	3.7	26.1	1.4	13.0	37.7
Rural	65,005	0.4	0.0	0.3	12.7	0.2	4.1	25.9	1.7	15.2	39.5
Urban	29,448	18.2	2.0	2.1	2.8	2.9	2.8	26.5	0.6	8.1	33.9
Garissa	138,917	6.1	1.0	3.5	8.1	1.6	10.0	45.7	11.4	5.3	7.3
Rural	101,992	2.4	0.9	1.7	8.5	1.6	8.2	50.8	13.8	5.2	6.9
Urban	36,925	16.2	1.4	8.6	7.1	1.5	14.8	31.5	5.0	5.6	8.3
Wajir	126,874	5.7	0.5	1.6	5.3	1.3	8.4	43.5	24.0	3.4	6.2
Rural	96,880	1.7	0.4	0.5	4.7	1.3	8.6	47.1	26.0	3.6	6.0
Urban	29,994	18.4	0.8	5.2	7.4	1.6	7.8	31.6	17.7	2.4	7.0
Mandera	123,935	9.1	0.3	0.4	5.5	1.5	7.5	58.1	8.7	2.9	5.9
Rural	84,711	2.9	0.2	0.3	6.0	1.1	5.7	64.7	10.4	3.1	5.7
Urban	39,224	22.6	0.5	0.8	4.7	2.6	11.5	43.7	4.9	2.4	6.4
Marsabit	76,669	5.2	0.0	0.4	10.4	1.8	5.0	46.3	7.9	3.9	19.0
Rural	56,445	0.3	0.0	0.0	12.7	1.8	4.5	52.7	9.9	3.7	14.4
Urban	20,224	18.8	0.1	1.5	4.2	1.9	6.3	28.4	2.2	4.4	32.0
Isiolo	53,206	4.7	1.4	6.3	4.1	1.2	5.4	42.6	6.0	4.2	24.1
Rural	25,348	0.6	0.0	0.1	6.7	1.4	4.4	51.4	9.2	3.7	22.4
Urban	27,858	8.4	2.6	11.9	1.8	1.0	6.2	34.7	3.1	4.6	25.7
Meru	423,848	4.6	0.2	0.6	13.4	0.7	5.2	27.8	2.7	28.1	16.8
Rural	373,233	0.9	0.1	0.4	14.8	0.6	5.4	29.9	2.9	28.7	16.2
Urban	50,615	31.7	1.1	2.2	3.0	1.0	4.1	12.5	0.7	23.3	20.5
Tharaka-Nithi	109,425	4.4	0.1	0.2	15.8	0.5	4.3	34.8	2.0	19.3	18.7
Rural	97,594	1.2	0.1	0.2	17.1	0.5	4.4	36.8	2.0	19.4	18.4
Urban	11,831	30.6	0.4	0.6	5.4	0.6	2.9	18.1	2.2	18.0	21.2
Embu	182,413	4.4	1.3	2.3	11.4	0.8	3.9	28.6	2.0	24.1	21.1
Rural	154,290	0.7	0.4	0.9	12.8	0.4	3.8	31.3	2.3	25.6	21.8
Urban	28,123	24.8	6.2	10.1	4.0	2.8	4.6	13.6	0.5	16.4	17.1
Kitui	261,787	3.8	0.1	0.3	13.0	1.3	6.1	38.3	3.1	11.3	22.8
Rural	242,581	0.6	0.0	0.2	13.8	0.8	6.2	39.7	3.2	11.7	23.7
Urban	19,206	44.3	0.2	1.6	2.4	7.0	4.3	21.2	1.3	6.0	11.7
Machakos	399,453	7.4	1.6	9.7	7.4	2.4	3.8	23.1	1.6	27.2	15.8
Rural	256,789	0.4	0.1	0.5	9.2	0.3	4.2	25.6	2.2	38.4	19.1
Urban	142,664	20.1	4.4	26.1	4.1	6.2	3.0	18.5	0.4	7.2	9.9
Makueni	243,948	4.0	0.1	0.3	13.0	0.4	5.0	28.6	1.8	23.0	23.9
Rural	217,026	0.4	0.0	0.1	14.1	0.3	5.0	29.6	2.0	24.3	24.0
Urban	26,922	32.8	0.5	1.3	4.0	1.8	4.4	20.3	0.3	12.0	22.6
Nyandarua	178,205	4.4	0.4	1.6	14.0	1.0	1.0	34.4	2.7	12.2	28.4
Rural	154,989	1.9	0.0	0.3	15.5	0.7	1.1	35.8	3.0	13.0	28.8
Urban	23,216	21.5	2.9	10.2	3.6	2.8	0.6	25.5	0.4	6.8	25.9
Nyeri	244,542	11.1	0.3	1.7	9.1	0.4	2.1	27.6	2.2	19.8	25.7
Rural	189,078	1.3	0.2	0.8	10.9	0.2	2.3	31.0	2.5	22.8	27.9
Urban	55,464	44.4	0.4	4.9	2.7	1.3	1.4	16.1	0.9	9.9	18.0
Kirinyaga	203,554	7.2	1.3	3.0	10.1	1.6	2.2	24.2	1.7	29.7	19.0
Rural	154,238	1.9	1.3	3.0	11.9	0.4	2.2	24.9	2.1	34.7	17.6
Urban	49,316	23.7	1.2	2.9	4.6	5.0	2.1	22.2	0.7	14.3	23.3
Murang'a	317,459	3.9	0.4	1.8	16.6	0.6	2.9	30.4	2.4	23.3	17.8
Rural	276,003	0.7	0.2	1.4	18.3	0.3	3.0	31.6	2.6	24.4	17.4
Urban	41,456	25.0	1.6	4.8	4.9	2.7	1.9	22.2	0.7	15.8	20.3
Kiambu	792,147	10.1	4.6	26.0	4.1	1.5	1.8	24.8	0.9	9.0	17.2
Rural	207,522	1.7	0.2	1.8	7.8	0.5	2.8	35.0	2.1	20.2	28.1
Urban	584,625	13.0	6.2	34.7	2.8	1.9	1.4	21.2	0.4	5.1	13.3
Turkana	162,567	1.5	0.4	0.5	5.0	3.4	5.9	51.9	19.5	3.7	8.2
Rural	132,583	0.3	0.4	0.3	5.3	3.8	5.2	53.2	22.6	3.0	5.9
Urban	29,984	6.5	0.3	1.6	3.5	1.4	9.2	46.2	6.0	6.8	18.5

County/Residence	No. of households	Collected by County Government	Collected by Community Association(CBOs Youth Groups Faith based organizations)	Collected by private company	Dumped in the compound	Dumped in the street/vacant plot/drain/waterways	Dumped in the Latrine	Burnt in open	Buried	Compost pit	Burnt in a pit
West Pokot	115,738	2.3	0.1	0.3	13.9	1.3	4.0	51.5	8.0	8.8	9.9
Rural	107,145	0.3	0.0	0.2	14.6	1.2	4.0	53.8	8.5	8.1	9.2
Urban	8,593	27.3	0.4	1.7	4.8	1.4	4.5	22.6	1.4	17.7	18.2
Samburu	63,947	3.2	0.1	0.4	10.5	4.8	4.1	49.6	7.3	4.0	16.0
Rural	51,454	0.2	0.0	0.3	12.5	5.6	3.0	52.5	8.7	4.2	12.9
Urban	12,493	15.6	0.3	1.0	2.0	1.4	8.6	37.4	1.7	3.2	28.8
Trans Nzoia	222,967	3.5	0.7	1.9	13.8	2.2	3.7	17.1	2.7	44.5	9.9
Rural	173,565	0.3	0.0	0.2	16.1	1.3	4.0	18.6	3.1	46.2	10.2
Urban	49,402	14.9	3.1	7.9	5.8	5.5	2.9	11.8	1.2	38.3	8.6
Uasin Gishu	301,065	11.4	2.4	9.0	4.7	0.9	3.1	26.6	1.2	13.1	27.8
Rural	139,935	0.4	0.0	0.3	6.0	0.3	3.5	35.1	1.8	16.0	36.6
Urban	161,130	21.0	4.4	16.5	3.5	1.5	2.7	19.1	0.6	10.5	20.1
Elgeyo-Marakwet	99,104	1.7	0.0	0.1	6.3	0.2	4.0	55.7	1.7	6.5	23.7
Rural	93,009	0.2	0.0	0.1	6.6	0.1	4.1	57.6	1.8	6.6	22.8
Urban	6,095	23.6	0.0	0.2	1.8	0.3	3.4	27.5	0.5	5.6	37.1
Nandi	199,024	1.9	0.1	1.1	8.5	0.3	3.1	30.0	2.8	25.8	26.3
Rural	180,495	0.1	0.1	1.2	8.6	0.4	3.0	31.3	3.0	25.4	27.0
Urban	18,529	19.1	0.2	0.8	7.5	0.2	4.1	16.9	1.2	30.3	19.5
Baringo	141,867	1.9	0.0	0.2	7.5	1.4	2.6	55.4	4.2	4.0	22.9
Rural	119,355	0.2	0.0	0.1	8.1	1.2	2.5	57.6	4.8	3.8	21.6
Urban	22,512	10.7	0.0	0.8	4.7	2.2	2.8	44.2	0.6	4.6	29.4
Laikipia	145,764	15.4	0.1	0.6	8.1	0.7	3.6	33.5	3.0	9.9	25.2
Rural	103,013	0.9	0.1	0.3	10.0	0.4	4.2	40.4	4.0	12.5	27.2
Urban	42,751	50.3	0.1	1.2	3.5	1.2	2.1	16.9	0.6	3.8	20.2
Nakuru	598,156	11.5	4.3	13.8	7.5	1.7	3.1	30.4	1.9	7.7	18.1
Rural	269,498	0.5	0.2	1.3	12.9	0.9	3.9	42.0	3.4	10.2	24.7
Urban	328,658	20.6	7.6	24.2	3.1	2.4	2.5	20.8	0.6	5.6	12.7
Narok	238,071	4.0	0.1	1.0	6.6	1.9	4.7	44.1	3.6	7.7	26.2
Rural	206,255	0.4	0.1	0.4	7.1	0.9	4.9	47.1	4.1	7.7	27.5
Urban	31,816	27.4	0.2	5.3	3.7	8.5	3.7	24.3	0.8	7.8	18.4
Kajiado	313,130	9.4	2.4	26.2	2.8	0.8	3.9	26.2	2.5	5.3	20.6
Rural	106,510	0.8	0.3	1.3	4.5	0.7	5.3	41.0	6.7	7.6	31.7
Urban	206,620	13.8	3.4	39.0	1.9	0.9	3.2	18.6	0.4	4.1	14.8
Kericho	205,890	7.4	0.2	3.3	4.2	1.0	5.8	39.7	3.1	8.4	27.0
Rural	175,089	1.4	0.1	3.3	4.3	0.2	6.0	43.5	3.2	8.3	29.7
Urban	30,801	41.5	0.6	2.9	4.0	5.5	5.0	18.0	2.0	8.7	11.8
Bomet	187,217	2.1	0.1	2.5	2.2	0.2	2.8	44.8	1.9	5.7	37.8
Rural	177,874	0.5	0.1	2.6	2.1	0.1	2.8	45.6	1.9	5.7	38.7
Urban	9,343	32.4	1.2	1.2	3.2	2.1	2.8	30.9	1.3	4.8	20.0
Kakamega	432,191	0.8	0.1	0.6	10.3	1.8	3.9	10.3	3.9	64.2	4.1
Rural	377,522	0.1	0.1	0.1	11.1	1.8	3.9	10.3	4.3	64.7	3.6
Urban	54,669	5.6	0.5	3.9	4.9	1.8	4.0	10.3	1.1	60.4	7.3
Vihiga	143,265	1.0	0.1	0.1	10.1	0.4	2.6	9.8	3.6	68.4	3.8
Rural	127,378	0.3	0.0	0.1	10.7	0.5	2.5	9.6	3.9	69.0	3.4
Urban	15,887	7.1	0.3	0.3	5.7	0.3	3.0	11.6	1.3	63.6	6.6
Bungoma	357,687	1.5	0.1	0.5	12.3	1.5	4.3	13.3	4.1	57.9	4.6
Rural	307,128	0.2	0.0	0.2	13.0	1.4	4.4	13.8	4.3	58.8	3.8
Urban	50,559	9.4	0.7	2.1	7.7	1.9	3.8	10.2	2.3	52.4	9.5
Busia	197,921	2.0	0.2	0.6	10.3	3.0	4.0	18.3	5.2	47.8	8.7
Rural	167,171	0.1	0.0	0.2	11.2	3.1	3.6	17.8	5.8	50.2	7.9
Urban	30,750	12.2	0.9	2.9	5.3	2.4	6.2	21.0	1.4	34.7	12.9
Siaya	249,279	0.4	0.0	0.2	10.5	1.8	3.4	26.8	3.1	41.8	12.1
Rural	224,358	0.2	0.0	0.1	11.0	1.8	3.5	26.3	3.3	43.1	10.7
Urban	24,921	2.7	0.2	1.3	5.6	1.2	2.5	30.8	1.0	30.0	24.7
Kisumu	296,766	2.5	2.5	5.0	6.3	1.5	5.4	39.7	2.7	18.5	15.9
Rural	168,767	0.4	0.1	0.3	7.9	0.7	6.4	40.3	3.8	23.9	16.2
Urban	127,999	5.2	5.7	11.2	4.1	2.5	4.1	38.9	1.4	11.3	15.5
Homabay	260,262	1.2	0.1	0.5	11.7	1.5	6.4	37.3	4.8	21.3	15.2
Rural	229,154	0.2	0.1	0.3	12.6	1.3	6.7	37.0	5.1	22.1	14.6
Urban	31,108	8.0	0.4	2.1	5.0	3.2	3.8	39.5	3.1	15.2	19.6
Migori	238,078	1.8	0.2	0.9	10.0	3.3	6.1	30.6	4.9	26.7	15.5
Rural	195,326	0.4	0.0	0.2	10.9	2.8	5.7	31.0	5.4	28.1	15.5
Urban	42,752	8.0	1.0	4.0	5.6	5.8	8.2	29.0	2.6	20.4	15.5
Kisii	307,224	5.2	0.3	0.6	15.9	2.3	4.5	31.5	8.4	23.3	7.9
Rural	261,359	0.6	0.0	0.2	17.2	2.4	4.5	34.0	9.5	23.9	7.9
Urban	45,865	31.6	1.6	2.9	8.8	2.2	4.9	17.7	2.2	20.0	8.1
Nyamira	150,489	2.6	0.1	0.9	16.5	1.3	3.7	29.7	7.4	28.6	9.1
Rural	136,583	0.6	0.0	1.0	16.8	1.2	3.6	30.8	7.8	28.9	9.2
Urban	13,906	22.3	0.7	0.4	14.0	2.3	4.3	19.3	3.0	25.8	8.0
Nairobi City	1,494,096	13.0	38.0	30.0	1.6	7.8	0.9	4.5	0.1	2.2	2.0

Appendix 22: Percentage distribution of households by main mode of solid waste disposal by Major Urban Centres

