REPUBLIC OF KENYA

MINISTRY OF LAND, HOUSING & URBAN DEVELOPMENT

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2012/2013

KENYA NATIONAL HOUSING SURVEY

Basic Report

REPUBLIC OF KENYA

MINISTRY OF LAND, HOUSING & URBAN DEVELOPMENT

2012/2013

Kenya National Housing Survey

Basic Report

ACKNOWLEDGEMENT

The successful completion of the 2012/2013 Kenya National Housing Survey was made possible by the joint efforts of various organizations and individuals whose participation I would like to acknowledge with gratitude.

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Finally, I wish to thank all the survey respondents who generously contributed their time to enable the survey teams gather crucial information for the country and the team that put in many man hours to compile the report as well as the external reviewer. May God bless you.

Honourable Charity Kaluki Ngilu, EGH
Cabinet Secretary for Land, Housing and Urban Development

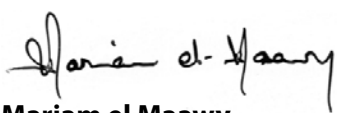
PREFACE

This Report presents findings from the 2012/2013 Kenya National Housing Survey (2012/2013 KNHS). The objectives of the survey were to:- improve the base of housing statistics and information knowledge, provide a basis for future periodic monitoring of the housing sector, facilitate periodic housing policy review and implementation, assess housing needs and track progress of the National Housing Production goals as stipulated in the Kenya Vision 2030 and its first and second Medium Term Plan, provide a basis for specific programmatic interventions in the housing sector particularly the basis for subsequent Medium Term frameworks for the Kenya Vision 2030; and facilitate reporting on the attainment of the Millennium Development Goals (MDG) goals particularly goal 7, target 11.

The 2012/2013 KNHS targeted different players in the housing sector including renters and owner occupiers, housing financiers, home builders/developers, housing regulators and housing professionals. Whereas a census was conducted among regulators and financiers, a sample survey was conducted on renters and owner occupiers, home builders/developers and housing professionals. To cover renters and owner occupiers, the survey was implemented on a representative sample of households - National Sample Survey and Evaluation Program V (NASSEP V) frame which is a household-based sampling frame developed and maintained by KNBS - drawn from 44 counties in the country, in both rural and urban areas. Three counties namely Wajir, Garissa and Mandera were not covered because the household-based sampling frame had not been created in the region by the time of the survey due to insecurity.

Considering that the last Housing Survey was carried out in 1983, it is expected that this Report will be a useful source of information to policy makers, academicians and other stakeholders. It is also important to note that this is a basic report and therefore there is room for further research and analysis of various chapters in the report. This, coupled with regularly carrying out surveys, will enrich the data available in the sector which in turn will facilitate planning within the government and the business community.

One of the main challenges faced during the survey process was insufficient information during data collection. This could serve as a wake-up call to all county governments on the need to keep proper records on such issues like the number of housing plans they approve, housing finance institutions within their counties, the number of houses that are built within the county each year and so on since they have the machinery all the way to sub-location level.



Mariam el Maawy
Principal Secretary,
Ministry of Land, Housing and Urban Development

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List of Acronyms

2009 KPHC	2009 Kenya Population and Housing Census
2012/2013 KNHS	2012/2013 Kenya National Housing Survey
ABMT	Appropriate Building Materials and Technologies
ABMTCs	Appropriate Building Materials and Technologies Centres
AMCHUD	African Ministerial Conference on Housing and Urban Development
BEPs	Built Environment Professionals
C2	Cluster 2
CEOs	Chief Executive Officers
CSHSF	Civil Servants Housing Scheme Fund
EAs	Enumeration Areas
FOSA	Front Office Systems Administration
GC	Governing Council
HOSP	Home Ownership Savings Plan
ICT	Information and Communication Technology
KENSUP	Kenya Slum Upgrading Programme
KIPPRA	Kenya Institute for Public Policy Research and Analysis
KISIP	Kenya Informal Settlement Improvement Project
KM	Kilometre
KNBS	Kenya National Bureau of Statistics
KSh	Kenya Shillings
LA	Local Authority
MDG	Millennium Development Goals
MFI	Micro Finance Institutions
NASSEP V	National Sample Survey and Evaluation Program V
NEMA	National Environment Management Authority
NGOs	Non-Governmental Organizations
PAPI	Paper and Pencil Interviewer
PPS	Probability Proportional to Size
PSUs	Primary Sampling Units
SACCOs	Savings and Credit Cooperative Organizations
UN-HABITAT	United Nations Human Settlement Programme
VAT	Value Added Tax
WHD	World Habitat Day
WHO	World Health Organization

EXECUTIVE SUMMARY

The Kenya National Housing Survey (KNHS) was carried out in 2012/2013 in 44 Counties of the Republic of Kenya. It was undertaken through the NASSEP (V) sampling frame.

The survey targeted different players in the housing sector including renters and owner occupiers, housing financiers, home builders/developers, housing regulators and housing professionals. The key objective for the survey was to improve the base of housing statistics and information knowledge.

Some of the key findings include;

- Renting households spend more than 30% of their income on rent monthly. This percentage increases to 47% when housing related utilities are included.
- Over 90% of the financial institutions interviewed indicated that they did not have specific products geared towards savings for mortgage.
- Average banks mortgage interest rates in December 2010 and December 2011 stood at 14.36 per cent and 16.36 per cent respectively
- Housing developers quoted, access to affordable land (45.9%), high returns on investment (43.7%), and prospective future returns on investment (41.4%) as the key factors in determining where to develop.

Based on the survey findings, a one stop shop system is proposed where all approving bodies will sit together to analyze development applications received and give feedback on the applications within a reasonable time.

The survey collected massive data on various aspects of housing which was not analyzed for this basic report; we therefore recommend that the government prepares analytical reports from this data. This will provide useful information to both public and private sectors players in the housing sector.

This report is structured into eight chapters. Chapter one provides the background of the 2012/2013 KNHS. Chapter two presents the survey methodology while chapter three summarizes the findings of the renters and owner occupier characteristics. Chapter four gives information of the built environment professionals and selected aspects of housing. Chapter five presents details on financing of housing development; Chapter six is on housing developers for selected aspects of housing; Chapter seven is on institutional and regulatory framework while chapter eight gives the key survey findings, conclusion and recommendations.

Chapter 1

INTRODUCTION AND EXISTING SITUATION

The chapter is divided into two sections. The first section is on rationalization of Kenya National Housing Survey (2012/2013 KNHS), while the second part analyses the housing situation in the country.

1.1 Survey Rationalization

1.1.1 Background

Kenya is experiencing rapid population growth as a result of increased fertility rates. Over time, the number of urban households has increased mainly due to rural urban migration and natural population growth, leading to an upsurge in demand for housing in the urban areas. However, this demand cannot be accurately quantified because the housing sector has for a long time been deficient of comprehensive, continuous, detailed, accurate and timely data to verify and confirm actual annual production of houses both in the urban and rural areas. The last comprehensive housing survey was undertaken in 1983. However, the results were never published. Whereas Kenya has consistently undertaken population and housing censuses, the data only provides benchmark information that needs to be regularly complemented and enriched by specialized housing surveys

The need for conducting a national housing survey was informed by the following factors:

(i) Lack of comprehensive data from households, key informants and the institutional and regulatory framework.

(ii) Need for regular monitoring and evaluation of developments in the housing sector in fulfillment of the requirements of the Constitution of Kenya, 2010.

(iii) Need to update the otherwise out-dated housing data in the national statistical system.

(iv) Need to fill in the data gaps relating to housing which have existed for a very long time in the national statistical system.

(v) Need to regularly monitor and evaluate development goals set out in the Government blueprints particularly the Vision 2030.

(vi) Need to provide data to guide Housing Policy formulation as well as Housing development programs designed for implementation at both the National and County Governments level.

To steer the exercise, a National Housing Survey Joint Steering Committee comprising of the then Ministry of Housing, Kenya National Bureau of Statistics (KNBS), Scion Real and Kenya Institute for Public Policy Research and Analysis (KIPPRA) was constituted. The committee came up with instruments of the survey which were subjected to various consultative processes including a National Housing Survey Stakeholders' Forum and a piloting exercise.

1.1.2 Justification for the Survey

The Housing sector contributes both socially and economically to the growth of this country. However, its contribution needs to be enhanced by carrying out surveys that would address the following key issues:

(i) Lack of comprehensive data from households, key informants and the institutional and regulatory framework.

(ii) Need for regular monitoring and evaluation of developments in the housing sector in fulfillment of the requirements of the Constitution of Kenya, 2010.

(iii) Need to update the otherwise out-dated housing data in the national statistical system.

(iv) Need to fill in the data gaps relating to housing which have existed for a very long time in the national statistical system.

(v) Need to regularly monitor and evaluate development goals set out in the Government blueprints particularly the Vision 2030.

(vi) Need to provide data to guide Policy formulation as well as development programs' design and implementation in regard to housing at both the national and county level.

To steer the exercise, a National Housing Survey Joint Steering Committee comprising of the then Ministry of Housing, Kenya National Bureau of Statistics (KNBS), Scion Real and Kenya Institute for Public Policy Research and Analysis (KIPPRA) was constituted. The committee came up with instruments of the survey which were subjected to various consultative processes including a National Housing Survey Stakeholders' Forum and a piloting exercise

1.1.3 Objectives of the 2012/2013 Kenya National Housing Survey

The specific objectives of the Survey were to:-

(i) Improve the base of housing statistics and information knowledge.

(ii) Provide a basis for future periodic monitoring of the housing sector.

(iii) Facilitate periodic housing policy review and implementation.

(iv) Assess housing needs and track progress of the National Housing Production goals as stipulated in the Kenya Vision 2030 and the Medium Term Plans.

(v) Provide a basis for specific programmatic interventions in the housing sector particularly the basis for subsequent Medium Term frameworks for the Kenya Vision 2030.

(vi) Facilitate reporting on the attainment of the Millennium Development Goals (MDGs) particularly goal 7 target 11.

(vii) Provide planners, policy makers, program designers and researchers with housing sector specific information

1.2 Situational Analysis

Housing is recognized as a basic human right in the Kenya Constitution and therefore concerted efforts must be made towards the realization of this progressive right to housing. Apart from being a right, housing contributes greatly to the socio-economic development of the country due to its backward and forward linkages. However the sector is faced with many challenges as result of which we have a huge demand-supply gap of approximately 200,000 housing units annually. This poses a big challenge to the policy makers in terms of infrastructural and housing requirements.

1.2.1 Key Challenges to the Housing Sector

(i) **High Population growth rate:** Kenya's population has been growing rapidly over the years. For instance, the country's population in 1999 was 28.7 million with urban population being 5.4 million, and by 2009 this population had grown to 38.6 million and 12.5 million, respectively (KNBS). It is projected that by the year 2030, about 50 per cent of the Kenyan population will be urban residents. The rapid rate of urbanization continues to put more pressure on services to meet the needs of the growing population.

(ii) **Rapid urbanization:** The urban population increased from 19 per cent in 1999 to 32 per cent in 2009 and is expected to increase to 50 per cent by the year 2030. This has resulted in the need to increase the number of housing stock in the urban areas.

(iii) **High poverty levels:** Over 50 per cent of Kenyans live below the poverty line. The median income levels for employed people in this country are between KSh 20,000 and KSh 25,000 (Statistical Abstract, 2013). This means that apart from the population living below the poverty line, an average income earner cannot access housing from the market. For instance, if one was to buy a house on mortgage of KSh 1.5 million repayable in 15 years at an interest rate of 15 per cent, the monthly repayment rate would be about KSh 21,000. This amount is way above what the middle income earners can afford based on the international recommendation that one should only spend one third of gross income on housing. In view of this, the vulnerable and low income segments of Kenyan population may never access housing from the open market. In addition, they may continue living in inhuman conditions in the slum areas, unless deliberate measures are taken by the government to address their housing plight.

(iv) **High cost of financing housing development:** In the year 2012, interest rates stood at an average of 18per cent resulting in very low proportion of Kenyans being able to borrow money for outright purchase of housing or for construction (Economic survey, 2012). According to the Kenya Integrated Household Budget Survey 2005/06, only 4.2per cent of Kenyan households were able to borrow money for purchase or construction of housing. This explains why the number of households paying rent rose from 17.25per cent in 1994 to 23.8per cent in 2005/06. Those paying rent in the rural areas increased from 4per cent in 1994 to 6.7per cent in 2005/06 while those paying rent in the urban areas increased from 68.1per cent in 1994 to 75.4per cent in 2005/06.Most housing is financed primarily through borrowed funds from various sources. Considering the time needed for construction, potential delays during construction as well as high and fluctuating interest rates, the cost of debt can weigh negatively on the total financing structure of developments. In addition, access to equity for construction is a challenge due to the conditions imposed by the lenders who are mostly banks.

(v) **Low investment in housing by government:** The Government investment in the sector between 2009 and 2012 amounted to approximately KSh4.5 billion (Ministry of Housing, 2012). This amount of money could only help develop 3,000 housing units for the plan period assuming a cost of KSh 1.5 million per unit. This does not include the cost of related infrastructure and development licensing charges. On the other hand, investment by private sector players in low income housing has been minimal because returns are not as high as in the high income bracket. The private sector has tended to concentrate on the high end of the market.

(vi) **High cost of building materials:** It is estimated that building materials account for approximately 40per cent of the construction costs. Between 2007 and 2009, costs of building materials had increased by as much as 40per cent resulting in increased cost of housing.

(vii) **Shortage of planned Land:** There is an acute shortage of planned land for housing development. This is a fundamental challenge especially in the urban areas. In some circumstances, public land has been occupied by squatters who have developed slums with no requisite infrastructure.

(viii) **Lack of planning:** Kenya has not adopted a planning culture. Many developers do not bother to consult physical planners to be guided on the most economical and environmentally friendly developments to be placed on their land. Where local physical development plans are in existence, they are not fully implemented. The end result is conflicting land users especially in the urban areas.

1.2.2 Regulatory Framework, Policies and Programmes/Interventions

Despite some of the challenges enumerated above, the Government has put in place the following laws, regulations, policies, blueprints and programmes towards improving the housing situation: -

(i) Kenya Constitution, 2010

Article 43 1(b) recognizes housing as a social right for every Kenyan and as result, the government is committed to making sure that this right is achieved progressively.

(ii) Kenya Vision 2030

Kenya Vision 2030 aims to transform the country into a newly industrialising, "middle-income country providing a high quality life to all its citizens by the year 2030". The 2020 vision for housing and urbanisation is "an adequately and decently housed nation in a sustainable environment.

(iii) Sectional Properties Act, 1987

In view of shortage of designated land for housing, it has become necessary for developers to put up high-rise apartments. This type of development requires that a structure of property ownership be put in place which would take care of both the interests of individual apartment owners and the jointly owned common space. The Sectional Properties Act, 1987 has provided for efficient ownership of apartments in urban areas. The Act has also encouraged the formation of communities, through the management companies in new settlements.

(iv) The Physical Planning Act, Cap 286

The enactment of the Physical Planning Act Cap 286 in 1996 was a milestone in the planning practice in Kenya. The Act gave legal authority to the preparation of the local and regional physical development plans. It also ushered a new approach to plan preparation process by incorporating public participation.

The [promulgation of the Kenya Constitution 2010 called for a review of the

Physical Planning Act Cap 286 to align it with the Constitution. A physical planning Bill has been prepared and is with the office of the Attorney General ready to be forwarded to Parliament for discussion.

(v) The Housing Bill, 2014

The objective of the Housing Bill is to create an Act of Parliament to provide for the effective coordination, facilitation and monitoring of the housing and human settlements sector; to provide for capacity building within the housing sector and to establish the National Housing Development Fund for the provision of the right to accessible and adequate housing. The bill is in the process of being enacted.

(vi) The Landlord and Tenant Bill, 2007

The Bill has been approved by the Cabinet and is awaiting finalization by the State Law office for subsequent tabling in parliament. This Bill will merge the Rent Tribunal and the Business Tribunal to create a Landlord and Tenant Tribunal that will be able to execute its own orders. The new Act is expected to enhance efficiency in dealing with cases between landlord and tenants.

(vii) Built Environment Bill, 2011

The Bill was approved by Cabinet and seeks to consolidate the professional functions of the built environment in order to bring order, safety and harmony in the built environment.

(viii) Building Laws and Regulations

Together with the private sector stakeholders, the government has reviewed building laws and regulations that constitute the Building Code. The objective is to make laws and regulations that are in line with our aspirations as Kenyans in terms of measurements, building materials, technologies and values. These are awaiting debate in Parliament.

(ix) Building Surveyors Bill, 2011

The Bill seeks to professionalize building surveying services in the country in order to bring accountability in the sub sector.

(x) National Housing Policy, 2004

The policy recognizes and appreciates the fact that housing programs are much more effective when they take into account the different roles and needs of their targeted population consisting of men, women and youth. For instance, the Government will endeavour to: facilitate the creation of credit institutions and lending mechanisms that will be accessible to all vulnerable groups. In addition, housing cooperatives will be supported and encouraged to initiate community-based credit systems. The Government, therefore, anticipates that through the

cooperative movement vulnerable groups, both in rural and urban areas will be able to tackle problems related to shelter more effectively and that they will be able to improve their bargaining power through collective effort.