Region	No. of households	Collected by County Government	Collected by Community Association(CBOs Youth Groups Faith based organizations)	Collected by private company	Dumped in the compound	Dumped in the street/vacant plot/drain/waterways	Dumped in the Latrine	Burnt in open	Buried	Compost pit	Burnt in a pit
Nairobi City	1,494,096	13.0	38.0	30.0	1.6	7.8	0.9	4.5	0.1	2.2	2.0
Mombasa	376,212	5.6	36.7	19.5	3.9	5.2	2.6	16.1	0.6	4.9	4.9
Nakuru	175,743	22.0	9.8	32.2	2.4	1.2	1.7	16.1	0.5	3.4	10.8
Ruiru	166,815	12.0	11.0	42.9	2.3	2.6	1.0	18.0	0.2	2.6	7.5
Eldoret	150,923	21.8	4.7	17.4	3.3	1.4	2.6	18.8	0.6	9.3	20.2
Kisumu	116,318	5.6	6.2	12.0	4.1	2.5	3.7	39.1	1.3	10.9	14.5
Kikuyu	109,271	4.0	2.1	38.7	2.3	0.3	1.0	23.5	0.4	4.6	23.1
Thika	90,795	26.1	8.4	30.4	3.4	3.8	1.0	16.0	0.2	4.0	6.6
Naivasha	68,742	28.7	9.0	22.1	2.3	1.4	2.6	17.6	0.7	4.8	11.1
Karuri	66,872	7.2	2.5	34.2	4.2	0.5	3.7	23.6	0.8	8.4	15.0
Ongata Rongai	58,331	12.3	3.4	48.1	2.1	0.6	2.1	18.3	0.3	3.8	8.9
Garissa	26,941	20.1	1.8	10.9	6.5	1.7	14.3	28.8	3.2	4.8	7.9
Kitale	45,219	15.3	3.3	8.4	5.9	5.7	3.1	11.7	1.3	36.3	9.0
Juja	56,675	17.4	6.5	34.4	3.2	3.6	1.1	22.1	0.2	3.5	8.0
Kitengela	53,148	13.8	4.4	58.0	1.2	0.3	4.3	9.0	0.5	2.0	6.7
Kiambu	47,675	12.2	2.7	27.9	2.7	0.6	1.1	24.4	1.1	8.1	19.4
Mlolongo	47,789	9.2	9.0	49.3	3.4	7.8	2.0	12.8	0.2	1.9	4.5
Malindi	33,486	16.6	9.3	9.4	6.6	5.8	4.1	26.8	1.3	6.9	13.1
Mandera	17,916	38.4	0.8	0.9	3.6	1.9	6.6	32.3	3.7	2.8	9.0
Kisii	35,192	35.7	1.6	3.4	8.9	1.1	5.2	15.9	1.8	18.1	8.2
Kakamega	32,969	5.7	0.7	4.5	5.1	1.5	2.9	10.1	0.8	61.6	7.1
Ngong	32,758	16.5	3.6	30.4	1.8	2.0	1.1	20.3	0.4	4.1	19.8

Appendix 23: Percentage distribution of households by main type of cooking fuel and residence

County/Residence	No. of	Electricity	LPG (gas)	Clean			Sub-total	Smoky			
				Biogas	Solar			Paraffin	Firewood	Charcoal	Sub-total
Kenya	12,040,701	0.8	23.9	0.5	0.2	25.4		7.8	55.2	11.6	74.6
Rural	7,376,595	0.3	5.6	0.3	0.2	6.5		1.6	84.2	7.7	93.5
Urban	4,664,106	1.6	52.9	0.7	0.0	55.3		17.7	9.3	17.8	44.7
Mombasa						0.0					0.0
Total	376,212	1.3	37.6	1.1	0.0	40.0		32.1	4.7	23.2	60.0
Rural						0.0					0.0
Urban	376,212	1.3	37.6	1.1	0.0	40.0		32.1	4.7	23.2	60.0
Kwale						0.0					0.0
Total	172,767	0.5	8.6	0.4	0.2	9.7		5.0	69.8	15.5	90.3
Rural	135,863	0.3	2.7	0.2	0.2	3.5		2.0	83.7	10.9	96.5
Urban	36,904	0.9	30.3	1.3	0.0	32.5		16.4	18.5	32.6	67.5
Kilifi						0.0					0.0
Total	297,935	0.7	11.1	0.5	0.1	12.4		7.4	58.3	21.9	87.6
Rural	185,363	0.3	3.1	0.2	0.1	3.7		2.6	84.0	9.7	96.3
Urban	112,572	1.4	24.4	0.9	0.1	26.7		15.4	15.9	42.0	73.3
Tana River						0.0					0.0
Total	66,964	0.7	2.4	0.3	0.5	3.9		0.9	63.7	31.5	96.1
Rural	47,210	0.2	0.7	0.2	0.5	1.6		0.3	82.0	16.0	98.4
Urban	19,754	2.0	6.5	0.5	0.4	9.4		2.1	19.9	68.6	90.6
Lamu						0.0					0.0
Total	34,223	0.7	9.0	0.5	0.3	10.4		1.6	60.7	27.3	89.6
Rural	23,909	0.5	4.5	0.3	0.4	5.7		0.8	75.9	17.7	94.3
Urban	10,314	1.2	19.3	0.8	0.1	21.4		3.3	25.5	49.8	78.6
Taita-Taveta						0.0					0.0
Total	94,453	0.4	14.2	0.4	0.1	15.0		6.8	55.4	22.8	85.0
Rural	65,005	0.3	5.9	0.4	0.1	6.6		2.7	75.5	15.2	93.4
Urban	29,448	0.5	32.5	0.4	0.0	33.4		16.0	11.1	39.5	66.6
Garissa						0.0					0.0
Total	138,917	3.9	1.5	0.7	1.3	7.5		0.7	72.5	19.4	92.5
Rural	101,992	1.3	0.5	0.8	1.7	4.2		0.5	90.1	5.2	95.8
Urban	36,925	11.2	4.3	0.7	0.3	16.5		1.1	23.9	58.5	83.5
Wajir						0.0					0.0
Total	126,874	2.2	0.7	0.6	0.8	4.3		0.3	90.1	5.3	95.7
Rural	96,880	0.4	0.2	0.5	0.9	1.9		0.2	95.5	2.4	98.1
Urban	29,994	8.0	2.4	1.0	0.8	12.1		0.8	72.5	14.6	87.9
Mandera						0.0					0.0
Total	123,935	1.6	0.4	0.4	0.5	2.9		0.3	86.4	10.4	97.1
Rural	84,711	0.2	0.1	0.4	0.5	1.3		0.3	95.8	2.6	98.7
Urban	39,224	4.5	0.8	0.5	0.5	6.3		0.4	66.0	27.4	93.7
Marsabit						0.0					0.0
Total	76,669	0.5	4.6	0.4	0.3	5.7		1.1	84.9	8.3	94.3
Rural	56,445	0.2	0.8	0.3	0.4	1.6		0.2	95.9	2.3	98.4
Urban	20,224	1.4	15.1	0.6	0.1	17.2		3.6	54.0	25.1	82.8
Isiolo						0.0					0.0
Total	53,206	1.0	12.6	0.5	0.3	14.3		1.1	60.7	23.9	85.7
Rural	25,348	0.3	0.9	0.3	0.4	1.9		0.1	92.0	5.9	98.1
Urban	27,858	1.6	23.2	0.7	0.1	25.6		1.9	32.3	40.2	74.4
Meru						0.0					0.0
Total	423,848	0.5	12.6	0.5	0.1	13.7		2.2	74.4	9.8	86.3
Rural	373,233	0.4	7.3	0.4	0.1	8.2		1.5	82.5	7.8	91.8
Urban	50,615	1.0	51.9	0.8	0.1	53.7		7.4	14.2	24.7	46.3
Tharaka-Nithi						0.0					0.0
Total	109,425	0.2	10.0	0.3	0.1	10.6		1.5	82.3	5.7	89.4
Rural	97,594	0.2	5.3	0.3	0.1	5.9		0.9	88.6	4.6	94.1
Urban	11,831	0.4	48.0	0.4	0.0	48.8		6.0	29.8	15.3	51.2
Embu						0.0					0.0
Total	182,413	0.4	18.4	0.4	0.2	19.5		4.0	70.3	6.2	80.5
Rural	154,290	0.3	10.5	0.4	0.2	11.5		2.8	80.4	5.3	88.5
Urban	28,123	0.8	62.2	0.4	0.0	63.4		11.1	14.5	10.9	36.6
Kitui						0.0					0.0
Total	261,787	0.2	6.7	0.3	0.2	7.4		2.7	81.3	8.6	92.6
Rural	242,581	0.2	3.8	0.2	0.2	4.4		1.6	87.5	6.5	95.6
Urban	19,206	1.2	43.1	0.5	0.1	44.9		16.9	4.0	34.3	55.1
Machakos						0.0					0.0
Total	399,453	0.7	27.5	0.5	0.1	28.8		11.1	53.4	6.7	71.2
Rural	256,789	0.3	8.7	0.5	0.1	9.6		3.6	80.0	6.7	90.4
Urban	142,664	1.3	61.2	0.7	0.0	63.3		24.5	5.6	6.6	36.7
Makueni						0.0					0.0
Total	243,948	0.2	8.6	0.2	0.1	9.1		4.6	76.1	10.1	90.9
Rural	217,026	0.1	4.7	0.2	0.1	5.2		2.5	84.4	7.9	94.8
Urban	26,922	0.7	39.5	0.4	0.0	40.7		21.9	9.3	28.0	59.3
Nyandarua						0.0					0.0
Total	178,205	0.2	12.5	0.2	0.0	13.1		1.3	70.0	15.6	86.9
Rural	154,989	0.2	7.5	0.2	0.1	8.0		0.9	78.4	12.7	92.0
Urban	23,216	0.7	45.9	0.3	0.0	46.9		3.8	14.4	34.9	53.1
Nyeri						0.0					0.0
Total	244,542	0.5	23.2	0.5	0.0	24.3		3.3	64.9	7.5	75.7
Rural	189,078	0.4	11.9	0.5	0.0	12.9		1.6	80.2	5.3	87.1
Urban	55,464	0.7	61.9	0.4	0.0	63.1		9.1	12.7	15.1	36.9
Kirinyaga						0.0					0.0
Total	203,554	0.3	23.8	0.4	0.0	24.6		5.5	65.4	4.4	75.4
Rural	154,238	0.3	13.4	0.5	0.0	14.2		3.8	78.8	3.2	85.8
Urban	49,316	0.5	56.2	0.4	0.0	57.2		10.9	23.6	8.2	42.8
Murang'a						0.0					0.0
Total	317,459	0.4	17.1	0.4	0.0	17.9		4.7	74.8	2.6	82.1
Rural	276,003	0.3	10.7	0.4	0.0	11.4		3.3	83.1	2.2	88.6
Urban	41,456	0.6	59.4	0.8	0.0	60.8		14.2	19.7	5.3	39.2
Kiambu						0.0					0.0
Total	792,147	0.8	58.1	0.7	0.0	59.5		11.1	22.3	7.1	40.5
Rural	207,522	0.6	20.5	1.1	0.0	22.2		4.0	65.1	8.7	77.8
Urban	584,625	0.9	71.4	0.5	0.0	72.8		13.6	7.1	6.5	27.2
Turkana						0.0					0.0
Total	162,567	0.3	1.9	0.4	0.2	2.9		0.4	79.9	16.8	97.1
Rural	132,583	0.1	0.3	0.3	0.2	0.9		0.2	91.2	7.7	99.1
Urban	29,984	1.0	9.3	1.1	0.3	11.7		1.3	30.1	56.9	88.3