The National Housing Policy was formulated in 2004. The promulgation of the Kenya Constitution, 2010 made it necessary for the policy to be reviewed to align it with the constitutional provisions relating to housing. The reviewed draft National Housing Policy is now ready for adoption by Parliament.

(xi) The Draft National Slum Upgrading and Prevention Policy, 2014

With the increase in urban population, the urban poor have been forced to live in slums and informal settlements. In the past, these settlements were considered illegal and development control institutions always tried to stop their existence. Experience shows that rather than reducing, the settlements have continued to increase not just on government land but also on freehold land in peri-urban areas. The National Slum Upgrading and Prevention Policy is focussed on upgrading the existing slums and suggests mechanisms to prevent the development of more of these types of settlements. The draft policy also addresses pertinent issues relating to social exclusion, infrastructure provision, tenure security and participation of all in sustainable urbanization process.

(xii) Estate Management and Maintenance Policy

The real estate market as it exists today lacks coordination and professional standards hence the need for a policy. In this respect, the Ministry developed an Estate Management and Maintenance Policy, 2012 which is awaiting adoption by Parliament. The Policy aims at setting standards for building maintenance in all organizations in order to preserve and prolong the life of the building stock. Besides, a draft Leasing Policy, 2014 for Government buildings and houses has been finalized. The policy will guide standardization and streamlining of Government office accommodation and also help in reducing wastage on office space.

(xiii) Civil Servants Housing Scheme Fund

Civil Servants Housing Scheme Fund (CSHSF) was established through Legal Notice No. 98 of 15th September, 2004. The main objective of the scheme was to advance loans to civil servants to either purchase or build their own residential houses. It is a best practice to be emulated by other employers as envisaged by the Housing Policy which encourages employers to facilitate their own employees to acquire affordable houses.

(xiv) The Kenya Slum Upgrading Programme (KENSUP)

KENSUP aims at addressing housing challenges affecting majority of the urban population who live in slums and informal settlements. The Programme

begun after the Government and UN-HABITAT entered into a Memorandum of Understanding (MoU) on 15th February 2003 to upgrade slums and informal settlements. It aims at improving the lives of people living and working in the slums and informal settlements in all urban areas of Kenya. It also aims at contributing to poverty reduction and the fulfillment of the Millennium Development Goals, specifically Goal No 7 target 11- of improving the lives of 100 million slum dwellers by the year 2020.

(xv) Kenya Informal Settlements Improvement Project (KISIP)

This is a World Bank funded programme that is now at the implementation stage having been launched in June, 2011. The programme is undertaking tenure regularization and installation of social and physical infrastructure in informal settlements in the following towns: Nairobi, Mombasa, Kisumu, Nakuru, Eldoret, Malindi, Naivasha, Kitui, Machakos, Thika, Nyeri, Garissa, Kericho, Kakamega, and Embu.

(xvi) Appropriate Building Materials and Technologies Centres (ABMTCs)

The Government is promoting use of locally available low cost appropriate building materials and technologies in order to reduce the cost of housing through establishment of Appropriate Building Materials and Technologies Centres countrywide. These centres are used to disseminate and train on existing and new technologies that enhance affordability of housing. By the year 2012, one Regional ABMTC had been established at Mavoko while 80 Constituency Centres had been established in other parts of the country. The Centres are designed to provide the following services: - collaborative research, evaluation and certification of technologies; training and skills development; documentation, dissemination and demonstration of technologies; hiring out of equipment to wananchi; technical assistance and consultancy and; quality control and maintenance of standards.

(xvii) Approved Housing Sector Incentives

The Government has approved a number of incentives aimed at attracting investment from the private sector. These are intended to spur growth in the housing sector and to encourage partnerships. The incentives include:-

(a) Incentives under the income tax:

(i) Tax deductibility on interest paid by a mortgagor against his/her taxable income up to a maximum of KSh 150,000/-.

(ii) Contributions to Home Ownership Savings Plan (HOSP). This implies that there is no withholding tax on interest earned for balances up to KSh. 3 million under this plan.

(iii) Lower taxation of Housing Bonds. This implies that there is withholding tax of only 10 per cent

(iv) Prescribed dwelling house for employees or as an industrial building
(v) Tax deductibility for expenditure for social infrastructure
(vi) Industrial building deduction
(vii) Tax deductibility of interest from infrastructure and social services bonds.

(b) Assignment of retirement benefits

It has been made possible for members of the retirement schemes to assign 60 per cent of their benefits for mortgages. Loans guarantees in effect shall serve four purposes namely:- to acquire property outright, to construct a home, to carry out repairs, alterations and improvements, and to secure financing for deposits, stamp duty, valuation fees and other incidentals associated with home ownership (excluding arrangement fees, commitment fees etc.).

(c) Incentives under Value Added Tax (VAT) Act

The Minister for Finance may: -

(a) Remit VAT payment in respect of construction or expansion of private universities (excluding student hostel and staff housing) on the recommendation from Education Minister

(b) Remit VAT payment in respect of construction of not less than 20 housing units for low income earners on the recommendation of the Housing Minister

(c) Tax exempt official aid funded projects

(xviii) The Cooperative Movement

Cooperatives have been a major driver of economic growth in Kenya. In the urban areas, Savings and Credit Cooperative Organizations (SACCOs) have assisted people raise funds to get into commerce, construct housing and raise deposit to buy houses. The SACCOs continue to play an important role in realization of housing and in mobilizing funds for purchase of land to put up housing besides raising capital for housing development.

(xix) National Secretariat for Housing and Human Settlements Matters

Through the executive orders occasionally issued by the government, Ministry of Land, Housing and Urban Development is mandated as the National Secretariat for coordination of stakeholders on housing and human settlement matters. It does this through; National observance of World Habitat Day (WHD), African Ministerial Conference on Housing and Urban Development (AMCHUD), Governing Council (GC) and Documentation of best practices on housing and human settlement.

World Habitat Day is an international day observed on the first Monday of October every year. This Day was designated by United Nations General Assembly Resolution 40/202A of 17 December 1985. The Day accords United Nations Member States an opportunity to share and reflect on their experiences, successful initiatives, and challenges encountered in their efforts to provide shelter, and related basic services in a sustainable manner. It is also intended to remind the world of its collective responsibility for the future of the human habitat. In addition, it provides a forum for governments and stakeholders to take stock of achievements and take actions aimed at improving housing and human settlements.

AMCHUD is a bi-annual forum where African ministers in charge of housing and urban development congregate together to discuss issues related to housing and urban development. The Governing Council is also a bi-annual meeting that was established by the General Assembly resolutions 32/162 of 19 December 1977 and 56/206 of 21 December 2001. It is high level forum of governments at the ministerial level that sets UN-HABITAT's policy and approves the agency's work programme and budget for the next two years.

Documentation of Best Practices entails profiling outstanding initiatives which have demonstrated tangible impacts in improving the quality of life in cities and communities around the world, as well as the living environment. The original call for best practices was launched in 1995 during preparation for the second United Nations Conference on Human Settlements (Habitat II) as a means of identifying what works in improving living conditions on a sustainable basis.

Chapter 2

METHODOLOGY

2.1 Introduction

Chapter two discusses the scope of the survey, geographical coverage and target population, sampling approach and design and data capture, processing and analysis.

2.2 Scope of the Survey

The Survey was steered by the National Housing Survey Joint Steering Committee which adopted five questionnaire modules that included: -

- Household (owner occupier and renters),
- Built environment professionals,
- Housing developers,
- Housing financiers, and
- Regulatory and institutional framework.

The core issues captured in the modules included housing affordability, housing quality, housing production, housing finance, and housing infrastructure.

2.3 Geographic Coverage and Target Population

The 2012/2013 KNHS targeted different players in the housing sector including renters and owner occupiers, housing financiers, home builders/developers, housing regulators and housing professionals. Whereas a census was conducted among regulators and financiers, a sample survey was conducted on renters and owner occupiers, home builders/developers and housing professionals. To cover renters and owner occupiers and builders/developers, the survey was implemented on a representative sample of households drawn from 44 counties in the country, covering both rural and urban areas. Three counties namely Wajir, Garissa and Mandera were not covered because the household based sampling frame had not been created in the region by the time of the survey. The study on built environment professionals was also conducted in all the counties in the country, except the-a-fore mentioned three counties.

2.4 Sampling Frame and Design

The sampling frame and design section gives highlight on the following areas: - adoption of National Sample and Evaluation Program V sampling framework and sampling of households, built environment professionals, housing developers.

2.5 Adoption of National Sample Survey and Evaluation Program V (NASSEP V) Sampling Framework

The sampling frame utilized in the renters and owner occupiers and home builders/ developers was the current National Sample Survey and Evaluation Program V (NASSEP V) frame which is a household based sampling frame developed and maintained by KNBS. During the 2009 population and housing census, each sub-location was subdivided into approximately 96,000 census Enumeration Areas (EAs).