County/Residence	No. of households	Clean					Smoky			
		Electricity	LPG (gas)	Biogas	Solar	Sub-total	Paraffin	Firewood	Charcoal	Sub-total
West Pokot						0.0				0.0
Total	115,738	0.5	2.3	0.3	0.4	3.5	0.6	88.1	7.9	96.5
Rural	107,145	0.3	0.8	0.2	0.4	1.8	0.5	93.8	4.0	98.2
Urban	8,593	2.9	20.8	0.7	0.3	24.7	1.7	16.8	56.8	75.3
Samburu						0.0				0.0
Total	63,947	0.5	4.5	0.4	0.3	5.6	0.3	73.0	21.1	94.4
Rural	51,454	0.1	0.8	0.2	0.4	1.5	0.2	87.5	10.8	98.5
Urban	12,493	2.1	19.5	0.9	0.1	22.6	0.5	13.3	63.6	77.4
Trans Nzoia						0.0				0.0
Total	222,967	0.5	8.7	0.4	0.2	9.7	3.0	70.0	17.3	90.3
Rural	173,565	0.3	4.0	0.4	0.2	4.8	1.7	84.6	8.9	95.2
Urban	49,402	0.9	25.4	0.6	0.1	27.0	7.4	18.7	47.0	73.0
Uasin Gishu						0.0				0.0
Total	301,065	0.7	24.6	0.4	0.1	25.8	5.6	46.6	22.0	74.2
Rural	139,935	0.3	4.5	0.3	0.2	5.4	1.1	86.4	7.2	94.6
Urban	161,130	1.1	42.0	0.5	0.0	43.6	9.5	12.1	34.8	56.4
Elgeyo-Marakwet						0.0				0.0
Total	99,104	0.5	3.1	0.2	0.2	4.0	0.4	87.2	8.5	96.0
Rural	93,009	0.5	1.6	0.2	0.3	2.4	0.3	91.2	6.1	97.6
Urban	6,095	1.3	25.9	0.1	0.0	27.3	1.5	26.5	44.7	72.7
Nandi						0.0				0.0
Total	199,024	0.4	5.8	0.3	0.2	6.7	1.0	84.8	7.6	93.3
Rural	180,495	0.3	3.1	0.2	0.2	3.9	0.7	90.8	4.6	96.1
Urban	18,529	0.6	32.2	0.8	0.0	33.6	3.8	25.9	36.6	66.4
Baringo						0.0				0.0
Total	141,867	0.4	4.1	0.3	0.1	4.8	0.4	81.4	13.3	95.2
Rural	119,355	0.3	1.5	0.2	0.1	2.2	0.3	91.5	6.0	97.8
Urban	22,512	0.8	17.6	0.5	0.0	18.9	1.5	27.8	51.8	81.1
Laikipia						0.0				0.0
Total	145,764	0.4	21.2	0.3	0.1	22.0	2.3	58.0	17.7	78.0
Rural	103,013	0.2	7.7	0.3	0.1	8.5	1.0	78.2	12.2	91.5
Urban	42,751	0.7	53.7	0.3	0.0	54.7	5.2	9.2	30.9	45.3
Nakuru						0.0				0.0
Total	598,156	0.6	30.0	0.4	0.1	31.1	5.4	39.7	23.9	68.9
Rural	269,498	0.3	8.2	0.4	0.1	9.0	1.4	74.7	14.9	91.0
Urban	328,658	0.8	47.8	0.5	0.0	49.1	8.6	11.0	31.2	50.9
Narok						0.0				0.0
Total	238,071	0.4	8.2	0.5	0.4	9.5	1.0	71.8	17.7	90.5
Rural	206,255	0.3	3.2	0.3	0.5	4.3	0.7	82.3	12.8	95.7
Urban	31,816	1.1	40.5	1.5	0.1	43.1	3.3	4.0	49.5	56.9
Kajiado						0.0				0.0
Total	313,130	1.2	47.2	0.7	0.2	49.2	12.7	29.0	9.1	50.8
Rural	106,510	0.7	10.4	0.4	0.6	12.1	3.7	75.9	8.2	87.9
Urban	206,620	1.4	66.1	0.8	0.0	68.3	17.3	4.8	9.6	31.7
Kericho						0.0				0.0
Total	205,890	0.5	9.5	0.3	0.1	10.5	1.4	79.1	8.9	89.5
Rural	175,089	0.4	4.1	0.3	0.1	4.9	0.7	90.4	4.0	95.1
Urban	30,801	1.3	40.1	0.8	0.0	42.2	5.8	15.2	36.8	57.8
Bomet						0.0				0.0
Total	187,217	0.3	5.9	0.2	0.2	6.6	0.8	88.5	4.1	93.4
Rural	177,874	0.3	3.5	0.2	0.2	4.2	0.5	92.5	2.8	95.8
Urban	9,343	0.7	51.0	0.3	0.0	52.1	7.0	12.1	28.9	47.9
Kakamega						0.0				0.0
Total	432,191	0.4	7.4	0.3	0.3	8.3	2.4	81.0	8.2	91.7
Rural	377,522	0.3	3.6	0.3	0.3	4.4	1.7	88.7	5.2	95.6
Urban	54,669	1.0	33.6	0.5	0.1	35.2	7.7	27.9	29.2	64.8
Vihiga						0.0				0.0
Total	143,265	0.3	7.1	0.3	0.1	7.7	2.4	83.9	5.9	92.3
Rural	127,378	0.2	4.8	0.2	0.1	5.3	1.7	88.6	4.3	94.7
Urban	15,887	1.1	25.2	0.7	0.0	27.0	7.9	46.4	18.7	73.0
Bungoma						0.0				0.0
Total	357,687	0.3	7.2	0.4	0.2	8.1	2.6	78.3	11.0	91.9
Rural	307,128	0.3	3.9	0.3	0.3	4.8	1.9	86.3	7.0	95.2
Urban	50,559	0.8	26.8	0.7	0.1	28.3	6.4	30.2	35.1	71.7
Busia						0.0				0.0
Total	197,921	0.4	6.0	0.4	0.2	6.9	1.5	73.6	18.0	93.1
Rural	167,171	0.2	3.2	0.3	0.2	3.9	1.1	84.2	10.8	96.1
Urban	30,750	1.4	20.8	1.0	0.1	23.3	3.8	15.9	57.1	76.7
Siaya						0.0				0.0
Total	249,279	0.2	6.0	0.3	0.2	6.7	2.0	72.5	18.8	93.3
Rural	224,358	0.2	3.6	0.3	0.2	4.2	1.5	78.8	15.5	95.8
Urban	24,921	0.8	27.6	0.5	0.1	29.0	6.3	16.0	48.8	71.0
Kisumu						0.0				0.0
Total	296,766	0.8	18.7	0.6	0.2	20.2	7.8	49.7	22.2	79.8
Rural	168,767	0.4	5.4	0.3	0.3	6.3	1.9	79.1	12.7	93.7
Urban	127,999	1.3	36.3	0.9	0.0	38.6	15.7	11.0	34.7	61.4
Homabay						0.0				0.0
Total	260,262	0.3	6.2	0.4	0.3	7.2	1.4	74.4	17.0	92.8
Rural	229,154	0.2	3.5	0.4	0.3	4.4	0.9	82.8	11.9	95.6
Urban	31,108	1.0	25.9	0.8	0.2	27.8	5.0	12.5	54.7	72.2
Migori						0.0				0.0
Total	238,078	0.5	6.8	0.5	0.3	8.1	1.3	71.4	19.2	91.9
Rural	195,326	0.2	3.2	0.4	0.3	4.2	0.9	83.5	11.3	95.8
Urban	42,752	1.8	23.0	1.0	0.1	26.0	3.0	16.0	55.0	74.0
Kisii						0.0				0.0
Total	307,224	0.6	13.5	0.5	0.2	14.7	2.2	78.0	5.1	85.3
Rural	261,359	0.4	6.3	0.4	0.2	7.3	1.4	88.2	3.0	92.7
Urban	45,865	1.5	54.4	0.8	0.0	56.7	6.7	19.7	16.8	43.3
Nyamira						0.0				0.0
Total	150,489	0.8	8.7	0.3	0.1	9.9	1.9	84.7	3.5	90.1
Rural	136,583	0.7	5.5	0.2	0.1	6.6	1.4	89.6	2.4	93.4
Urban	13,906	1.9	39.3	1.0	0.1	42.3	6.1	37.1	14.5	57.7
Nairobi City						0.0				0.0
Total	1,494,096	2.2	67.2	0.6	0.0	70.1	26.5	0.7	2.7	29.9
Rural	0					0.0				0.0
Urban	1,494,096	2.2	67.2	0.6	0.0	70.1	26.5	0.7	2.7	29.9

Appendix 24: Percentage distribution of households by main type of cooking fuel by Major Urban Centres

Region	No. of households	Clean					Smoky			
		Electricity	LPG (gas)	Biogas	Solar	Sub-total	Paraffin	Firewood	Charcoal	Sub-total
Nairobi City	1,494,096	2.2	67.2	0.6	0.0	70.1	26.5	0.7	2.7	29.9
Mombasa	376,212	1.3	37.6	1.1	0.0	40.0	32.1	4.7	23.2	60.0
Nakuru	175,743	0.8	50.2	0.6	0.0	51.7	9.4	9.8	29.1	48.3
Ruiru	166,815	1.2	78.5	0.4	0.0	80.1	14.3	3.8	1.8	19.9
Eldoret	150,923	1.1	43.2	0.5	0.0	44.9	9.5	11.2	34.5	55.1
Kisumu	116,318	1.3	37.3	0.9	0.0	39.6	16.7	10.7	33.0	60.4
Kikuyu	109,271	0.7	67.0	0.5	0.0	68.2	10.5	9.2	12.1	31.8
Thika	90,795	0.7	76.5	0.5	0.0	77.7	17.4	2.6	2.3	22.3
Naivasha	68,742	1.0	59.0	0.4	0.0	60.4	11.8	5.4	22.4	39.6
Karuri	66,872	0.8	65.9	0.6	0.0	67.3	16.0	9.2	7.5	32.7
Ongata Rongai	58,331	0.9	75.6	0.7	0.0	77.2	17.7	2.2	2.9	22.8
Garissa	26,941	12.3	5.5	0.7	0.1	18.7	1.0	10.3	70.1	81.3
Kitale	45,219	0.9	26.1	0.6	0.1	27.6	7.4	16.9	48.1	72.4
Juja	56,675	0.7	75.9	0.5	0.0	77.0	14.9	6.2	1.8	23.0
Kitengela	53,148	2.3	72.2	0.7	0.0	75.3	19.2	1.8	3.7	24.7
Kiambu	47,675	0.8	68.8	0.6	0.0	70.2	10.9	13.1	5.7	29.8
Mlolongo	47,789	1.5	68.6	0.8	0.0	70.8	25.6	1.5	2.0	29.2
Malindi	33,486	1.1	21.7	1.1	0.0	24.0	9.4	11.6	55.0	76.0
Mandera	17,916	5.2	1.3	0.3	0.3	7.0	0.4	41.1	51.4	93.0
Kisii	35,192	1.3	59.5	0.8	0.0	61.5	6.8	16.4	15.3	38.5
Kakamega	32,969	1.0	41.0	0.5	0.1	42.5	9.0	23.3	25.1	57.5
Ngong	32,758	0.9	68.9	0.2	0.0	70.1	15.7	7.0	7.3	29.9

Appendix 25: Percentage distribution of households by main type of lighting fuel or appliance by County and by Residence

Total		Clean									Smoky						
County/Residence	No. of households	Mains		Torch/Spotlight-Solar	Torch/Spotlight-Dry	Battery(Ca r /Charged)	Generator (Diesel/Petrol)	Gas Lamp	Biogas	Sub-Total	Paraffin Pressure lamp	Paraffin Lantern	Paraffin Tin lamp	Wood	Candle	Sub-Total	
		Electricity	Solar	Charged	cells												
Total	12,040,701	50.5	19.3		5.2	3.8	0.4	0.1	0.2	0.0	79.5	0.3	6.6	9.5	2.7	1.3	20.5
Rural	7,376,595	26.5	30.0		8.1	5.8	0.6	0.1	0.2	0.0	71.2	0.4	9.4	13.8	4.2	1.0	28.8
Urban	4,664,106	88.6	2.4		0.7	0.7	0.1	0.0	0.1	0.0	92.8	0.2	2.2	2.7	0.3	1.8	7.2
Mombasa																	
Mombasa	376,212	86.1	1.5		0.4	0.3	0.1	0.0	0.1	0.0	88.5	0.5	2.7	6.1	0.0	2.2	11.5
Rural	-																
Urban	376,212	86.1	1.5		0.4	0.3	0.1	0.0	0.1	0.0	88.5	0.5	2.7	6.1	0.0	2.2	11.5
Kwale																	
Total	172,767	31.6	22.8		2.7	3.9	0.2	0.0	0.2	0.0	61.5	0.5	6.0	29.5	1.6	0.9	38.5
Rural	135,863	18.5	28.2		3.2	4.9	0.2	0.0	0.1	0.0	55.2	0.6	6.6	34.9	2.1	0.6	44.8
Urban	36,904	80.0	3.2		0.7	0.3	0.1	0.0	0.2	0.0	84.5	0.4	3.6	9.6	0.0	2.0	15.5
Kilifi																	
Total	297,935	38.6	20.0		2.4	2.8	0.2	0.0	0.1	0.0	64.2	0.6	6.1	26.6	1.3	1.2	35.8
Rural	185,363	17.1	29.0		3.3	4.3	0.3	0.0	0.1	0.0	54.1	0.5	6.9	35.7	1.9	0.7	45.9
Urban	112,572	74.0	5.1		1.0	0.5	0.1	0.0	0.2	0.0	80.9	0.7	4.8	11.5	0.2	1.9	19.1
Tana River																	
Total	66,964	25.7	20.9		12.1	21.7	0.3	0.1	0.5	0.0	81.3	0.2	2.4	7.1	6.7	2.3	18.7
Rural	47,210	9.9	25.8		15.7	26.8	0.4	0.0	0.5	0.0	79.1	0.1	2.3	8.0	8.7	1.8	20.9
Urban	19,754	63.6	9.2		3.5	9.6	0.1	0.2	0.5	0.0	86.7	0.4	2.8	4.7	1.8	3.6	13.3
Lamu																	
Total	34,223	43.2	28.4		5.8	8.3	0.2	0.2	0.1	0.0	86.2	0.2	3.6	7.2	1.4	1.4	13.8
Rural	23,909	24.8	38.6		7.8	11.1	0.3	0.3	0.1	0.0	83.0	0.1	4.6	8.9	2.0	1.3	17.0
Urban	10,314	85.8	4.7		1.2	1.7	0.1	0.0	0.0	0.0	93.6	0.2	1.4	3.1	0.0	1.6	6.4
Taita-Taveta																	
Total	94,453	47.7	24.4		2.9	2.8	0.1	0.0	0.0	0.0	77.9	0.3	10.7	9.6	0.2	1.2	22.1
Rural	65,005	32.2	32.9		3.9	3.7	0.2	0.0	0.0	0.0	72.9	0.4	13.2	12.4	0.3	0.8	27.1
Urban	29,448	81.8	5.7		0.6	0.6	0.1	0.0	0.0	0.0	88.9	0.3	5.3	3.4	0.0	2.1	11.1
Garissa																	
Total	138,917	24.1	12.8		10.9	32.0	0.2	2.0	2.8	0.1	84.8	0.2	0.7	1.3	11.6	1.4	15.2
Rural	101,992	5.2	15.0		14.0	41.9	0.3	2.7	3.2	0.1	82.4	0.2	0.7	1.5	13.8	1.5	17.6
Urban	36,925	76.1	6.8		2.2	4.7	0.1	0.2	1.5	0.0	91.6	0.3	0.8	0.9	5.5	1.0	8.4
Wajir																	
Total	126,874	14.6	11.8		11.2	42.0	0.1	0.3	2.8	0.0	82.9	0.1	0.6	0.7	15.1	0.6	17.1
Rural	96,880	2.6	12.6		12.9	50.4	0.1	0.0	2.3	0.0	81.0	0.1	0.6	0.5	17.3	0.5	19.0
Urban	29,994	53.5	9.0		5.4	15.2	0.2	1.3	4.4	0.0	89.0	0.3	0.7	1.3	7.8	0.9	11.0
Mandera																	
Total	123,935	16.0	10.0		8.2	34.0	0.1	0.0	2.6	0.0	71.0	0.2	0.5	0.9	26.6	0.8	29.0
Rural	84,711	1.7	9.8		9.3	40.0	0.1	0.0	2.2	0.0	63.2	0.2	0.6	0.8	34.8	0.5	36.8
Urban	39,224	47.0	10.6		5.7	21.0	0.1	0.0	3.5	0.0	87.9	0.4	0.4	1.3	8.8	1.2	12.1
Marsabit																	
Total	76,669	21.4	15.2		12.6	28.3	0.1	0.0	1.6	0.1	79.3	0.2	2.6	2.7	14.2	0.9	20.7
Rural	56,445	4.8	16.8		16.1	35.9	0.1	0.0	1.7	0.1	75.4	0.1	2.6	2.5	18.8	0.5	24.6
Urban	20,224	68.0	10.6		3.1	7.2	0.1	0.1	1.3	0.0	90.3	0.4	2.7	3.3	1.3	2.1	9.7
Isiolo																	
Total	53,206	40.8	9.1		9.0	24.6	0.2	0.1	1.2	0.0	84.9	0.3	3.8	3.7	6.7	0.7	15.1
Rural	25,348	6.4	13.2		16.4	44.1	0.3	0.1	0.7	0.0	81.2	0.1	2.9	3.2	12.2	0.3	18.8
Urban	27,858	72.1	5.4		2.2	6.8	0.1	0.0	1.6	0.0	88.3	0.4	4.6	4.1	1.6	1.0	11.7
Meru																	
Total	423,848	40.4	18.8		3.6	8.2	0.5	0.0	0.2	0.0	71.7	0.5	11.0	13.8	1.5	1.5	28.3
Rural	373,233	33.5	21.2		4.0	9.3	0.5	0.0	0.2	0.0	68.8	0.5	12.2	15.4	1.6	1.4	31.2
Urban	50,615	90.7	1.3		0.5	0.6	0.1	0.0	0.1	0.0	93.3	0.2	2.6	2.1	0.1	1.6	6.7
Tharaka-Nithi																	
Total	109,425	34.8	17.1		3.9	18.2	0.2	0.0	0.1	0.0	74.4	0.4	9.0	13.0	2.1	1.1	25.6
Rural	97,594	28.7	18.9		4.2	20.2	0.3	0.0	0.2	0.0	72.4	0.4	9.6	14.3	2.3	1.0	27.6
Urban	11,831	85.3	2.3		0.8	2.1	0.1	0.0	0.0	0.0	90.5	0.3	4.3	2.9	0.2	1.8	9.5
Embu																	
Total	182,413	47.2	21.1		2.8	6.6	0.3	0.0	0.1	0.0	78.2	0.4	8.0	11.6	0.3	1.5	21.8
Rural	154,290	39.7	24.7		3.3	7.7	0.4	0.0	0.1	0.0	75.8	0.4	8.9	13.2	0.4	1.3	24.2
Urban	28,123	88.4	1.6		0.4	0.9	0.1	0.0	0.1	0.0	91.4	0.2	2.9	3.2	0.0	2.2	8.6
Kitui																	
Total	261,787	17.2	37.3		6.7	11.7	0.3	0.0	0.2	0.0	73.5	0.5	13.8	9.4	1.9	0.9	26.5
Rural	242,581	11.9	40.0		7.2	12.5	0.3	0.0	0.2	0.0	72.2	0.5	14.6	10.0	2.0	0.7	27.8
Urban	19,206	83.5	2.9		1.0	1.6	0.2	0.0	0.2	0.0	89.4	0.3	3.5	2.2	0.2	4.4	10.6
Machakos																	
Total	399,453	48.5	25.6		2.9	0.9	0.3	0.0	0.1	0.0	78.3	0.6	11.6	7.5	0.2	1.8	21.7
Rural	256,789	26.2	38.2		4.2	1.3	0.4	0.0	0.2	0.0	70.5	0.7	16.4	10.8	0.3	1.3	29.5
Urban	142,664	88.6	2.9		0.5	0.3	0.1	0.0	0.1	0.0	92.4	0.4	2.9	1.7	0.1	2.6	7.6
Makueni																	
Total	243,948	20.5	44.0		4.2	2.9	0.4	0.0	0.1	0.0	72.1	0.7	16.0	10.0	0.3	1.0	27.9
Rural	217,026	13.1	48.7		4.6	3.1	0.4	0.0	0.1	0.0	70.1	0.7	17.3	10.8	0.4	0.7	29.9
Urban	26,922	80.1	5.9		1.1	1.0	0.2	0.0	0.1	0.0	88.4	0.3	5.1	3.5	0.1	2.7	11.6
Nyandarua																	
Total	178,205	41.4	28.4		2.7	1.1	1.1	0.0	0.1	0.0	74.9	0.4	15.0	8.0	0.1	1.6	25.1
Rural	154,989	34.5	32.3		3.1	1.3	1.2	0.0	0.1	0.0	72.5	0.4	16.5	9.0	0.1	1.4	27.5
Urban	23,216	87.3	2.6		0.5	0.3	0.2	0.0	0.0	0.0	90.9	0.3	4.5	1.8	0.0	2.4	9.1
Nyeri																	
Total	244,542	71.9															