In cognizance of the devolved system of government and the need to have a static system of administrative boundaries, NASSEP V utilizes the county boundaries. The frame was implemented using a multi-tiered structure, in which a set of 4 sub-samples were developed. It is based on the list of EAs from the 2009 Kenya Population and Housing Census. The frame is stratified according to county and further into rural and urban areas. Each of the sub-samples is representative at county and at national (i.e. urban/rural) level and contains 1,340 clusters. NASSEP V was developed using a two-stage stratified cluster sampling format with the first stage involving selection of Primary Sampling Units (PSUs) which were the EAs using Probability Proportional to Size (PPS) method. The second stage involved the selection of households for various surveys.

2012/2013 KNHS utilized all the clusters in C2 sub-sample of the NASSEP V frame excluding Wajir, Garissa and Mandera counties. The target for the household component of the survey was to obtain approximately 19,140 completed household interviews. Appendix 1 shows the county distribution of households and clusters for the 2012/2013 KNHS.

2.6 Sampling of Households

2.6.1 Sample Weights

The 2012/2013 KNHS sample was not self-weighted and thus a weighting adjustment was required to provide estimates representative of the target population. Weights were calculated for the household module only. The base weights incorporated the probabilities of selection of the clusters from the census EAs database into the NASSEP V sample frame and the probabilities of selection of the 15 households from each of the NASSEP V clusters. Base weights were then adjusted for cluster non-response and household non-response.

2.6.2 Sampling of Built Environment Professionals

A combination of methods was used to identify the housing professionals. Some of the professionals were identified through the household module while others were sampled from the list of registered professionals. The rest were identified through reference or snow balling where any professional that was identified during household interview or those sampled from the list of registered professionals was asked for a reference of another professional that they knew.

2.7 Data Capture, Processing and Analysis

The survey implemented a Paper and Pencil Interviewer (PAPI) technology administered by trained enumerators while data entry was decentralised to collection teams with a supervisor. Data was keyed from twelve (12) questionnaires namely household based questionnaire for renters, owner occupier and home builders, building financiers such as banks and SACCOs, building professionals such as architects valuers etc., institutional questionnaires covering Local Authorities, Lands department, Ministry of Housing, National Environmental Management Authority, Physical Planning department and, Water and Sewerage Service providers and housing developers. Each of these questionnaires was keyed individually.

The data processing of the 2012/13 Kenya National Housing Survey results started by developing data capture application for the various questionnaires using CSPro software. Quality of the developed screens was informed by the results derived from 2012/2013 KNHS pilot survey. Every county data collection team had a trained data entry operator and two data analysts were responsible for ensuring data was submitted daily by the trained data entry operators. They also cross-checked the accuracy of submitted data by doing predetermined frequencies of key questions. The data entry operators were informed of detected errors for them to re-enter or ask the data collection team to verify the information.

Data entry was done concurrently with data collection therefore guaranteeing fast detection and correction of errors/inconsistencies. Data capture screens incorporated inbuilt quality control checks triggered in case of invalid entry. Such checks were necessary to guarantee minimal data errors that would be removed during the validation stage (data cleaning).

In data cleaning, a team comprising subject-matter specialists developed editing specifications which were programmed to cross-check raw data for errors and inconsistencies. The printed log file was evaluated with a view to fixing errors and inconsistencies found. Further on, they also developed data tabulation plans to be used on the final datasets and cross checked tabulated outputs were used in writing the survey basic report.

2.8 Key Concepts and Definitions

The given key concepts and definitions were operational terms used during the survey. They were sourced from the Kenya Population and Housing Census Survey, 2009, Housing Bill, 2011 and oxford dictionary among other documents.

Appropriate Building/ housing Technology:	Is low cost and environmental friendly housing development technology relative to a specific area.
Biogas Energy Systems:	These use animal waste to generate gas used for domestic purposes.
Bond:	A bond constitutes debt capital taken by the financial institution. it is issued by the financial institution to more than one party. For example, Housing Finance issued a bond, which was bought by hundreds of individuals / companies etc. A bond pays interest in terms of a coupon which can be at a fixed rate or variable rate. The coupon is usually paid every 6 months, though a different payment schedule can be provided.
Borehole:	Is a man-made shaft dug in the ground from which water is obtained. It is deeper than a well and has pump for drawing the water into a tank, buckets etc.
Building Insurance:	Insurance taken by the owner of the property to insure the property against risks such as fire, landslip etc.
Built environment:	Refers to all activities that culminate in production and utilization of houses whether for residential or commercial purposes. The process starts from physical planning, land surveying, architectural designing, approvals, actual construction, estate management and service delivery.
Bungalow:	Is a detached, stand alone, house. It is typically designed to be occupied by one family. It also includes the 'town houses' which are detached houses of a similar style built in one compound, often found in urban high end neighborhoods. It can be single storey, double storey or even triple storey.
Cess pool:	Is a communal pool where liquid waste is drained into from the dwelling units until it is emptied.
Change of user:	Refers to land which is registered for a definite user and may be commercial, residential, industrial etc. The land owner may want to use the land for another purpose rather than the registered user.
Cluster:	A scientifically sampled area with an average of about 100 households.
Commercial Bank:	Is a financial institution licensed by Central Bank of Kenya to take deposits and give loans for a diverse range of products. For the purposes of the housing survey, this category includes Housing Finance, Savings & Loan, K-REP and Jamii Bora.
Completion certificate:	Document issued by a local authority authenticating that a building has been constructed as approved by the town planning committee of the local authority.
Construction financing for owner occupation:	Constitutes financing provided to somebody who wishes to build a house to stay in himself/ herself.
Construction financing for rental units:	Constitutes financing provided for construction of rental units. The Financier typically provides financing for the construction and then allows the developer to repay the loan from the rental proceeds over a long period of time say 5 – 20 years.

Construction financing for sale units:	Constitutes financing provided for construction of housing (whether for one unit or many units) which is built for sale, and also for one off units built by someone for their own owner occupation. It generally refers to construction which is done in one go, i.e. from start to finish.
Conveyancing (legal) fees:	Is the fees paid to legal experts towards processing of such documents as title deeds, leases, transfer of documents, registration of documents.
Core Urban:	Is the central built-up area of an urban centre with intense use of land and highest concentration of service functions and activities.
Dam:	A reservoir formed by building a barrier across a river to hold back water and control its flow. A lot of these dams are built in dry areas of Kenya.
Deposits:	Are customer savings held by the financial institution. These are liabilities to the institution.
Development application:	Refers to forwarding of plans and other documents relating to a particular project for approval by local authority/any other institutions.
Development control:	The process of monitoring physical development to ensure that is done as per the approved plans.
Dwelling unit:	A place of abode or residence occupied by one or more households and with a private entrance. There can be many dwelling units within a structure.
Employee (working for someone else for pay in cash or in kind):	Comprises persons who during the last week preceding the survey worked for wages, salaries, commissions, tips, contracts and paid in kind (especially in the rural areas where people who have rendered services may be paid using food or clothing).
Employer (employing one or more employees):	Comprise persons who during the last week preceding the survey worked in their own business which also employs other persons. The person must have also been spending much of his/her time at the place. The people employed can either be paid in cash or kind.
Employers' Scheme:	A lending scheme that is funded through the employer. Usually the employees contribute a certain percentage of their wage, and the employee also makes some contribution.
Enumeration Areas (EAs):	Small geographic units with clearly defined boundaries.
Extension of user:	Is defined as a situation whereby the land registered has specific use e.g. housing. The developer may apply to extend the use by increasing the density without change of user e.g. a plot permitted for single dwelling unit but developer wants multiple dwelling.
Flat:	Is a housing type contained in a vertical development containing several similar housing units. It shares a common access through common stairways etc.
Graduated loans:	Is a type of mortgage loan where the payment increases over time. The rationale is the borrower's income will grow over time, therefore in the beginning, his repayment is lower, and it increases in stages as the loan period elapses. (For example, you can have a 15 year loan with a payment for 15,000 in year 1-5, 20,000 in year 6-10, and 25,000 in year 11 to 15). The total payment a borrower makes over the period of a graduated loan is higher than over a traditional, non –graduated loan, but a borrower may prefer the graduated loan as it is a way to enter the homeownership market.
Habitable rooms:	Refers to those rooms that are used for living and excludes bathrooms, toilets, storerooms, granaries, offices, garage etc.
High/Medium/Low density residential:	This relates to specific number of persons/households meant to occupy a specific acreage of land.

Home builder:	Refers to a person who constructs a house to be used as shelter by his household.
Household head:	The most responsible member of the household who makes key decisions affecting the household on a day to day basis. It could be the father, the mother or a child, or any other responsible member of the household depending on the status of the household.
Household work (Home maker, house wife):	Is a person of either sex involved in household chores in his/her own home e.g. fetching water, cooking, babysitting, etc, who did not work for pay or profit or seek work.
Household:	A person or group of persons who reside in the same homestead/compound but not necessarily in the same dwelling unit, have same cooking arrangements and are answerable to the same household head.
Housing developer:	Person or institution constructing houses for sale or for renting out.
Housing:	Refers to construction, acquisition, renting, provision of basic services and other related phenomena that are all geared towards availing structures with proper social amenities (water, electricity etc.) which mankind can use for shelter or for commercial purposes.
Incapacitated:	Is somebody who cannot work due to some form of disability or illness. Do not assume that all physically disabled persons cannot work.
Incremental construction financing:	Constitutes financing provided for the construction of housing in stages. The Lender provides the financing knowing that the borrower will not complete the whole housing unit with the loan, and knowing that the borrower will need other capital to complete his house.
Indemnity cover:	Is a form of professional liability insurance that helps protect professional advice and service providing individuals and companies from bearing the full cost of defending against negligence claims made by a client, and damages awarded in such a civil law suit.
Informal Settlement:	Is a settlement where inhabitants are confronted and exposed to 1) insecure residential status, 2) inadequate access to safe water, 3)inadequate access to sanitation and other basic infrastructure and services, 4)poor structural quality of housing and 5) overcrowding
Intern:	A person undergoing specific training and attached to an institution to gain experience and knowledge.
Jabias/tanks:	Rainwater harnessed from any catchment into a hole/tank and used for domestic purposes.
Lake:	Usually bigger than a pond but has water collecting in it through rain, rivers etc. It is different from a dam in that it is not man-made.
Land acquisition financing:	Is where a borrower is provided with finance to purchase land with no improvements on it. The financing is provided to simply buy the land as an asset on which he may build in the future.
Loans for construction of rental properties:	Constitutes financing provided to owners of rental housing units, where the units are already constructed. The borrower is expected to pay back the loan from the rental proceeds.
Loans:	Constitute debt taken by an institution or individual, where one party is the borrower and the other the lender. Interest is typically expected to be paid monthly, though different loan interest repayments can be negotiated between the lender and the borrower. For this survey, 'Short term loans 'are loans which are less than 2 years, and 'Long term loans' are loans which are more than 2 years.

Main sewer:	Means the sewage liquid waste from the structure is drained by pipes into a main trunk sewer line. This type of sewage disposal is common in main urban centres like Nairobi, Mombasa, etc.
Maissionette:	Is a housing type that is typically attached to other similar housing types on either end to form a row of similar 'maissionettes.' Maissionette's are typically double storey, but may be higher. Each maissionette has access to the ground floor level, and this access is private to a particular maissionette. It is not shared with neighbouring. There is therefore a greater sense of privacy than living in vertical flats.
Manyatta / Traditional house:	Are houses which are constructed in traditional designs and using traditionally locally available materials by particular ethnic groups.
Micro Finance Institutions:	Specialized finance providers who mainly offer flexible financing options including but not limited to flexible loan repayment terms. They may be formally registered or may operate as non-profit making ventures.
Mortgage financing:	Is financing for homebuyers who are buying units which are already constructed. It is generally provided for a longer duration than the loans above, and is for a set repayment rate every month for the duration of the loan. Please note that loans which use a real estate security, but are not for purposes of providing housing are to be disregarded. e.g. If a bank lends to someone for their business, and the borrower pledges their home or other real estate as a security for this business loan, it is disregarded from this questionnaire.
Mortgage insurance:	An insurance policy which compensates lenders or investors for losses due to the default of a mortgage loan.
Multi-residential housing projects:	Refers to more than one residential houses in the same plot. These may or may not be attached to one another.
Multi-commercial housing projects:	Refers to more than one commercial houses in the same plot. These may or may not be attached to one another.
Multi-institutional housing projects:	Refers to more than one institutional houses in the same plot, which may or may not be attached to one another.
Non-Governmental Organizations (NGOs):	Are non-profit making organizations which are registered to give specific economic or social services.
Not seeking work:	A person who is neither working nor is looking for work because he/she is discouraged, but would usually take up a job when offered one.
Other projects:	Referred to other housing projects not covered by these definitions
Own-account worker (not employing any employee):	This category comprises self-employed persons who worked on own business or worked on own/ family business for family gain. It includes artisans, mechanics, traders in farm produce and family workers offering services in own or family business.
Pensioner, retired, elderly person:	Is a person who reported that during the last week preceding the survey, he/she was not engaged in any economic activity because he/she had retired either due to age, sickness or voluntarily. If a person has retired and is doing some work/business he/she was coded appropriately.
Peri-Urban:	Is the area beyond the central built-up area that forms the transition between urban and rural areas. As a result of extension of town boundaries, peri-urban areas are formerly rural and agricultural lands that are gradually turning to urban land use.

Piped water:	Means water drawn through pipes installed in a dwelling unit and originating in a central (public) source.
Plan approval:	The act of giving a go ahead for a project to be implemented as designed.
Pond:	A small area of still water. Usually this water collects after rain or through an underground drainage.
Prefabricated panels:	Are sections of a house that are factory designed and made ready for assembly on site.
Professional body:	Is a recognized institution established to cater and ensure compliance of ethics by specific professionals.
Rainwater harvesting:	Is harnessing, and storage of rainwater for domestic and non-domestic purposes.
Registered professional:	Professional who has done and passed professional examinations administered by his/her professional body and his/her bio-data is registered with the registrar of the body.
Reinforced concrete panels:	Are panels made of concrete (cement, sand, and ballast) and re-enforced with metal mesh or metal bars. They could be walling, roof or floor material.
Rural:	Is a large and isolated part of an open or agricultural country, including trading, market and service centres with relatively low population concentrations of less than 2,000 people.
Savings and Credit Cooperative Society (SACCO):	Is a regulated group saving and lending institution. It comprises autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled association. It may include a deposit taking Front Office Activity (FOSA) or non-deposit taking.
Seeking work:	A person who in the week preceding the survey was actively looking for work belongs to this category. This category did not include the under-employed (i.e. those who had paid work but wished to leave for better opportunities). Persons who had no work at all and were looking for work were categorised under this category. If a person was working on the family holding but was seeking work, he/she was considered as "contributing family worker" and not as "seeking work". This category included only persons who were available full time for work and hence were actively looking for it.
Self-help groups:	Are groups that facilitate savings and borrowing within groups that are mostly familiar with each other mainly on a non-formal basis. However, some self-help groups are registered as either church based organizations, community based organizations or social welfare groups.
Septic tank:	Is an underground tank constructed in specific design into which an individual household's sewage is conveyed and remains there until it is emptied.
Sewer treatment systems:	Is the cleaning and recycling of sewage/domestic waste for non-domestic purposes.
Shanty:	This typically denotes an informal house. The location of the house (in an urban, rural or peri-urban area, or in a high income or middle income or low income area) is not important. What is important is whether the structure itself appears to be of a temporary nature and if the building materials appear to be temporary building materials.
Share capital:	Is equity contributed by shareholders of the company.
Single-residential housing projects:	Referred to stand alone houses (bungalows, maisionettes, villa etc.)
Soak pit:	Is an underground dug pit laid with stones and pebbles up to the ground level to enable waste water to dissipate into the ground water system.
Solar Energy Systems:	Solar heated water, solar heated power.

Spring:	Is a place where water wells up from earth or underground.
Stabilized Soil Blocks:	Are un-burnt building blocks made by compacting soil mixed with little cement and sand. This is a walling material.
Stamp duty:	Is a tax that is levied on documents such as land transactions. In Kenya, this is tax is paid to Kenya Revenue Authority for any property transfer and currently stands at 4% in urban areas and 2% in rural areas of the value of the property.
Stream/river:	Is a naturally flowing source of water.
Structure:	A building used for the purposes of residential, business or any other activity.
Student:	Is a person who spent most of his/her time in a regular educational institution (primary, secondary, college, university etc.) and hence not available for work. If, for instance, a student was on holiday during the past week preceding the survey and may have been engaged in gainful employment, he/she was coded as employed.
Swahili house:	This connotes communal living in a formal structure. The structure usually comprises separate rooms and open or closed common areas, and a separate area for toilet(s), shower(s) and kitchen(s) which are shared. The traditional Swahili house was built in a rectangular shape, with rooms in along 3 walls, and the shared areas along one wall. There would be closed and open common spaces inside the structure. However, long vertical rooms with shared toilet, shower, and kitchen facilities at one end are also included in this definition.
Urban:	Is a built-up and compact human settlement with a population of at least 2,000 people defined without regard to the local authority boundaries. It is normally a trading, market and service centre that provides goods and services to both the resident and surrounding population and therefore sometimes referred to as an urban centre.
Valuation fees:	Fees paid for the valuation of the property. The valuation is usually done by a valuer appointed by the institution.
Vendor:	Refers to water mobile sellers or distributors to households. Examples of ferrying include cart, bicycle, individuals, truck etc. The source of the water may be known or not, by the households.
Volunteer:	Is a person who engages provision of services and labour for a particular period and place without pay.
Well:	Is a man-made shaft dug in the ground from which water is obtained. Water is drawn using buckets.