Appendix 26: Percentage distribution of households by main type of lighting fuel or appliance by Major Urban Centres

Region	No. of households	Torch/Spotlight-Solar										Paraffin					Sub-Total
		Mains		Charged	cells	Battery/C ar/Charge (Diesel/P etrol)	Gas Lamp	Biogas	Sub-Total	Pressure lamp	Paraffin Lantern	Paraffin Tin lamp	Wood	Candle			
		Electricity	Solar														
Nairobi City	1,494,096	96.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0	97.1	0.1	0.8	0.8	0.0	1.2	2.9	
Mombasa	376,212	86.1	1.5	0.4	0.3	0.1	0.0	0.1	0.0	88.5	0.5	2.7	6.1	0.0	2.2	11.5	
Nakuru	175,743	92.6	1.5	0.4	0.2	0.1	0.0	0.0	0.0	94.8	0.2	2.2	1.2	0.0	1.5	5.2	
Ruiru	166,815	95.4	0.8	0.2	0.1	0.1	0.0	0.0	0.0	96.6	0.1	1.2	0.8	0.0	1.2	3.4	
Eldoret	150,923	90.7	1.8	0.8	0.2	0.0	0.0	0.1	0.0	93.6	0.2	2.3	1.9	0.0	1.9	6.4	
Kisumu	116,318	85.8	4.1	0.4	0.1	0.0	0.0	0.1	0.0	90.6	0.2	2.7	4.8	0.0	1.7	9.4	
Kikuyu	109,271	95.6	0.4	0.2	0.1	0.0	0.0	0.0	0.0	96.2	0.1	1.4	0.8	0.0	1.5	3.8	
Thika	90,795	95.1	0.6	0.2	0.1	0.0	0.0	0.0	0.0	96.1	0.1	1.4	0.8	0.1	1.4	3.9	
Naivasha	68,742	91.9	1.9	0.4	0.2	0.1	0.0	0.1	0.0	94.6	0.2	2.2	1.3	0.0	1.6	5.4	
Karuri	66,872	95.8	0.2	0.2	0.1	0.0	0.0	0.0	0.0	96.3	0.2	1.3	0.9	0.0	1.3	3.7	
Ongata Rongai	58,331	95.7	0.4	0.2	0.1	0.0	0.0	0.1	0.0	96.6	0.1	1.0	0.8	0.0	1.5	3.4	
Garissa	26,941	90.8	1.1	0.7	2.5	0.1	0.0	0.8	0.0	95.9	0.2	0.4	0.7	1.5	1.3	4.1	
Kitale	45,219	79.7	3.8	0.8	0.3	0.1	0.0	0.1	0.0	84.8	0.3	5.1	6.2	0.1	3.5	15.2	
Juja	56,675	93.3	1.5	0.4	0.2	0.0	0.0	0.0	0.0	95.5	0.2	1.8	0.9	0.0	1.6	4.5	
Kitengela	53,148	93.4	1.7	0.3	0.2	0.1	0.0	0.1	0.0	95.7	0.2	1.4	1.4	0.0	1.2	4.3	
Kiambu	47,675	94.7	0.4	0.2	0.1	0.0	0.0	0.1	0.0	95.4	0.1	1.6	1.6	0.0	1.3	4.6	
Mlolongo	47,789	92.0	1.4	0.3	0.2	0.1	0.0	0.1	0.0	94.1	0.3	1.6	1.3	0.0	2.7	5.9	
Malindi	33,486	75.8	4.2	0.8	0.6	0.0	0.0	0.2	0.0	81.5	0.6	5.2	10.7	0.2	1.8	18.5	
Mandera	17,916	65.0	5.6	4.5	17.1	0.1	0.0	2.5	0.0	94.9	0.1	0.2	0.7	2.9	1.2	5.1	
Kisii	35,192	88.4	2.3	0.5	0.3	0.1	0.0	0.3	0.0	91.8	0.2	3.5	3.2	0.0	1.3	8.2	
Kakamega	32,969	76.3	6.8	1.3	0.3	0.2	0.0	0.1	0.0	85.0	0.2	4.1	8.5	0.0	2.2	15.0	
Ngong	32,758	94.3	0.9	0.3	0.2	0.0	0.0	0.0	0.0	95.7	0.2	1.5	1.0	0.0	1.6	4.3	

Appendix 27: Percentage of households ownership of household assets by County and by Residence

County/Residence	No. of households	Fixed Internet at home e.g.										Truck/Lo			Animal			Ox-plough		
		Stand alone Radio	TV with Free to Air Set-top-box/Digital TV	TV with Pay TV Decoder	Internet protocol TV (IP TV)	Analogue TV (With no connection/signal)	Internet through mobile phone/Modem	Fiber optic dish/LAN	Satellite Computer	Desk Top Laptop/Bicycle	Motor Cycle	Car	Wheeler truck	Refrigerator	Motor boat	Drawn cart	Canoes		Tuk Tuk	Tractor
Kenya	12,040,701	57.0	23.9	21.6	2.1	4.7	16.9	3.5	8.8	15.0	9.2	6.3	0.9	8.9	0.4	1.9	0.4	0.5	0.6	5.1
Rural	7,376,595	58.5	16.6	11.8	0.7	3.4	6.6	0.8	3.0	15.6	10.8	3.5	0.7	2.4	0.4	2.7	0.4	0.4	0.6	7.8
Urban	4,664,106	54.5	35.6	37.2	4.3	6.7	33.2	7.9	18.0	13.9	6.7	10.8	1.2	19.1	0.4	0.8	0.3	0.7	0.5	0.9
Mombasa	376,212	47.4	26.6	40.6	3.8	7.1	25.1	8.0	13.0	12.1	5.5	6.8	0.9	22.0	0.4	0.5	0.4	1.5	0.4	0.6
Kwale	172,767	42.7	9.9	15.8	0.9	3.2	9.2	1.4	4.3	19.0	10.6	2.3	0.5	6.2	0.4	0.9	0.6	0.7	0.4	11.6
Rural	135,863	41.6	7.1	10.2	0.6	2.4	5.0	0.8	2.3	20.1	11.4	1.6	0.4	3.3	0.4	1.0	0.7	0.5	0.4	14.5
Urban	36,904	46.7	20.2	36.2	1.8	6.3	24.4	3.7	11.7	15.1	7.4	4.8	0.7	17.2	0.4	0.5	0.5	1.3	0.4	1.0
Kilifi	297,935	37.8	11.5	18.5	1.2	2.9	11.0	1.8	5.6	15.3	10.4	2.8	0.5	8.1	0.4	0.5	0.4	0.9	0.4	1.3
Rural	185,363	34.6	7.0	8.7	0.6	1.7	4.8	0.7	2.3	15.6	10.5	1.5	0.4	3.0	0.3	0.6	0.4	0.6	0.3	1.7
Urban	112,572	43.0	18.9	34.6	2.3	5.0	21.1	3.5	10.9	14.8	10.1	5.1	0.7	16.6	0.5	0.5	0.4	1.3	0.4	0.5
Tana River	66,964	28.4	5.0	12.1	0.7	2.3	5.1	0.8	2.7	9.6	9.7	1.6	0.4	3.7	0.3	1.9	1.7	0.5	0.4	0.5
Rural	47,210	26.5	2.3	5.7	0.4	1.5	2.7	0.6	1.4	9.5	9.2	0.9	0.3	1.3	0.3	2.2	2.1	0.4	0.4	0.5
Urban	19,754	33.0	11.5	27.2	1.5	4.1	10.9	1.4	5.9	9.6	10.9	3.4	0.6	9.5	0.4	1.1	0.7	0.5	0.4	0.5
Lamu	34,223	37.3	9.5	23.8	0.9	3.7	10.8	1.7	4.2	28.5	15.7	1.4	0.4	8.6	0.8	0.6	1.2	0.4	0.4	0.8
Rural	23,909	36.8	5.6	19.3	0.7	1.9	6.6	1.2	2.2	35.3	18.8	1.3	0.4	3.8	0.6	0.7	1.2	0.5	0.4	1.0
Urban	10,314	38.6	18.5	34.5	1.3	8.0	20.6	3.0	8.8	12.8	8.5	1.6	0.5	19.9	1.3	0.4	1.3	0.4	0.3	0.3
Taita-Taveta	94,453	56.0	21.5	21.1	1.1	4.5	14.9	1.9	6.3	18.6	15.2	3.5	0.7	6.7	0.2	1.5	0.3	0.5	0.3	3.4
Rural	65,005	60.8	17.9	14.2	0.7	3.7	8.1	1.3	3.5	20.5	16.0	2.5	0.6	3.5	0.3	2.0	0.3	0.4	0.3	4.6
Urban	29,448	45.3	29.4	36.2	1.8	6.1	30.0	3.1	12.5	14.2	13.7	5.8	1.1	13.7	0.2	0.5	0.3	0.9	0.4	0.6
Garissa	138,917	47.8	7.5	8.0	2.0	2.2	5.6	1.8	2.6	3.5	3.2	4.1	1.4	6.0	1.3	7.8	1.1	2.3	1.3	2.1
Rural	101,992	49.8	2.5	2.1	1.4	1.5	2.8	1.3	1.5	2.8	2.6	3.1	1.3	1.0	1.3	9.6	1.2	1.9	1.3	2.3
Urban	36,925	42.2	21.1	24.3	3.6	4.0	13.4	3.2	5.6	5.2	4.6	7.0	1.7	20.1	1.1	2.9	0.9	3.5	1.3	1.6
Wajir	126,874	54.2	3.3	4.0	1.0	1.2	3.1	0.8	1.4	2.2	3.1	2.5	0.8	2.4	1.0	20.7	0.9	2.1	1.0	1.9
Rural	96,880	54.4	1.2	1.2	0.6	0.7	1.8	0.6	0.8	1.8	2.8	1.7	0.7	0.6	0.9	24.3	0.8	1.7	0.9	1.8
Urban	29,994	53.6	10.1	13.3	2.3	2.7	7.3	1.6	3.4	3.6	3.9	5.0	1.4	8.4	1.2	9.0	1.2	3.4	1.3	2.0
Mandera	123,935	45.0	3.3	5.5	1.0	1.4	3.0	0.9	1.5	3.3	6.4	3.0	1.0	3.2	1.3	17.0	1.0	2.5	1.1	4.6
Rural	84,711	46.5	1.2	1.6	0.8	1.1	2.2	0.8	1.0	3.4	7.5	2.1	1.0	0.6	1.4	20.8	1.1	2.7	1.1	5.7
Urban	39,224	41.8	7.9	13.9	1.4	2.0	4.8	1.1	2.5	3.1	4.2	4.8	1.2	8.8	0.9	8.6	0.7	1.9	1.0	2.1
Marsabit	76,669	27.8	6.5	11.1	0.6	1.6	4.1	0.6	2.5	1.9	5.6	2.2	0.6	3.0	0.4	0.9	0.4	0.6	0.4	0.9
Rural	56,445	23.2	2.1	2.9	0.4	0.6	1.5	0.3	0.9	1.0	3.6	1.0	0.4	0.5	0.4	1.1	0.4	0.5	0.4	1.0
Urban	20,224	40.7	18.9	34.2	1.2	4.3	11.5	1.2	6.9	4.5	11.2	5.4	1.1	10.0	0.3	0.3	0.3	0.9	0.4	0.6
Isiolo	53,206	39.2	12.6	18.4	1.0	2.4	8.4	1.0	4.5	4.2	7.9	4.0	0.7	7.5	0.5	3.5	0.4	0.6	0.5	0.8
Rural	25,348	29.1	2.5	3.0	0.5	0.9	1.4	0.5	0.9	1.5	6.1	1.2	0.5	0.9	0.5	5.0	0.5	0.6	0.5	1.1
Urban	27,858	48.3	21.9	32.3	1.4	3.7	14.8	1.4	7.8	6.6	9.5	6.5	0.9	13.6	0.4	2.0	0.3	0.6	0.5	0.6
Meru	423,848	53.4	22.5	13.6	0.8	4.1	9.9	0.8	4.3	8.7	9.8	5.2	0.7	3.5	0.3	1.6	0.3	0.3	0.4	2.4
Rural	373,233	53.6	20.1	11.4	0.6	3.9	7.0	0.6	3.0	8.6	10.1	4.5	0.6	2.3	0.3	1.8	0.3	0.3	0.4	2.7
Urban	50,615	52.0	39.8	29.9	1.9	5.3	31.0	2.4	14.3	9.1	6.9	10.8	1.0	12.3	0.3	0.5	0.3	0.3	0.4	0.6
Tharaka-Nithi	109,425	58.4	20.5	10.0	0.7	3.5	11.2	0.7	4.9	18.2	13.6	5.0	0.7	3.6	0.2	0.5	0.2	0.3	0.3	9.4
Rural	97,594	58.6	18.0	8.7	0.5	3.4	8.1	0.5	3.3	19.1	14.1	4.3	0.6	2.5	0.2	0.6	0.2	0.3	0.3	10.5
Urban	11,831	57.1	40.5	20.3	1.9	3.9	36.5	2.1	17.7	10.5	9.8	10.8	1.1	12.1	0.3	0.4	0.3	0.3	0.3	0.9
Embu	182,413	62.9	28.5	15.7	0.9	5.0	14.2	1.2	6.3	17.5	13.9	6.6	0.9	5.6	0.3	6.3	0.3	0.4	0.4	7.7
Rural	154,290	64.0	26.3	12.8	0.6	4.7	9.8	0.6	3.9	18.3	15.0	5.4	0.8	3.4	0.3	7.2	0.4	0.4	0.4	9.0
Urban	28,123	56.6	40.4	31.7	2.5	6.4	38.8	4.3	19.3	13.5	8.3	13.2	1.7	17.4	0.4	1.1	0.3	0.4	0.3	0.7
Kitui	261,787	55.1	11.3	9.5	0.7	3.0	6.3	0.9	3.5	22.0	13.2	3.7	0.7	2.7	0.4	3.9	0.3	0.6	0.6	34.9
Rural	242,581	55.7	10.0	7.6	0.6	2.6	4.8	0.7	2.6	22.8	13.4	3.3	0.7	1.8	0.4	4.2	0.3	0.6	0.6	37.3
Urban	19,206	47.2	26.7	32.8	2.2	7.0	25.2	2.9	14.2	12.1	10.5	8.7	1.2	13.2	0.4	1.1	0.3	0.6	0.4	4.6
Machakos	399,453	63.1	25.0	22.7	2.2	5.3	16.6	3.5	9.4	19.8	9.8	8.7	1.1	9.4	0.4	8.2	0.4	0.5	0.5	18.9
Rural	256,789	67.0	18.5	14.6	0.7	4.4	7.2	1.1	3.9	22.3	11.5	5.3	0.9	3.7	0.4	11.9	0.4	0.4	0.6	28.0
Urban	142,664	56.2	36.8	37.4	4.9	7.0	33.6	7.9	19.3	15.1	6.7	14.8	1.5	19.7	0.5	1.6	0.4	0.6	0.5	2.5
Makueni	243,948	62.8	13.1	13.1	0.8	4.0	8.6	1.4	4.1	30.0	14.2	4.5	0.9	2.5	0.3	7.0	0.3	0.4	0.7	28.9
Rural	217,026	64.2	11.8	10.9	0.6	3.5	6.5	1.2	3.1	31.5	14.7	4.2	0.8	1.8	0.3	7.6	0.3	0.4	0.7	31.8
Urban	26,922	51.2	23.2	30.8	1.7	7.3	25.4	3.2	11.4	17.8	10.5	6.9	1.2	8.3	0.3	1.8	0.3	0.5	0.8	4.9
Nyandarua	178,205	72.4	35.0	14.5	0.5	5.2	12.0	0.7	4.6	20.3	11.2	5.4	1.2	2.2	0.2	2.6	0.2	0.3	0.6	0.3
Rural	154,989	74.7	33.6	12.7	0.4	5.2	9.1	0.6	3.3	21.2	11.4	4.9	1.1	1.5	0.2	2.9	0.2	0.2	0.6	0.3
Urban	23,216	57.0	44.4	26.8	1.2	5.0	31.5	1.6	12.9	14.8	9.8	8.9	1.5	6.9	0.3	0.8	0.2	0.5	0.5	0.4
Nyeri	244,542	74.3	40.5	20.9	1.1	5.5	20.7	1.5	8.6	11.7	8.8	7.7	1.0	7.2	0.2	0.4	0.2	0.3	0.4	0.3
Rural	189,078	75.7	39.5	18.1	0.7	5.5	14.8	0.9	5.5	11.6	9.6	6.6	0.9	4.9	0.2	0.4	0.2	0.3	0.4	0.3
Urban	55,464	69.9	44.2	30.7	2.4	5.6	40.8	3.7	19.1	11.9	6.1	11.3	1.3	15.1	0.3	0.3	0.2	0.3	0.4	0.3
Kirinyaga	203,554	66.6	38.9	15.9	0.7	4.9</														

County/Residence	No. of households	Fixed Internet at home e.g																			Animal Drawn cart	Canoes	Tuk Tuk	Tractor	Ox-plough
		TV with Free to Air		TV with Pay TV Decoder	Internet protocol TV (IP)	Analogue TV (With no connection/signal)		Internet through mobile phone/Modem		Fiber Satellite dish/LAN		Desk Top Computer /Laptop/ Tablet	Bicycle	Motor Cycle	Truck/Lorry/Bus/Trolley			Motor boat							
		Stand alone Radio	Set-top-box/Digital TV			TV (IP)	no connection/signal	mobile phone/Modem	Satellite dish/LAN	Wi-Fi	Tablet				Wheeler truck	Refrigerator	Motor								
West Pokot	115,738	33.8	5.3	6.5	0.5	1.0	3.3	0.5	1.4	3.2	5.8	1.6	0.4	0.6	0.2	0.4	0.2	0.3	0.5	1.8					
Rural	107,145	31.6	3.6	3.9	0.4	0.7	2.1	0.4	0.8	3.0	5.5	1.2	0.3	0.3	0.2	0.4	0.2	0.3	0.4	1.9					
Urban	8,593	61.0	26.4	38.3	1.9	4.1	19.1	1.9	9.6	6.2	9.5	6.6	0.8	4.9	0.4	0.3	0.3	0.3	1.0	0.5					
Samburu	63,947	29.4	6.2	10.2	0.6	1.7	6.4	0.9	3.2	5.1	6.5	2.6	0.6	1.8	0.3	0.3	0.2	0.4	0.4	0.4					
Rural	51,454	24.1	2.7	3.3	0.3	0.6	2.2	0.5	1.1	3.7	5.7	1.4	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3					
Urban	12,493	51.1	20.5	38.4	1.9	6.2	23.8	2.9	11.7	10.9	9.8	7.9	1.5	8.1	0.3	0.3	0.3	0.4	0.5	0.4					
Trans Nzoia	222,967	57.4	17.6	21.0	1.1	4.2	10.4	1.3	4.9	20.6	12.7	4.9	0.9	3.7	0.3	0.9	0.3	0.4	1.5	2.2					
Rural	173,565	59.1	15.2	15.6	0.8	3.8	6.0	0.9	3.0	22.1	13.3	3.8	0.7	1.9	0.3	1.0	0.3	0.4	1.6	2.7					
Urban	49,402	51.2	26.1	40.1	1.9	5.6	25.8	3.1	11.6	15.4	10.5	8.6	1.4	9.7	0.4	0.6	0.3	0.5	1.1	0.6					
Uasin Gishu	301,065	60.1	27.5	26.9	1.8	5.3	19.6	2.4	10.1	18.2	10.4	8.5	1.2	8.3	0.3	0.5	0.3	0.3	2.0	0.9					
Rural	139,935	63.3	19.9	14.9	0.8	3.8	7.6	0.8	3.7	21.7	14.0	6.1	1.0	2.7	0.3	0.6	0.2	0.3	3.2	1.4					
Urban	161,130	57.3	34.1	37.2	2.7	6.5	30.1	3.8	15.7	15.2	7.3	10.6	1.4	13.2	0.3	0.4	0.3	0.4	1.0	0.5					
Elgeyo-Marakwet	99,104	52.7	10.6	8.9	0.5	1.8	4.7	0.5	2.0	3.7	6.9	3.1	0.7	1.1	0.2	0.3	0.2	0.3	0.8	1.6					
Rural	93,009	52.0	9.3	7.6	0.5	1.7	3.6	0.4	1.5	3.5	6.9	2.8	0.6	0.8	0.2	0.3	0.2	0.3	0.8	1.7					
Urban	6,095	63.5	30.2	28.8	1.3	3.8	21.6	2.1	10.0	6.0	6.4	8.5	1.1	5.3	0.2	0.3	0.3	0.2	1.4	0.5					
Nandi	199,024	60.3	14.7	15.7	0.8	3.1	8.3	1.0	3.6	10.7	11.1	4.4	0.6	2.4	0.3	0.6	0.2	0.3	1.3	5.3					
Rural	180,495	60.3	13.7	13.7	0.7	2.9	6.7	0.8	2.8	10.9	11.4	4.0	0.5	1.8	0.3	0.6	0.2	0.3	1.3	5.7					
Urban	18,529	60.2	24.1	35.5	1.4	4.3	24.2	2.8	11.1	9.4	8.3	8.0	0.9	7.8	0.3	0.2	0.2	0.4	0.9	0.7					
Baringo	141,867	51.8	12.9	12.4	0.7	2.9	7.9	0.8	3.2	7.1	8.2	4.1	0.6	1.9	0.3	0.3	0.3	0.3	0.9	1.6					
Rural	119,355	49.6	10.0	8.9	0.5	2.4	5.2	0.6	2.1	6.7	8.0	3.5	0.5	1.2	0.3	0.3	0.3	0.3	0.9	1.8					
Urban	22,512	63.4	28.1	30.7	1.5	5.5	22.2	2.1	8.8	9.0	9.3	7.3	0.9	5.7	0.3	0.5	0.3	0.3	0.8	0.5					
Laikipia	145,764	63.3	30.3	17.5	1.2	4.7	16.9	2.0	6.9	21.1	13.3	6.4	0.9	5.2	0.3	1.4	0.2	0.4	0.8	0.5					
Rural	103,013	64.5	25.5	11.0	0.7	4.1	7.9	0.8	3.0	22.6	14.5	4.4	0.7	1.9	0.3	1.8	0.2	0.4	0.9	0.5					
Urban	42,751	60.4	41.8	33.1	2.4	6.0	38.6	4.7	16.2	17.5	10.3	11.2	1.3	13.3	0.3	0.5	0.2	0.4	0.5	0.3					
Nakuru	598,156	61.1	30.6	27.5	1.5	5.7	20.2	2.3	9.6	19.1	10.9	7.1	1.0	8.9	0.3	0.8	0.2	0.4	0.6	1.4					
Rural	269,498	65.3	22.6	14.1	0.7	4.2	8.3	0.8	3.7	16.7	13.0	4.3	0.7	2.9	0.3	1.1	0.2	0.3	0.8	2.5					
Urban	328,658	57.6	37.2	38.4	2.2	7.0	30.0	3.5	14.4	21.1	9.2	9.4	1.3	13.7	0.4	0.6	0.3	0.5	0.5	0.5					
Narok	238,071	59.0	11.3	11.7	0.9	1.8	6.4	1.0	2.7	3.7	10.7	3.5	0.6	1.9	0.3	1.0	0.4	0.5	0.9	11.4					
Rural	206,255	59.0	8.3	7.1	0.7	1.2	3.5	0.7	1.4	3.1	10.7	2.6	0.5	0.7	0.3	1.0	0.4	0.5	0.9	13.0					
Urban	31,816	58.8	30.2	41.6	2.2	5.6	25.5	3.1	11.4	7.9	10.7	9.3	1.3	9.9	0.4	0.7	0.3	0.5	0.9	0.8					
Kajiado	313,130	55.0	31.4	30.4	3.7	5.6	27.5	6.2	14.6	11.9	9.7	10.9	1.2	15.8	0.4	0.9	0.3	0.5	0.5	1.2					
Rural	106,510	51.2	15.4	11.8	1.0	2.1	6.6	1.1	2.8	8.3	15.4	5.3	0.8	3.1	0.4	1.5	0.3	0.5	0.5	2.5					
Urban	206,620	57.0	39.7	40.0	5.1	7.4	38.3	8.8	20.7	13.8	6.8	13.8	1.5	22.3	0.4	0.6	0.3	0.5	0.4	0.5					
Kericho	205,890	60.3	13.1	21.2	0.9	2.9	10.6	1.0	4.7	4.5	8.4	4.9	0.7	3.0	0.2	0.5	0.2	0.3	0.8	5.4					
Rural	175,089	60.8	11.9	17.7	0.7	2.6	7.5	0.7	3.3	4.1	8.6	4.2	0.6	2.0	0.2	0.5	0.2	0.3	0.8	6.2					
Urban	30,801	57.5	19.7	40.8	2.0	4.4	28.2	2.8	12.5	6.4	6.9	8.6	1.2	8.6	0.3	0.3	0.3	0.2	0.7	0.9					
Bomet	187,217	62.1	7.7	13.6	0.7	2.0	7.5	0.9	3.3	5.5	12.0	3.7	0.5	1.4	0.3	0.8	0.2	0.3	0.8	8.4					
Rural	177,874	62.7	7.3	12.3	0.6	1.9	6.4	0.8	2.8	5.5	12.3	3.5	0.5	1.1	0.2	0.8	0.2	0.3	0.8	8.8					
Urban	9,343	51.7	14.2	37.7	2.0	3.4	28.7	2.8	12.8	5.1	7.1	8.5	1.1	7.0	0.3	0.3	0.2	0.3	0.7	1.3					
Kakamega	432,191	62.1	15.7	15.4	0.9	4.3	8.2	0.9	4.3	24.4	11.5	3.3	0.6	3.3	0.3	1.0	0.3	0.4	0.6	3.1					
Rural	377,522	62.8	14.5	12.5	0.8	4.2	5.7	0.7	2.8	25.7	11.8	2.6	0.5	2.0	0.3	1.1	0.3	0.4	0.6	3.4					
Urban	54,669	57.1	23.7	35.0	1.9	5.1	25.3	2.5	14.7	15.5	9.7	7.8	1.0	12.4	0.3	0.5	0.3	0.6	0.5	0.7					
Vihiga	143,265	61.6	14.2	18.6	0.7	4.2	8.5	0.7	4.3	11.5	7.8	3.0	0.5	3.6	0.2	0.4	0.2	0.3	0.3	0.3					
Rural	127,378	61.6	13.3	16.8	0.6	4.1	7.2	0.6	3.4	11.8	7.8	2.7	0.5	2.8	0.2	0.4	0.2	0.3	0.3	0.3					
Urban	15,887	61.8	21.5	33.4	1.3	4.9	18.5	1.6	11.2	9.3	7.3	5.6	0.9	9.7	0.3	0.3	0.3	0.4	0.3	0.3					
Bungoma	357,687	62.1	14.3	13.2	0.9	3.6	6.8	0.9	4.1	26.2	11.9	3.1	0.6	2.8	0.3	1.8	0.3	0.4	0.6	8.6					
Rural	307,128	62.2	12.6	10.3	0.7	3.4	4.7	0.7	2.8	27.6	12.2	2.3	0.5	1.5	0.3	2.0	0.3	0.4	0.6	9.6					
Urban	50,559	61.1	25.1	31.0	2.0	4.3	19.5	2.0	12.1	17.6	10.1	7.9	1.3	11.1	0.3	0.8	0.3	0.4	0.6	2.5					
Busia	197,921	54.5	12.9	16.4	0.8	3.8	6.9	1.0	3.7	34.3	11.8	2.9	0.6	3.7	0.5	0.6	0.8	0.3	0.5	4.0					
Rural	167,171	55.1	11.6	12.5	0.7	3.5	5.2	0.8	2.7	36.0	12.1	2.3	0.5	2.3	0.5	0.6	0.8	0.3	0.5	4.6					
Urban	30,750	51.4	20.5	37.3	1.8	5.5	15.9	2.2	9.1	25.2	10.1	5.8	1.1	11.8	0.6	0.5	0.7	0.4	0.5	0.9					
Siaya	249,279	65.5	16.1	14.2	0.9	3.8	7.8	1.0	4.2	32.7	11.8	2.9	0.6	4.0	0.6	0.8	1.2	0.4	0.4	4.9					
Rural	224,358	66.1	15.4	11.8	0.8	3.5	5.9	0.8	3.0	33.3	11.4	2.4	0.5	2.8	0.6	0.8	1.2	0.4	0.4	5.4					
Urban	24,921	60.4	22.7	35.8	1.8	6.2	24.8	2.7	14.9	26.7	15.6	6.9	1.1	14.2	0.5	0.8	0.8	0.4	0.4	1.2					
Kisumu	296,766	65.0	24.5	28.1	2.0	6.6	19.4	2.4	9.8	22.0	10.3	5.3	0.8	11.6	0.4	0.7	0.5	0.8	0.5	3.4					
Rural	168,767	68.5	20.2	17.4	1.2	5.2	8.6	1.0	4.3	24.0	10.4	3.1	0.7	4.9	0.5	0.9	0.7	0.5	0.6	5.5					
Urban	127,999	60.4	30.2	42.1	3.0	8.4	33.6	4.3	17.1	19.3	10.3	8.3	1.0	20.6	0.4	0.6	0.4	1.0	0.4	0.8					
Homabay																									