Chapter 3

RENTERS AND OWNER OCCUPIER CHARACTERISTICS

3.1 Introduction

This chapter presents details of household characteristics for the owner occupier and renter households. Focus is made on size, types of households, type of dwelling, type of building materials and amenities. This is in addition to the age, economic status and education of household members.

The owner occupations referred to here are households that reside in their own houses irrespective of the mode of acquisition. Renters are those who pay rent either directly or indirectly to their landlords.

3.2 Household Characteristics

Information on household characteristics provides details on resources required towards provision of goods and services to the population. Household characteristics, particularly composition, are critical in defining the conditions of living. The survey captured details on:- composition by age and sex, place of residence (urban and rural), household size, education, housing facilities as well as income, expenditure and savings within the household.

3.2.1 Number of Households

The survey results reflect a total of 9,180,716 households nationally. This constituted 5,491,367 rural households and 3,689,349 urban households. This compares well with the 2009 Kenya Population and Housing Census (KPHC) as depicted in Table 3.1.

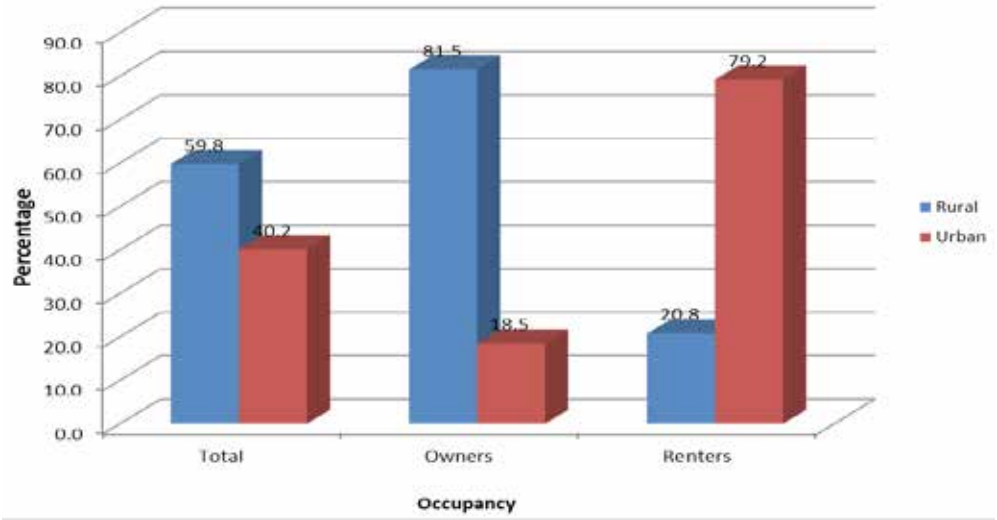
Table 3.1: Number of Households by place of residence

		Rural	Urban	Total
2012/2013 KNHS	Total	5,491,367	3,689,349	9,180,716
	Owners	4,810,531	1,090,189	5,900,720
	Renters	680,836	2,599,161	3,279,997

		Rural	Urban	Total
2009 KPHC	Total	5,429,236	3,338,718	8,767,954
	Owners	4,832,020	1,128,487	5,960,507
	Renters	597,216	2,210,231	2,807,447

Overall, out of the 9,180,716 households estimated from the survey, 59.8 per cent are in rural areas while 40.2 per cent are in urban areas. The proportion of owner occupier households who reside in rural area is high at 81.5 per cent compared to 18.5 per cent for those in urban areas. On the contrary, 79.2 per cent of the renting households reside in urban areas while 20.8 per cent reside in rural areas. In principle, renting is mainly associated with households living in the urban areas, whereas owner occupier households are largely a rural phenomenon. This comparison is presented in Figure 3.1.

Figure 3.1: Percentage distribution of households by occupancy and place of residence



3.2.2 Average Household Size

Table 3.2 shows average household size by occupancy and place of residence. Information on household size is useful in the determination of density. The results show that nationally, the average household size was 4.2 members. The average household sizes for rural and urban households were 4.6 and 3.4, respectively.

Further it is evident that renting households have smaller household sizes compared to owner occupier households. Nonetheless, there was no difference in household size between the urban and rural household renters.

Table 3.2: Average Household sizes

Rural		Average Household Size		
		Urban	Overall	
2012/2013 KNHS	Total	4.6	3.4	4.2
	Renters	3.1	3.1	3.1
	Owners	4.8	4.6	4.8
2009 KPHC		4.9	3.6	4.4

Table 3.3 shows that, Bomet, West Pokot and Trans Nzoia counties recorded high average household sizes of 5.7, 5.6 and 5.3 members respectively while Kirinyaga, Kiambu, Nyeri and Nairobi recorded low sizes of 3.1, 3.2, 3.2 and 3.3 members respectively.

Table 3.3: Average Household Size by County

	Total	Average Household Size
National	9,180,716	4.2
National Rural	5,491,367	4.6
National Urban	2,973,279	3.4
National Peri-Urban	716,070	4.3
COUNTIES		
BARINGO	121,966	5
BOMET	156,634	5.7
BUNGOMA	339,915	5.2
BUSIA	107,393	5.2
ELGEYO MARAKWET	85,344	4.3
EMBU	138,003	3.6
HOMABAY	220,807	4.6
ISIOLO	33,166	4.2
KAJIADO	191,919	3.8
KAKAMEGA	376,748	4.4
KERICHO	180,841	4.9
KIAMBU	500,472	3.2
KILIFI	221,008	5
KIRINYAGA	165,031	3.1
KISII	262,652	4.2
KISUMU	244,529	4
KITUI	215,060	5
KWALE	134,826	5.3
LAIKIPIA	109,222	3.4
LAMU	24,634	3.6

	Total	Average Household Size
MACHAKOS	277,277	4
MAKUENI	195,294	4.3
MARSABIT	59,960	5.1
MERU	334,489	4
MIGORI	193,163	4.6
MOMBASA	299,439	3.4
MURANG'A	272,402	3.4
NAIROBI	1,128,693	3.3
NAKURU	452,820	4
NANDI	169,448	4.9
NAROK	187,017	4.9
NYAMIRA	140,139	5.2
NYANDARUA	152,812	3.8
NYERI	215,824	3.2
SAMBURU	52,388	4.5
SIAYA	213,400	5.1
TAITA TAVETA	79,950	3.7
TANA RIVER	52,234	5.2
THARAKA NITHI	92,796	4.1
TRANS-NZOIA	187,506	5.2
TURKANA	136,242	5.1
UASIN GISHU	223,618	4.5
VIHIGA	130,465	3.6
WEST POKOT	103,169	5.6

3.2.3 Household Headship by Sex and County

Table 3.4 indicates that the proportion of female headed households at the national level stood at 27.9 per cent, while in the rural and urban areas, it stood at 28.6 per cent and 26.0 per cent respectively. The table also indicates that the proportion of male headed households at the national level stood at 72.1 per cent, while in the rural and urban areas, it stood at 71.4 per cent and 74.0 per cent respectively. The proportion of female headed households in the counties ranged from a low of 14.0 per cent in Nyamira County to a high of 51.2 per cent in Homa Bay County. The male proportion of male headed households in the counties ranged from a high of 86.0 per cent in Nyamira County to a low of 48.8 per cent in Homa Bay County.