Appendix 28: Percentage of households ownership of household assets by Major Urban Centres

Region	No. of households	ICTs and Equipment								Other Assets										
		Stand alone Radio	TV with Free to Air Set-top-box/Digital TV	TV with Pay TV Decoder	Internet protocol TV(IP TV)	Analogue TV (With no connection/signal)	Internet through mobile phone/Modem	Fixed Internet at home e.g Fiber LAN Wi-Fi	Desk Top Computer /Laptop/ Tablet	Bicycle	Motor Cycle	Car	Truck/Loorry/Bus/Trailer	Refrigerator	Motor boat	Animal Drawn cart	Canoes	Tuk Tuk	Tractor	Ox-plough
Nairobi City	1,494,096	53.4	40.5	40.6	6.4	7.5	38.5	13.6	22.7	12.5	4.3	12.9	1.2	23.5	0.4	0.6	0.3	0.4	0.4	0.9
Mombasa	376,212	47.4	26.6	40.6	3.8	7.1	25.1	8.0	13.0	12.1	5.5	6.8	0.9	22.0	0.4	0.5	0.4	1.5	0.4	0.6
Nakuru	175,743	59.0	38.9	43.1	2.8	8.2	34.2	4.7	17.7	25.8	9.3	11.4	1.4	18.2	0.3	0.4	0.2	0.7	0.5	0.4
Ruiru	166,815	54.3	47.8	34.8	5.0	7.8	47.8	9.3	24.8	18.3	6.8	14.7	1.7	23.6	0.4	0.7	0.3	0.6	0.4	0.6
Eldoret	150,923	57.3	34.4	37.5	2.9	6.6	30.9	3.9	16.2	15.3	7.1	10.9	1.4	13.7	0.3	0.3	0.3	0.4	1.0	0.5
Kisumu	116,318	60.1	30.7	42.7	3.2	8.5	34.1	4.5	17.4	19.5	10.3	8.6	1.0	21.1	0.4	0.5	0.4	1.1	0.4	0.7
Kikuyu	109,271	65.2	45.2	36.9	5.8	6.9	47.4	9.8	27.5	15.8	4.8	15.3	1.5	28.4	0.3	0.8	0.2	0.4	0.3	0.5
Thika	90,795	56.8	45.3	33.4	4.1	7.1	46.6	6.4	21.4	17.1	6.2	11.5	1.4	19.5	0.3	0.4	0.2	0.9	0.3	0.5
Naivasha	68,742	55.4	33.9	37.2	1.8	6.1	29.0	2.6	11.7	16.2	7.8	7.5	1.1	10.2	0.6	0.8	0.4	0.5	0.5	0.6
Karuri	66,872	61.5	43.9	38.4	7.0	7.3	41.8	10.3	24.1	13.4	4.2	13.9	1.3	26.4	0.4	0.5	0.3	0.5	0.4	0.5
Ongata Rongai	58,331	58.8	39.8	43.5	5.9	8.7	46.7	10.7	27.8	15.5	5.2	14.4	1.3	26.3	0.4	0.7	0.3	0.4	0.4	0.5
Garissa	26,941	40.2	27.5	30.7	4.2	4.7	16.7	3.9	6.8	5.3	4.7	8.2	1.7	26.6	1.1	2.2	0.9	3.6	1.2	1.5
Kitale	45,219	49.9	26.0	40.6	1.9	5.5	27.2	3.1	11.8	15.3	10.3	8.8	1.4	10.2	0.4	0.6	0.3	0.5	1.1	0.6
Juja	56,675	50.3	45.6	28.4	4.5	6.6	43.5	8.6	24.8	17.9	8.2	11.5	1.4	18.3	0.3	0.6	0.3	0.6	0.3	0.5
Kitengela	53,148	56.5	45.6	39.7	6.0	7.7	39.7	9.1	19.1	12.2	7.0	13.4	1.6	20.9	0.5	0.6	0.4	0.8	0.5	0.6
Kiambu	47,675	60.7	46.7	38.5	9.0	6.9	48.7	12.7	28.3	18.2	4.8	20.9	2.1	32.0	0.4	0.5	0.2	0.5	0.4	0.5
Mlolongo	47,789	55.8	42.1	37.6	9.0	7.3	38.5	14.0	23.3	15.3	5.7	18.4	1.8	23.3	0.7	1.0	0.5	0.6	0.7	1.7
Malindi	33,486	42.1	18.7	38.5	2.9	5.6	24.2	4.4	11.5	19.5	13.0	5.3	0.8	19.5	0.6	0.5	0.4	2.0	0.4	0.4
Mandera	17,916	39.4	9.8	17.0	1.5	1.9	6.3	1.5	3.2	1.9	1.3	4.7	0.9	10.6	0.7	3.5	0.7	1.4	0.9	1.5
Kisii	35,192	52.4	32.3	34.4	2.0	7.0	29.1	3.1	17.0	5.4	7.4	8.5	0.9	12.4	0.3	0.4	0.2	0.3	0.4	0.7
Kakamega	32,969	55.2	23.6	38.0	2.1	5.5	31.3	3.2	18.0	14.3	9.3	8.4	1.0	14.1	0.3	0.4	0.3	0.7	0.5	0.6
Ngong	32,758	59.8	39.9	41.0	5.6	6.6	39.9	12.5	25.1	15.3	6.2	18.4	1.8	29.2	0.3	0.5	0.3	0.4	0.4	0.4

Appendix 29: Frequency distribution of car ownership in Kenya by sex of head of household by residence

County/Residence	Number of Households					Sex of Head of Household		
	No. of households	Female		Intersex	Total	Male headed Household	Female	Intersex
		Male headed Household	headed Household	headed Household			headed Household	headed Household
Kenya	12,040,701	7,448,449	4,591,083	1169	6.3	7.4	4.6	7.5
Rural	7,376,595	4,495,111	2,880,822	662	3.5	4.3	2.3	3.3
Urban	4,664,106	2,953,338	1,710,261	507	10.8	12.1	8.4	13.0
Mombasa	376,212	243,944	132,248	20	6.8	7.5	5.7	5.0
Kwale	172,767	109,626	63,128	13	2.3	2.5	1.9	0.0
Rural	135,863	87,025	48,828	10	1.6	1.7	1.3	0.0
Urban	36,904	22,601	14,300	3	4.8	5.4	3.9	0.0
Kilifi	297,935	184,558	113,361	16	2.8	3.2	2.3	0.0
Rural	185,363	116,059	69,293	11	1.5	1.7	1.2	0.0
Urban	112,572	68,499	44,068	5	5.1	5.8	3.9	0.0
Tana River	66,964	39,830	27,132	2	1.6	1.8	1.3	0.0
Rural	47,210	28,212	18,998	0	0.9	1.0	0.7	
Urban	19,754	11,618	8,134	2	3.4	3.8	2.7	0.0
Lamu	34,223	22,555	11,666	2	1.4	1.6	0.9	0.0
Rural	23,909	16,130	7,779	0	1.3	1.4	0.9	
Urban	10,314	6,425	3,887	2	1.6	1.9	1.1	0.0
Taita-Taveta	94,453	60,274	34,175	4	3.5	4.0	2.7	0.0
Rural	65,005	41,865	23,139	1	2.5	2.9	1.9	0.0
Urban	29,448	18,409	11,036	3	5.8	6.6	4.4	0.0
Garissa	138,917	73,900	64,947	70	4.1	4.5	3.8	2.9
Rural	101,992	54,452	47,481	59	3.1	3.3	3.0	1.7
Urban	36,925	19,448	17,466	11	7.0	7.9	5.9	9.1
Wajir	126,874	68,328	58,507	39	2.5	2.8	2.2	0.0
Rural	96,880	52,065	44,795	20	1.7	1.9	1.5	0.0
Urban	29,994	16,263	13,712	19	5.0	5.6	4.3	0.0
Mandera	123,935	56,092	67,814	29	3.0	3.3	2.7	3.4
Rural	84,711	38,705	45,987	19	2.1	2.2	2.1	0.0
Urban	39,224	17,387	21,827	10	4.8	5.6	4.1	10.0
Marsabit	76,669	41,511	35,138	20	2.2	3.1	1.1	10.0
Rural	56,445	28,626	27,804	15	1.0	1.5	0.6	13.3
Urban	20,224	12,885	7,334	5	5.4	6.7	3.2	0.0
Isiolo	53,206	31,676	21,523	7	4.0	4.8	2.9	14.3
Rural	25,348	14,790	10,551	7	1.2	1.4	1.1	14.3
Urban	27,858	16,886	10,972	0	6.5	7.8	4.7	
Meru	423,848	271,888	151,933	27	5.2	6.2	3.5	14.8
Rural	373,233	243,062	130,146	25	4.5	5.4	2.8	12.0
Urban	50,615	28,826	21,787	2	10.8	13.2	7.6	50.0
Tharaka-Nithi	109,425	72,067	37,351	7	5.0	5.9	3.3	0.0
Rural	97,594	64,855	32,733	6	4.3	5.2	2.7	0.0
Urban	11,831	7,212	4,618	1	10.8	12.8	7.6	0.0
Embu	182,413	119,509	62,886	18	6.6	7.8	4.5	0.0
Rural	154,290	102,732	51,549	9	5.4	6.5	3.3	0.0
Urban	28,123	16,777	11,337	9	13.2	15.6	9.8	0.0
Kitui	261,787	144,619	117,123	45	3.7	4.7	2.5	4.4
Rural	242,581	134,033	108,503	45	3.3	4.2	2.2	4.4
Urban	19,206	10,586	8,620	0	8.7	10.6	6.3	
Machakos	399,453	256,548	142,887	18	8.7	10.0	6.4	16.7
Rural	256,789	162,027	94,752	10	5.3	6.3	3.5	10.0
Urban	142,664	94,521	48,135	8	14.8	16.2	11.9	25.0
Makueni	243,948	143,631	100,295	22	4.5	5.5	3.2	0.0
Rural	217,026	128,427	88,579	20	4.2	5.2	2.9	0.0
Urban	26,922	15,204	11,716	2	6.9	8.2	5.2	0.0
Nyan darua	178,205	114,349	63,846	10	5.4	6.6	3.2	0.0
Rural	154,989	100,071	54,909	9	4.9	6.0	2.8	0.0
Urban	23,216	14,278	8,937	1	8.9	11.0	5.4	0.0
Nyeri	244,542	154,913	89,611	18	7.7	9.4	4.6	0.0
Rural	189,078	121,599	67,462	17	6.6	8.2	3.8	0.0
Urban	55,464	33,314	22,149	1	11.3	14.0	7.3	0.0
Kirinyaga	203,554	135,892	67,647	15	6.0	7.2	3.7	0.0
Rural	154,238	106,682	47,547	9	5.1	6.1	2.9	0.0
Urban	49,316	29,210	20,100	6	8.9	11.2	5.6	0.0
Murang'a	317,459	204,266	113,184	9	5.0	6.3	2.9	11.1
Rural	276,003	179,067	96,929	7	4.2	5.3	2.3	0.0
Urban	41,456	25,199	16,255	2	10.4	13.3	5.9	50.0
Kiambu	792,147	529,243	262,825	79	12.4	14.4	8.5	10.1
Rural	207,522	143,507	64,008	7	8.0	9.6	4.2	0.0
Urban	584,625	385,736	198,817	72	14.0	16.2	9.9	11.1
Turkana	162,567	75,930	86,577	60	1.3	1.8	0.9	3.3
Rural	132,583	59,799	72,726	58	0.6	0.8	0.5	3.4
Urban	29,984	16,131	13,851	2	4.3	5.3	3.2	0.0

County/Residence	Number of Households					Sex of Head of Household		
	No. of households	Female headed		Intersex headed	Total	Male headed Household	Female headed Household	Intersex headed Household
		Male headed Household	Household	Household				
West Pokot	115,738	67,652	48,077	9	1.6	1.9	1.2	0.0
Rural	107,145	62,550	44,586	9	1.2	1.4	0.9	0.0
Urban	8,593	5,102	3,491	0	6.6	7.7	5.0	
Samburu	63,947	25,066	38,862	19	2.6	4.4	1.5	0.0
Rural	51,454	18,291	33,145	18	1.4	2.2	0.9	0.0
Urban	12,493	6,775	5,717	1	7.9	10.3	5.1	0.0
Trans Nzoia	222,967	140,366	82,588	13	4.9	5.5	3.8	7.7
Rural	173,565	108,966	64,589	10	3.8	4.2	3.0	10.0
Urban	49,402	31,400	17,999	3	8.6	9.9	6.5	0.0
Uasin Gishu	301,065	191,309	109,731	25	8.5	9.4	6.9	4.0
Rural	139,935	90,895	49,035	5	6.1	6.8	4.7	20.0
Urban	161,130	100,414	60,696	20	10.6	11.7	8.7	0.0
Elgeyo-Marakwet	99,104	67,810	31,291	3	3.1	3.7	2.0	0.0
Rural	93,009	64,065	28,941	3	2.8	3.2	1.8	0.0
Urban	6,095	3,745	2,350	0	8.5	10.9	4.6	
Nandi	199,024	136,927	62,090	7	4.4	4.9	3.1	0.0
Rural	180,495	125,188	55,301	6	4.0	4.5	2.8	0.0
Urban	18,529	11,739	6,789	1	8.0	9.3	5.7	0.0
Baringo	141,867	87,163	54,690	14	4.1	5.0	2.7	7.1
Rural	119,355	73,507	45,836	12	3.5	4.3	2.3	8.3
Urban	22,512	13,656	8,854	2	7.3	8.9	4.8	0.0
Laikipia	145,764	86,535	59,213	16	6.4	7.9	4.3	0.0
Rural	103,013	61,824	41,178	11	4.4	5.6	2.7	0.0
Urban	42,751	24,711	18,035	5	11.2	13.7	7.7	0.0
Nakuru	598,156	372,885	225,206	65	7.1	8.1	5.3	9.2
Rural	269,498	172,487	96,991	20	4.3	5.0	3.0	5.0
Urban	328,658	200,398	128,215	45	9.4	10.8	7.1	11.1
Narok	238,071	135,860	102,184	27	3.5	4.0	2.8	11.1
Rural	206,255	117,227	89,006	22	2.6	2.9	2.2	13.6
Urban	31,816	18,633	13,178	5	9.3	10.7	7.2	0.0
Kajiado	313,130	191,211	121,883	36	10.9	12.6	8.2	13.9
Rural	106,510	62,422	44,077	11	5.3	6.5	3.5	0.0
Urban	206,620	128,789	77,806	25	13.8	15.5	10.8	20.0
Kericho	205,890	138,428	67,446	16	4.9	5.5	3.6	0.0
Rural	175,089	118,948	56,130	11	4.2	4.8	3.0	0.0
Urban	30,801	19,480	11,316	5	8.6	9.9	6.3	0.0
Bomet	187,217	121,976	65,235	6	3.7	4.4	2.5	0.0
Rural	177,874	116,608	61,260	6	3.5	4.1	2.3	0.0
Urban	9,343	5,368	3,975	0	8.5	10.8	5.3	
Kakamega	432,191	261,125	171,042	24	3.3	3.8	2.6	0.0
Rural	377,522	227,651	149,851	20	2.6	3.0	2.1	0.0
Urban	54,669	33,474	21,191	4	7.8	8.9	6.1	0.0
Vihiga	143,265	84,972	58,292	1	3.0	3.6	2.2	0.0
Rural	127,378	75,715	51,662	1	2.7	3.2	1.9	0.0
Urban	15,887	9,257	6,630	0	5.6	6.6	4.2	
Bungoma	357,687	222,375	135,290	22	3.1	3.5	2.5	4.5
Rural	307,128	191,484	115,627	17	2.3	2.6	1.9	5.9
Urban	50,559	30,891	19,663	5	7.9	8.9	6.3	0.0
Busia	197,921	115,458	82,445	18	2.9	3.4	2.2	0.0
Rural	167,171	96,859	70,297	15	2.3	2.7	1.8	0.0
Urban	30,750	18,599	12,148	3	5.8	6.9	4.3	0.0
Siaya	249,279	130,952	118,313	14	2.9	3.6	2.1	7.1
Rural	224,358	116,835	107,513	10	2.4	3.1	1.7	0.0
Urban	24,921	14,117	10,800	4	6.9	7.9	5.5	25.0
Kisumu	296,766	174,895	121,836	35	5.3	6.2	4.1	11.4
Rural	168,767	93,715	75,036	16	3.1	3.8	2.2	0.0
Urban	127,999	81,180	46,800	19	8.3	9.0	7.2	21.1
Homabay	260,262	138,948	121,286	28	2.6	3.2	1.8	3.6
Rural	229,154	120,653	108,476	25	2.1	2.7	1.5	4.0
Urban	31,108	18,295	12,810	3	5.7	6.7	4.3	0.0
Migori	238,078	137,283	100,770	25	2.9	3.5	2.0	8.0
Rural	195,326	111,205	84,100	21	2.2	2.7	1.5	0.0
Urban	42,752	26,078	16,670	4	6.2	7.2	4.6	50.0
Kisii	307,224	186,482	120,713	29	3.4	4.2	2.3	3.4
Rural	261,359	157,540	103,796	23	2.6	3.2	1.6	0.0
Urban	45,865	28,942	16,917	6	8.3	9.6	6.1	16.7
Nyamira	150,489	95,564	54,919	6	3.4	4.1	2.1	16.7
Rural	136,583	86,686	49,891	6	2.9	3.5	1.8	16.7
Urban	13,906	8,878	5,028	0	7.8	9.5	4.8	
Nairobi City	1,494,096	982,058	511,877	161	12.9	13.8	11.2	20.5

Appendix 30: Frequency distribution of car ownership in Kenya by sex of head of household by Major Urban Centres

Region	Number of Households				Sex of Head of Household			
	No. of households	Male headed Household	Female headed Household	Intersex headed Household	% of all households	Male headed Household	Female headed Household	Intersex headed Household
Nairobi City	1,494,096	982,058	511,877	161	12.9	13.8	11.2	20.5
Mombasa	376,212	243,944	132,248	20	6.8	7.5	5.7	5.0
Nakuru	175,743	108,720	67,000	23	11.4	12.8	9.0	13.0
Ruiru	166,815	110,767	56,027	21	14.7	17.0	10.0	9.5
Eldoret	150,923	94,593	56,311	19	10.9	11.9	9.1	0.0
Kisumu	116,318	74,230	42,072	16	8.6	9.2	7.4	25.0
Kikuyu	109,271	72,196	37,057	18	15.3	17.7	10.5	22.2
Thika	90,795	58,449	32,334	12	11.5	13.1	8.7	8.3
Naivasha	68,742	42,557	26,173	12	7.5	8.8	5.4	8.3
Karuri	66,872	44,298	22,569	5	13.9	15.2	11.3	20.0
Ongata Rongai	58,331	35,552	22,770	9	14.4	16.2	11.5	11.1
Garissa	26,941	14,091	12,845	5	8.2	9.5	6.9	0.0
Kitale	45,219	29,021	16,195	3	8.8	9.9	6.6	0.0
Juja	56,675	37,554	19,114	7	11.5	13.2	8.1	0.0
Kitengela	53,148	33,194	19,948	6	13.4	15.2	10.4	33.3
Kiambu	47,675	31,912	15,754	9	20.9	23.4	15.7	0.0
Mlolongo	47,789	33,394	14,391	4	18.4	18.7	17.7	25.0
Malindi	33,486	20,435	13,048	3	5.3	6.2	4.0	0.0
Mandera	17,916	7,646	10,263	7	4.7	5.8	3.9	0.0
Kisii	35,192	22,625	12,562	5	8.5	9.6	6.5	20.0
Kakamega	32,969	20,903	12,064	2	8.4	9.3	6.8	0.0
Ngong	32,758	21,437	11,316	5	18.4	20.1	15.1	20.0

Appendix 31: Habitable Rooms and Dwelling Deficits by County

County/Residence							Approximate
	Dwelling	Total	Habitable	Habitable	Habitable	Mean No. of	Mean
	Units	Population	Rooms Available	Rooms Required	Rooms Deficit	Rooms Per Dwelling	Units Deficit
KENYA	19,397,769	47,105,234	32,322,735	47,105,234	14,782,499	1.7	8,888,626
Rural	13,324,202	32,551,929	22,641,120	32,551,929	9,910,809	1.7	5,832,469
Urban	6,073,567	14,553,305	9,681,615	14,553,305	4,871,690	1.6	3,056,157
MOMBASA	489,010	1,188,639	730,183	1,188,639	458,456	1.5	307,032
KWALE	295,702	858,263	510,275	858,263	347,988	1.7	201,657
Rural	240,491	735,530	424,452	735,530	311,078	1.8	176,254
Urban	55,211	122,733	85,823	122,733	36,910	1.6	23,745
KILIFI	512,512	1,440,289	829,758	1,440,289	610,531	1.6	377,103
Rural	353,421	1,052,712	591,426	1,052,712	461,286	1.7	275,653
Urban	159,091	387,577	238,332	387,577	149,245	1.5	99,624
TANA RIVER	96,463	313,384	143,427	313,384	169,957	1.5	114,306
Rural	70,882	236,481	106,169	236,481	130,312	1.5	87,001
Urban	25,581	76,903	37,258	76,903	39,645	1.5	27,220
LAMU	56,121	138,148	97,618	138,148	40,530	1.7	23,301
Rural	39,260	100,099	69,268	100,099	30,831	1.8	17,475
Urban	16,861	38,049	28,350	38,049	9,699	1.7	5,768
TAITA-TAVETA	154,691	333,643	289,230	333,643	44,413	1.9	23,754
Rural	110,549	242,667	219,829	242,667	22,838	2.0	11,485
Urban	44,142	90,976	69,401	90,976	21,575	1.6	13,723
GARISSA	287,116	832,910	426,810	832,910	406,100	1.5	273,184
Rural	215,139	625,228	324,183	625,228	301,045	1.5	199,784
Urban	71,977	207,682	102,627	207,682	105,055	1.4	73,680
WAJIR	237,661	774,213	363,817	774,213	410,396	1.5	268,088
Rural	177,823	599,554	277,216	599,554	322,338	1.6	206,767
Urban	59,838	174,659	86,601	174,659	88,058	1.4	60,845
MANDERA	254,543	860,132	371,251	860,132	488,881	1.5	335,194
Rural	172,760	594,542	251,007	594,542	343,535	1.5	236,444
Urban	81,783	265,590	120,244	265,590	145,346	1.5	98,856
MARSABIT	101,143	446,157	150,604	446,157	295,553	1.5	198,488
Rural	72,263	341,625	103,925	341,625	237,700	1.4	165,282
Urban	28,880	104,532	46,679	104,532	57,853	1.6	35,793
ISIOLO	78,321	263,105	116,703	263,105	146,402	1.5	98,252
Rural	37,697	138,848	54,975	138,848	83,873	1.5	57,513
Urban	40,624	124,257	61,728	124,257	62,529	1.5	41,151
MERU	750,821	1,532,938	1,172,985	1,532,938	359,953	1.6	230,404
Rural	682,499	1,398,935	1,071,400	1,398,935	327,535	1.6	208,645
Urban	68,322	134,003	101,585	134,003	32,418	1.5	21,803
THARAKA-NITHI	198,067	390,825	338,636	390,825	52,189	1.7	30,525
Rural	182,587	358,966	311,800	358,966	47,166	1.7	27,620
Urban	15,480	31,859	26,836	31,859	5,023	1.7	2,897
EMBU	317,431	604,407	565,366	604,407	39,041	1.8	21,920
Rural	279,935	531,232	505,827	531,232	25,405	1.8	14,060
Urban	37,496	73,175	59,539	73,175	13,636	1.6	8,588
KITUI	519,639	1,128,899	836,755	1,128,899	292,144	1.6	181,426
Rural	495,329	1,077,561	800,462	1,077,561	277,099	1.6	171,470
Urban	24,310	51,338	36,293	51,338	15,045	1.5	10,078
MACHAKOS	692,049	1,410,901	1,200,500	1,410,901	210,401	1.7	121,289
Rural	504,450	1,002,760	897,790	1,002,760	104,970	1.8	58,981
Urban	187,599	408,141	302,710	408,141	105,431	1.6	65,339
MAKUENI	465,120	976,222	852,730	976,222	123,492	1.8	67,358
Rural	430,748	905,404	801,062	905,404	104,342	1.9	56,107
Urban	34,372	70,818	51,668	70,818	19,150	1.5	12,739
NYANDARUA	308,517	634,486	596,964	634,486	37,522	1.9	19,392
Rural	279,387	568,540	545,867	568,540	22,673	2.0	11,605
Urban	29,130	65,946	51,097	65,946	14,849	1.8	8,465
NYERI	432,599	749,170	788,743	749,170	(39,573)	1.8	(21,704)
Rural	358,992	604,757	671,345	604,757	(66,588)	1.9	(35,607)
Urban	73,607	144,413	117,398	144,413	27,015	1.6	16,938
KIRINYAGA	328,111	604,986	635,892	604,986	(30,906)	1.9	(15,947)
Rural	260,047	472,185	515,209	472,185	(43,024)	2.0	(21,716)
Urban	68,064	132,801	120,683	132,801	12,118	1.8	6,834
MURANG'A	569,260	1,052,386	1,048,569	1,052,386	3,817	1.8	2,072
Rural	514,494	936,014	956,583	936,014	(20,569)	1.9	(11,063)
Urban	54,766	116,372	91,986	116,372	24,386	1.7	14,519
KIAMBU	1,088,526	2,399,479	1,935,510	2,399,479	463,969	1.8	260,935
Rural	353,793	708,414	654,829	708,414	53,585	1.9	28,951
Urban	734,733	1,691,065	1,280,681	1,691,065	410,384	1.7	235,439
TURKANA	275,950	919,826	382,793	919,826	537,033	1.4	387,139
Rural	233,160	781,918	325,114	781,918	456,804	1.4	327,603
Urban	42,790	137,908	57,679	137,908	80,229	1.3	59,519

			Habitable	Habitable	Habitable	Mean No. of	Approximate
	Dwelling	Total	Rooms	Rooms	Rooms	Rooms Per	Mean
County/Residence	Units	Population	Available	Required	Deficit	Dwelling	Dwelling
WEST POKOT	180,221	618,341	244,234	618,341	374,107	1.4	276,055
Rural	168,334	587,431	225,747	587,431	361,684	1.3	269,699
Urban	11,887	30,910	18,487	30,910	12,423	1.6	7,988
SAMBURU	90,334	305,987	125,946	305,987	180,041	1.4	129,133
Rural	70,806	260,478	98,795	260,478	161,683	1.4	115,878
Urban	19,528	45,509	27,151	45,509	18,358	1.4	13,204
TRANS NZOIA	382,606	984,462	615,652	984,462	368,810	1.6	229,202
Rural	313,306	809,352	502,019	809,352	307,333	1.6	191,804
Urban	69,300	175,110	113,633	175,110	61,477	1.6	37,492
UASIN GISHU	485,466	1,148,713	771,238	1,148,713	377,475	1.6	237,607
Rural	269,667	647,990	438,316	647,990	209,674	1.6	128,999
Urban	215,799	500,723	332,922	500,723	167,801	1.5	108,768
ELGEYO-MARAKWET	172,298	452,613	250,033	452,613	202,580	1.5	139,598
Rural	163,194	432,410	236,602	432,410	195,808	1.4	135,057
Urban	9,104	20,203	13,431	20,203	6,772	1.5	4,590
NANDI	366,934	883,188	605,644	883,188	277,544	1.7	168,152
Rural	342,757	825,109	565,259	825,109	259,850	1.6	157,566
Urban	24,177	58,079	40,385	58,079	17,694	1.7	10,593
BARINGO	222,293	662,087	326,070	662,087	336,017	1.5	229,074
Rural	193,470	588,333	280,361	588,333	307,972	1.4	212,524
Urban	28,823	73,754	45,709	73,754	28,045	1.6	17,685
LAIKIPIA	239,758	510,356	393,986	510,356	116,370	1.6	70,816
Rural	182,388	388,618	302,337	388,618	86,281	1.7	52,050
Urban	57,370	121,738	91,649	121,738	30,089	1.6	18,835
NAKURU	911,184	2,124,581	1,502,004	2,124,581	622,577	1.6	377,684
Rural	467,584	1,104,869	780,913	1,104,869	323,956	1.7	193,974
Urban	443,600	1,019,712	721,091	1,019,712	298,621	1.6	183,705
NAROK	388,437	1,146,240	617,214	1,146,240	529,026	1.6	332,937
Rural	348,572	1,048,539	559,457	1,048,539	489,082	1.6	304,725
Urban	39,865	97,701	57,757	97,701	39,944	1.4	27,570
KAJIADO	451,518	1,104,068	724,727	1,104,068	379,341	1.6	236,336
Rural	175,691	489,663	280,480	489,663	209,183	1.6	131,031
Urban	275,827	614,405	444,247	614,405	170,158	1.6	105,649
KERICHO	374,663	896,591	577,948	896,591	318,643	1.5	206,565
Rural	336,193	806,695	521,917	806,695	284,778	1.6	183,440
Urban	38,470	89,896	56,031	89,896	33,865	1.5	23,251
BOMET	349,772	872,553	529,055	872,553	343,498	1.5	227,095
Rural	337,298	846,721	511,512	846,721	335,209	1.5	221,041
Urban	12,474	25,832	17,543	25,832	8,289	1.4	5,894
KAKAMEGA	746,890	1,860,113	1,311,903	1,860,113	548,210	1.8	312,106
Rural	664,363	1,678,502	1,174,096	1,678,502	504,406	1.8	285,418
Urban	82,527	181,611	137,807	181,611	43,804	1.7	26,232
VIHIGA	241,708	587,039	517,295	587,039	69,744	2.1	32,588
Rural	217,503	529,433	468,976	529,433	60,457	2.2	28,039
Urban	24,205	57,606	48,319	57,606	9,287	2.0	4,652
BUNGOMA	625,679	1,662,696	1,059,423	1,662,696	603,273	1.7	356,284
Rural	550,671	1,476,329	925,214	1,476,329	551,115	1.7	328,014
Urban	75,008	186,367	134,209	186,367	52,158	1.8	29,151
BUSIA	333,134	886,588	535,198	886,588	351,390	1.6	218,723
Rural	294,209	777,915	465,807	777,915	312,108	1.6	197,131
Urban	38,925	108,673	69,391	108,673	39,282	1.8	22,035
SIAYA	402,040	988,118	663,774	988,118	324,344	1.7	196,451
Rural	368,130	904,706	604,724	904,706	299,982	1.6	182,616
Urban	33,910	83,412	59,050	83,412	24,362	1.7	13,990
KISUMU	436,217	1,140,672	760,188	1,140,672	380,484	1.7	218,332
Rural	261,545	711,265	474,409	711,265	236,856	1.8	130,580
Urban	174,672	429,407	285,779	429,407	143,628	1.6	87,787
HOMABAY	426,607	1,124,025	720,269	1,124,025	403,756	1.7	239,140
Rural	382,962	1,014,692	649,442	1,014,692	365,250	1.7	215,380
Urban	43,645	109,333	70,827	109,333	38,506	1.6	23,728
MIGORI	434,974	1,106,776	721,539	1,106,776	385,237	1.7	232,237
Rural	368,813	943,024	609,455	943,024	333,569	1.7	201,860
Urban	66,161	163,752	112,084	163,752	51,668	1.7	30,499
KISII	570,836	1,259,608	1,095,539	1,259,608	164,069	1.9	85,489
Rural	505,898	1,112,307	984,644	1,112,307	127,663	1.9	65,592
Urban	64,938	147,301	110,895	147,301	36,406	1.7	21,319
NYAMIRA	297,937	602,859	541,024	602,859	61,835	1.8	34,052
Rural	275,142	553,576	500,900	553,576	52,676	1.8	28,935
Urban	22,795	49,283	40,124	49,283	9,159	1.8	5,203
NAIROBI CITY	1,756,890	4,323,552	2,727,713	4,323,552	1,595,839	1.6	1,027,862