Table 3.4: Household headship by sex and County

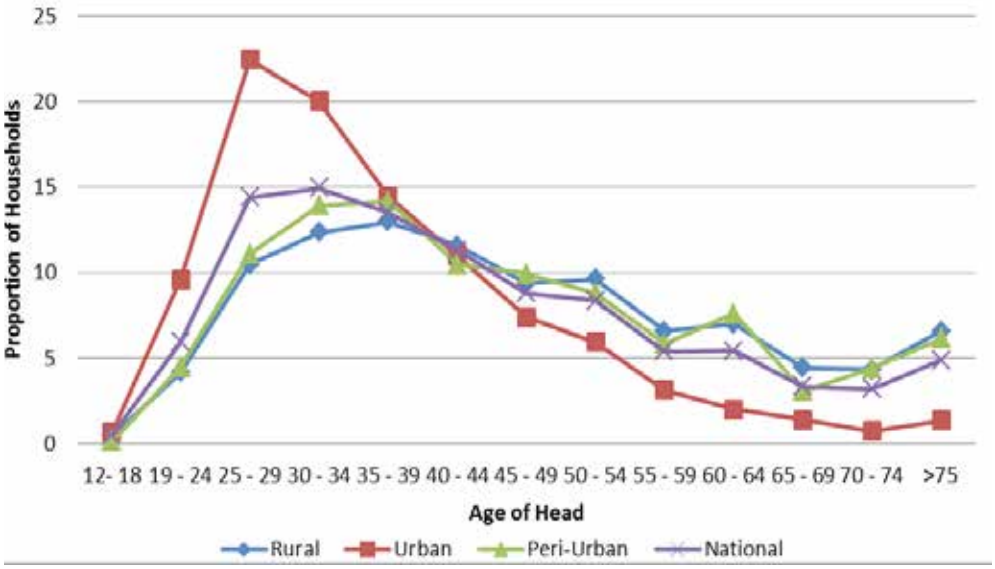
	Total Households	Male headed Households		Female Headed Households	
		Number	%	Number	%
NATIONAL	8,924,845	6,432,758	72.1	2,492,088	27.9
RURAL	5,487,074	3,918,709	71.4	1,568,366	28.6
URBAN	2,768,559	2,047,921	74.0	720,638	26.0
PERI-URBAN	669,212	466,128	69.7	203,084	30.3
COUNTIES					
BARINGO	126,300	93,533	74.1	32,767	25.9
BOMET	181,534	138,898	76.5	42,636	23.5
BUNGOMA	293,384	220,535	75.2	72,849	24.8
BUSIA	176,488	125,803	71.3	50,686	28.7
ELGEYO/MARAKWET	87,506	71,391	81.6	16,115	18.4
EMBU	126,502	89,669	70.9	36,833	29.1
HOMA BAY	237,302	115,710	48.8	121,591	51.2
ISIOLO	35,406	25,259	71.3	10,148	28.7
KAJIADO	179,600	142,257	79.2	37,344	20.8
KAKAMEGA	380,817	272,169	71.5	108,648	28.5
KERICHO	136,827	104,209	76.2	32,618	23.8
KIAMBU	455,648	345,805	75.9	109,843	24.1
KILIFI	213,344	156,353	73.3	56,991	26.7
KIRINYAGA	145,606	107,330	73.7	38,276	26.3
KISII	252,363	163,417	64.8	88,946	35.2
KISUMU	252,996	174,532	69.0	78,464	31.0
KITUI	212,676	108,820	51.2	103,856	48.8

	Total Households	Male headed Households		Female Headed Households	
		Number	%	Number	%
KWALE	133,195	97,614	73.3	35,581	26.7
LAIKIPIA	102,080	77,546	76.0	24,534	24.0
LAMU	23,040	18,646	80.9	4,393	19.1
MACHAKOS	249,235	167,263	67.1	81,972	32.9
MAKUENI	181,458	118,902	65.5	62,555	34.5
MARSABIT	79,343	61,242	77.2	18,102	22.8
MERU	324,201	259,791	80.1	64,409	19.9
MIGORI	205,914	139,938	68.0	65,976	32.0
MOMBASA	286,134	221,520	77.4	64,615	22.6
MURANGA	252,895	177,420	70.2	75,476	29.8
NAIROBI	1,045,176	783,519	75.0	261,657	25.0
NAKURU	440,087	325,337	73.9	114,750	26.1
NANDI	161,062	130,664	81.1	30,399	18.9
NAROK	194,044	138,049	71.1	55,996	28.9
NYAMIRA	131,770	113,363	86.0	18,407	14.0
NYANDARUA	141,677	97,835	69.1	43,841	30.9
NYERI	194,073	130,867	67.4	63,206	32.6
SAMBURU	56,636	46,369	81.9	10,267	18.1
SIAYA	227,066	131,862	58.1	95,203	41.9
TAITA TAVETA	73,076	51,389	70.3	21,687	29.7
TANA RIVER	52,451	42,890	81.8	9,561	18.2
THARAKA NITHI	85,747	64,259	74.9	21,488	25.1
TRANS-NZOIA	181,392	140,020	77.2	41,372	22.8
TURKANA	152,978	106,061	69.3	46,916	30.7
UASIN GISHU	211,993	160,277	75.6	51,715	24.4
VIHIGA	127,721	79,875	62.5	47,846	37.5
WEST POKOT	116,101	94,549	81.4	21,551	18.6

3.2.4 Proportion of Households by Age of Head

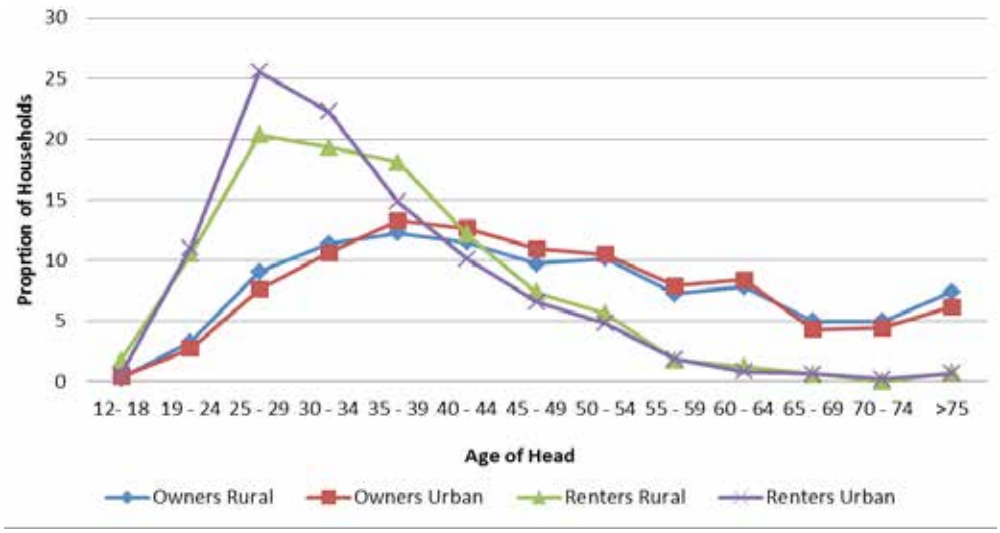
Figure 3.2 shows that the ages of household head both in the rural and urban areas are evenly spread but peak at between 25 to 34 years. It is notable that in core urban areas the household heads are concentrated within the age cohort of 25 - 29 years. In rural and peri urban areas most of household heads fall within the age cohort of 35 – 39 years. In essence core urban household heads are largely younger compared to rural and peri urban household heads.

Figure 3.2: Proportion of Households by Age of Head



In figure 3.3, comparison between the renters and owner occupier households reveals that 24.5 per cent of the renting households are young and fall in the age cohort of 25-29 years. Further, 15.5per cent of the owner occupier households have the heads falling in the age range 40 – 44 years. Apparently, there is no significant difference in the age of households heads who are renting in the urban and rural.

Figure 3.3: Proportion of households by age of head and residence



3.2.5 Distribution of Household Heads by Age and Sex

Table 35 shows distribution of household heads by age and sex. Overall, female headed households were 27.8 per cent. A large proportion of the heads for both male and female, 32.9 per cent and 9.9 per cent respectively were in the age bracket 25-39. The age group 30-34 accounted for 14.9 per cent of the household heads. The household headed by persons aged 70 years and above were 8.0 per cent with female accounting for 3.2 per cent of all heads.

Table 3.5: Distribution of household heads by sex

	SEX		
Age cohort	**Male (%)**	**Female (%)**	**Number**
10-14	..	..	800
15-19	0.4	0.2	52,478
20-24	3.7	2.0	527,656
25-29	11.1	3.3	1,322,300
30-34	11.6	3.3	1,372,212
35-39	10.2	3.3	1,241,237
40-44	8.1	3.2	1,036,893
45-49	6.4	2.4	808,422
50-54	6.1	2.3	767,572
55-59	3.8	1.5	494,937
60-64	3.6	1.9	497,821
65-69	2.2	1.1	306,661
70 and above	4.8	3.2	740,315
No Value Given	0.1	0.0	11,413
Total			9,180,716

.. Negligible

3.2.6 Household Heads by County, Age and Sex

Information on the distribution of household heads by county, age and sex is presented in Table 3.6. Nationally, the total number of households headed by persons below age 15 (hereafter referred to as child headed households) was 12,213. Urban areas accounted for a high of 9, 334. Nairobi, Mombasa and Nakuru counties had the highest numbers of the child headed households in that order. Notable also is that the highest child-female-headed households were recorded in Nairobi, Uasin Gishu, Kilifi and Machakos counties at 1718 , 691, 505 and 533 respectively. The highest child-male-headed households (2,804) was recorded in Mombasa county. The total number of elderly (over 75 years)

headed households were about 446,000 majority (as expected) of which were in the rural areas. The highest number of elderly headed households was recorded in kakamega County (38,887) followed by Muranga and Nyeri counties at 22,488 and 20,072 respectively.