Appendix 32: Habitable Rooms and Dwelling Deficits by Major Urban Centres

Urban Centre	Dwelling Units	Total Population	Habitable Rooms Available	Habitable Rooms Required	Habitable Rooms Deficit	Mean No. of Rooms Per Dwelling	Approximate Mean Dwelling Units Deficit
Nairobi City	1,756,890	4,323,552	2,727,713	4,323,552	1,595,839	1.6	1,027,862
Mombasa	489,010	1,188,639	730,183	1,188,639	458,456	1.5	307,032
Nakuru	241,383	560,555	407,212	560,555	153,343	1.7	90,897
Ruiru	204,886	486,294	348,804	486,294	137,490	1.7	80,761
Eldoret	201,651	466,693	310,628	466,693	156,065	1.5	101,313
Kisumu	159,596	389,985	258,955	389,985	131,030	1.6	80,755
Kikuyu	133,249	322,574	266,209	322,574	56,365	2.0	28,213
Thika	104,410	246,061	164,133	243,617	79,484	1.6	50,562
Naivasha	84,289	193,264	125,835	193,264	67,429	1.5	45,166
Karuri	86,853	193,852	149,791	193,852	44,061	1.7	25,548
Ongata Rongai	75,421	171,080	120,306	171,080	50,774	1.6	31,831
Garissa	47,293	137,558	65,394	130,916	65,522	1.4	47,386
Kitale	62,681	158,726	103,009	158,726	55,717	1.6	33,904
Juja	73,678	155,325	116,670	155,325	38,655	1.6	24,411
Kitengela	71,676	152,378	104,797	152,378	47,581	1.5	32,543
Kiambu	64,725	145,639	120,268	145,639	25,371	1.9	13,654
Mlolongo	61,158	135,102	96,882	135,102	38,220	1.6	24,127
Malindi	47,339	117,478	73,476	117,478	44,002	1.6	28,350
Mandera	35,101	113,150	50,935	113,150	62,215	1.5	42,874
Kisii	49,408	108,986	81,532	107,004	25,472	1.7	15,436
Kakamega	47,394	104,669	81,310	104,669	23,359	1.7	13,616
Ngong	40,764	100,982	75,867	100,982	25,115	1.9	13,495

Appendix 33: Consolidated Housing Quality Index by County

County/Residence	No. of households	Inadequate	Adequate
KENYA	12,040,701	93.6	6.4
Rural	7,376,595	98.5	1.5
Urban	4,664,106	85.9	14.1
Mombasa	376,212	91.1	8.9
Kwale	172,767	97.1	2.9
Kilifi	297,935	95.8	4.2
Tana River	66,964	99.3	0.7
Lamu	34,223	97.1	2.9
Taita-Taveta	94,453	95.8	4.2
Garissa	138,917	99.5	0.5
Wajir	126,874	99.7	0.3
Mandera	123,935	99.9	0.1
Marsabit	76,669	99.7	0.3
Isiolo	53,206	96.6	3.4
Meru	423,848	96.4	3.6
Tharaka-Nithi	109,425	96.6	3.4
Embu	182,413	93.8	6.2
Kitui	261,787	98.3	1.7
Machakos	399,453	93.4	6.6
Makueni	243,948	98.4	1.6
Nyandarua	178,205	97.1	2.9
Nyeri	244,542	92.4	7.6
Kirinyaga	203,554	94.0	6.0
Murang'a	317,459	95.5	4.5
Kiambu	792,147	84.0	16.0
Turkana	162,567	99.6	0.4
West Pokot	115,738	99.6	0.4
Samburu	63,947	99.2	0.8
Trans Nzoia	222,967	97.2	2.8
Uasin Gishu	301,065	92.0	8.0
Elgeyo-Marakwet	99,104	99.2	0.8
Nandi	199,024	98.6	1.4
Baringo	141,867	99.0	1.0
Laikipia	145,764	93.2	6.8
Nakuru	598,156	91.8	8.2
Narok	238,071	98.8	1.2
Kajiado	313,130	89.6	10.4
Kericho	205,890	98.0	2.0
Bomet	187,217	98.7	1.3
Kakamega	432,191	97.8	2.2
Vihiga	143,265	98.3	1.7
Bungoma	357,687	97.9	2.1
Busia	197,921	98.3	1.7
Siaya	249,279	98.6	1.4
Kisumu	296,766	95.4	4.6
Homabay	260,262	98.7	1.3
Migori	238,078	98.4	1.6
Kisii	307,224	97.6	2.4
Nyamira	150,489	98.4	1.6
Nairobi City	1,494,096	81.5	18.5

Appendix 34: Crowding Index by County

County/Residence	No. of households	Adequate	Inadequate
KENYA	12,040,701	61.2	38.8
Rural	7,376,595	63.3	36.7
Urban	4,664,106	57.8	42.2
Mombasa	376,212	52.5	47.5
Kwale	172,767	53.7	46.3
Kilifi	297,935	52.0	48.0
Tana River	66,964	38.0	62.0
Lamu	34,223	64.8	35.2
Taita-Taveta	94,453	73.8	26.2
Garissa	138,917	45.1	54.9
Wajir	126,874	38.6	61.4
Mandera	123,935	31.4	68.6
Marsabit	76,669	20.7	79.3
Isiolo	53,206	35.8	64.2
Meru	423,848	68.1	31.9
Tharaka-Nithi	109,425	76.4	23.6
Embu	182,413	79.8	20.2
Kitui	261,787	65.7	34.3
Machakos	399,453	72.1	27.9
Makueni	243,948	75.5	24.5
Nyandarua	178,205	80.6	19.4
Nyeri	244,542	83.3	16.7
Kirinyaga	203,554	86.4	13.6
Murang'a	317,459	82.7	17.3
Kiambu	792,147	69.8	30.2
Turkana	162,567	32.1	67.9
West Pokot	115,738	26.9	73.1
Samburu	63,947	31.4	68.6
Trans Nzoia	222,967	55.8	44.2
Uasin Gishu	301,065	60.8	39.2
Elgeyo-Marakwet	99,104	50.6	49.4
Nandi	199,024	64.2	35.8
Baringo	141,867	43.9	56.1
Laikipia	145,764	67.6	32.4
Nakuru	598,156	62.7	37.3
Narok	238,071	47.0	53.0
Kajiado	313,130	57.3	42.7
Kericho	205,890	59.8	40.2
Bomet	187,217	56.2	43.8
Kakamega	432,191	64.1	35.9
Vihiga	143,265	79.1	20.9
Bungoma	357,687	58.1	41.9
Busia	197,921	54.4	45.6
Siaya	249,279	61.1	38.9
Kisumu	296,766	59.7	40.3
Homabay	260,262	57.4	42.6
Migori	238,078	57.5	42.5
Kisii	307,224	77.9	22.1
Nyamira	150,489	78.7	21.3
Nairobi City	1,494,096	53.5	46.5

Appendix 35: Structure Fitness by County

County/Residence	No. of households	Inadequate	Adequate
Kenya	12,040,701	57.3	42.7
Rural	7,376,595	73.9	26.1
Urban	4,664,106	31.1	68.9
Mombasa	376,212	24.9	75.1
Kwale	172,767	67.3	32.7
Kilifi	297,935	61.2	38.8
Tana River	66,964	83.7	16.3
Lamu	34,223	70.7	29.3
Taita-Taveta	94,453	59.9	40.1
Garissa	138,917	81.8	18.2
Wajir	126,874	87.8	12.2
Mandera	123,935	88.0	12.0
Marsabit	76,669	78.2	21.8
Isiolo	53,206	69.7	30.3
Meru	423,848	50.8	49.2
Tharaka-Nithi	109,425	57.8	42.2
Embu	182,413	50.4	49.6
Kitui	261,787	60.9	39.1
Machakos	399,453	40.6	59.4
Makueni	243,948	52.9	47.1
Nyandarua	178,205	61.3	38.7
Nyeri	244,542	45.7	54.3
Kirinyaga	203,554	48.1	51.9
Murang'a	317,459	53.4	46.6
Kiambu	792,147	32.9	67.1
Turkana	162,567	91.6	8.4
West Pokot	115,738	88.9	11.1
Samburu	63,947	80.0	20.0
Trans Nzoia	222,967	72.9	27.1
Uasin Gishu	301,065	54.3	45.7
Elgeyo-Marakwet	99,104	77.2	22.8
Nandi	199,024	73.7	26.3
Baringo	141,867	76.7	23.3
Laikipia	145,764	60.4	39.6
Nakuru	598,156	45.2	54.8
Narok	238,071	82.5	17.5
Kajiado	313,130	51.7	48.3
Kericho	205,890	65.1	34.9
Bomet	187,217	68.6	31.4
Kakamega	432,191	79.8	20.2
Vihiga	143,265	79.3	20.7
Bungoma	357,687	78.4	21.6
Busia	197,921	72.9	27.1
Siaya	249,279	72.7	27.3
Kisumu	296,766	63.3	36.7
Homabay	260,262	78.0	22.0
Migori	238,078	73.1	26.9
Kisii	307,224	74.1	25.9
Nyamira	150,489	76.2	23.8
Nairobi City	1,494,096	30.7	69.3

Appendix 36: Water and Sanitation Fitness by County

County/Residence	No. of Households	Inadequate	Adequate
Kenya	12,040,701	47.7	52.3
Rural	7,376,595	58.7	41.3
Urban	4,664,106	30.2	69.8
Mombasa	376,212	53.4	46.6
Kwale	172,767	64.7	35.3
Kilifi	297,935	49.4	50.6
Tana River	66,964	72.4	27.6
Lamu	34,223	58.9	41.1
Taita-Taveta	94,453	44.9	55.1
Garissa	138,917	70.8	29.2
Wajir	126,874	82.2	17.8
Mandera	123,935	85.9	14.1
Marsabit	76,669	81.0	19.0
Isiolo	53,206	52.5	47.5
Meru	423,848	47.5	52.5
Tharaka-Nithi	109,425	53.1	46.9
Embu	182,413	43.3	56.7
Kitui	261,787	72.0	28.0
Machakos	399,453	52.3	47.7
Makueni	243,948	65.8	34.2
Nyandarua	178,205	36.3	63.7
Nyeri	244,542	28.0	72.0
Kirinyaga	203,554	41.2	58.8
Murang'a	317,459	46.1	53.9
Kiambu	792,147	21.1	78.9
Turkana	162,567	81.1	18.9
West Pokot	115,738	82.1	17.9
Samburu	63,947	82.1	17.9
Trans Nzoia	222,967	41.9	58.1
Uasin Gishu	301,065	27.2	72.8
Elgeyo-Marakwet	99,104	66.0	34.0
Nandi	199,024	60.9	39.1
Baringo	141,867	72.5	27.5
Laikipia	145,764	44.3	55.7
Nakuru	598,156	39.3	60.7
Narok	238,071	77.9	22.1
Kajiado	313,130	46.4	53.6
Kericho	205,890	60.0	40.0
Bomet	187,217	64.8	35.2
Kakamega	432,191	41.5	58.5
Vihiga	143,265	43.2	56.8
Bungoma	357,687	38.1	61.9
Busia	197,921	44.6	55.4
Siaya	249,279	57.7	42.3
Kisumu	296,766	39.8	60.2
Homabay	260,262	63.1	36.9
Migori	238,078	65.6	34.4
Kisii	307,224	66.3	33.7
Nyamira	150,489	66.0	34.0
Nairobi City	1,494,096	25.0	75.0

Appendix 37: Energy Fitness by County

County/Residence	No. of households	Inadequate	Adequate
Kenya	12,040,701	74.8	25.2
Rural	7,376,595	93.7	6.3
Urban	4,664,106	45.1	54.9
Mombasa	376,212	60.3	39.7
Kwale	172,767	90.4	9.6
Kilifi	297,935	87.7	12.3
Tana River	66,964	96.2	3.8
Lamu	34,223	89.7	10.3
Taita-Taveta	94,453	85.2	14.8
Garissa	138,917	92.7	7.3
Wajir	126,874	95.7	4.3
Mandera	123,935	97.2	2.8
Marsabit	76,669	94.3	5.7
Isiolo	53,206	85.8	14.2
Meru	423,848	86.5	13.5
Tharaka-Nithi	109,425	89.6	10.4
Embu	182,413	80.8	19.2
Kitui	261,787	92.7	7.3
Machakos	399,453	71.6	28.4
Makueni	243,948	91.1	8.9
Nyandarua	178,205	87.3	12.7
Nyeri	244,542	76.0	24.0
Kirinyaga	203,554	75.9	24.1
Murang'a	317,459	82.6	17.4
Kiambu	792,147	40.9	59.1
Turkana	162,567	97.2	2.8
West Pokot	115,738	96.6	3.4
Samburu	63,947	94.4	5.6
Trans Nzoia	222,967	90.4	9.6
Uasin Gishu	301,065	74.3	25.7
Elgeyo-Marakwet	99,104	96.1	3.9
Nandi	199,024	93.4	6.6
Baringo	141,867	95.2	4.8
Laikipia	145,764	78.2	21.8
Nakuru	598,156	69.2	30.8
Narok	238,071	90.6	9.4
Kajiado	313,130	51.2	48.8
Kericho	205,890	89.6	10.4
Bomet	187,217	93.5	6.5
Kakamega	432,191	91.8	8.2
Vihiga	143,265	92.4	7.6
Bungoma	357,687	92.0	8.0
Busia	197,921	93.2	6.8
Siaya	249,279	93.4	6.6
Kisumu	296,766	79.9	20.1
Homabay	260,262	92.9	7.1
Migori	238,078	92.0	8.0
Kisii	307,224	85.6	14.4
Nyamira	150,489	90.4	9.6
Nairobi City	1,494,096	30.1	69.9

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