Table 3.6: Household heads by age and sex

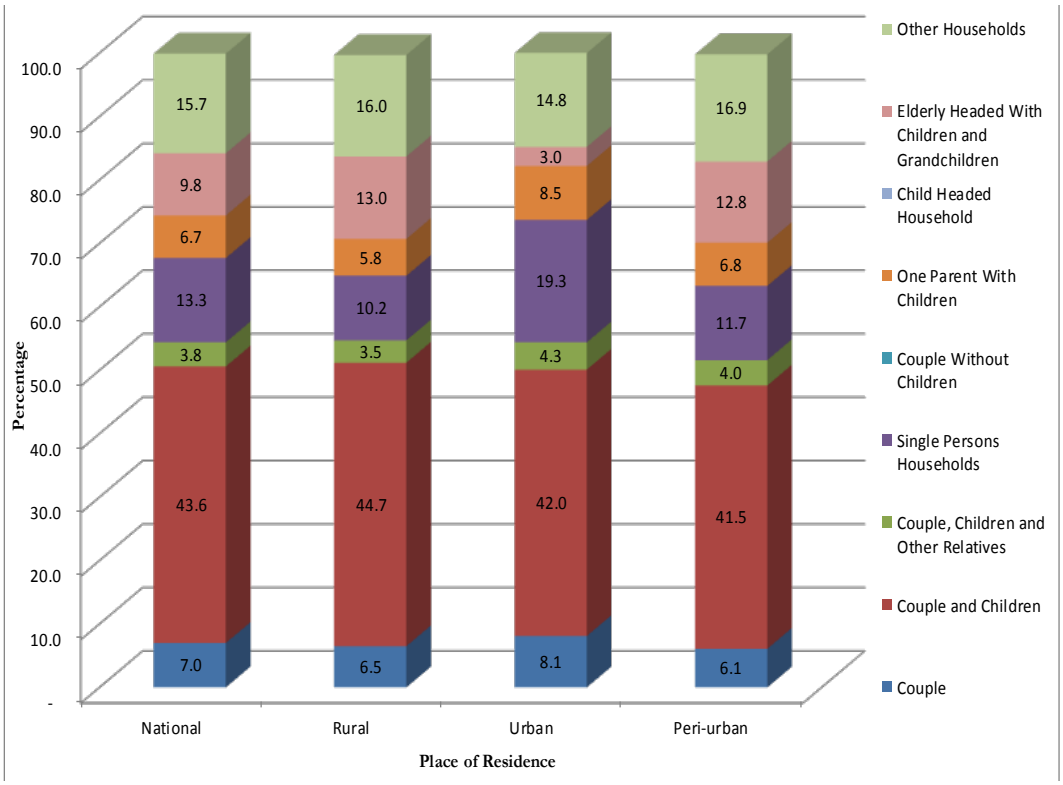
	TOTAL	FEMALE HEADED			MALE HEADED			TOTAL		
		Below 15 years	15-74 years	Over 75 years	Below 15 years	15-74 years	Over 75 years	Below 15 years	15-74 years	Over 75 years
	9,180,716	3,832	2,365,584	183,336	8,381	6,357,347	262,235	12,213	8,722,932	445,572
Rural	5,491,367	1,413	1,414,152	148,810	1,466	3,713,287	212,239	2,879	5,127,439	361,049
Urban	2,973,279	2,419	759,597	11,674	6,915	2,163,816	28,859	9,334	2,923,413	40,533
Peri-urban	716,070	-	191,835	22,852	-	480,245	21,138	-	672,080	43,990
BARINGO	121,966	-	27,819	3,831	-	86,836	3,480	-	114,655	7,311
BOMET	156,634	-	34,396	3,143	-	112,240	6,855	-	146,636	9,998
BUNGOMA	339,915	-	78,115	6,041	-	244,534	11,224	-	322,650	17,266
BUSIA	107,393	-	27,428	3,170	-	70,927	5,869	-	98,354	9,039
ELGEYO/ MARAKWET	85,344	-	13,536	2,190	-	66,173	3,445	-	79,709	5,635
EMBU	138,003	-	36,458	3,711	-	90,671	7,163	-	127,129	10,874
HOMA BAY	220,807	-	106,282	6,779	-	103,131	4,615	-	209,413	11,394
ISIOLO	33,166	-	8,965	536	229	22,902	534	229	31,866	1,070
KAJIADO	191,919	-	-	-	-	151,050	857	-	-	-
KAKAMEGA	376,748	-	95,661	11,668	-	242,200	27,220	-	337,861	38,887
KERICHO	180,841	-	37,167	5,943	-	137,022	710	-	174,189	6,652
KIAMBU	500,472	-	110,706	10,302	-	373,201	6,263	-	483,908	16,565
KILIFI	221,008	505	56,455	2,100	-	157,114	4,834	505	213,569	6,934
KIRINYAGA	165,031	-	35,919	7,495	-	117,104	4,513	-	153,023	12,008
KISII	262,652	-	79,957	12,615	-	162,710	7,370	-	242,667	19,985
KISUMU	244,529	-	70,946	5,284	-	162,177	6,122	-	233,123	11,406
KITUI	215,060	-	97,499	7,501	-	99,869	10,192	-	197,368	17,692
KWALE	134,826	-	33,555	2,462	174	93,129	5,506	174	126,684	7,968
LAIKIPIA	109,222	-	24,182	2,367	780	80,374	1,520	780	104,555	3,886
LAMU	24,634	-	4,588	109	-	19,899	38	-	24,486	147
MACHAKOS	277,277	533	78,927	10,844	266	179,275	7,432	799	258,202	18,276
MAKUENI	195,294	-	62,653	4,630	-	121,353	6,657	-	184,007	11,287
MARSABIT	59,960	-	11,772	1,903	-	43,566	2,720	-	55,338	4,622
MERU	334,489	-	63,184	3,409	-	253,897	13,999	-	317,081	17,408

	TOTAL	FEMALE HEADED			MALE HEADED			TOTAL		
		Below 15 years	15-74 years	Over 75 years	Below 15 years	15-74 years	Over 75 years	Below 15 years	15-74 years	Over 75 years
MIGORI	193,163	-	57,436	4,461	-	127,331	3,935	-	184,767	8,396
MOMBASA	299,439	-			2,804	227,382	1,634	2,804		
MURANGA	272,402	-	74,564	6,216	-	175,349	16,272	-	249,913	22,488
NAIROBI	1,128,693	1,718	280,062	786	1,126	833,349	11,652	2,845	1,113,411	12,438
NAKURU	452,820	189	116,777	1,262	2,049	323,110	9,434	2,238	439,887	10,695
NANDI	169,448	-	26,554	5,443	-	130,189	7,262	-	156,743	12,705
NAROK	187,017	-	53,368	598	139	128,249	4,664	139	181,616	5,262
NYAMIRA	140,139	-	17,118	2,458	-	113,429	7,134	-	130,547	9,591
NYANDARUA	152,812	-	41,780	5,458	-	101,208	4,367	-	142,988	9,825
NYERI	215,824	-	60,716	9,578	-	135,036	10,495	-	195,752	20,072
SAMBURU	52,388	-			-	40,732	2,052	-		
SIAYA	213,400	116	77,500	11,862	-	116,991	6,931	116	194,491	18,793
TAITA TAVETA	79,950	-	23,132	505	254	53,411	2,647	254	76,544	3,152
TANA RIVER	52,234	-	9,357	164	-	40,611	2,102	-	49,969	2,266
THARAKA NITHI	92,796	-	19,399	3,954	-	65,364	4,079	-	84,763	8,033
TRANS-NZOIA	187,506	-	40,166	2,605	-	141,507	3,227	-	181,674	5,832
TURKANA	136,242	80	38,869	3,237	265	91,488	2,303	345	130,357	5,540
UASIN GISHU	223,618	691	52,106	1,953	-	165,440	3,428	691	217,547	5,381
VIHIGA	130,465	-	45,462	3,412	-	75,581	6,009	-	121,044	9,421
WEST POKOT	103,169	-	17,813	1,356	294	80,233	3,474	294	98,046	4,830

3.2.7 Household by Type and Residence

Figure 3.4 depicts the distribution of households by type and residence. The results reflect that over 40 per cent of households nationally (43.6%) as well as in rural (44.7%) and urban (42.0%) comprised couples living with their children. Most of the other types of households range between 6 per cent and 12 per cent. The type of household that registered the lowest percentage (below 1%) both in rural and urban areas are the couples without children. . The proportion of single person households and single parents living with children are highest in urban areas at 19.3per cent and 8.5per cent respectively.

Figure 3.4: Households by type and residence



3.2.8 Income and Expenditure

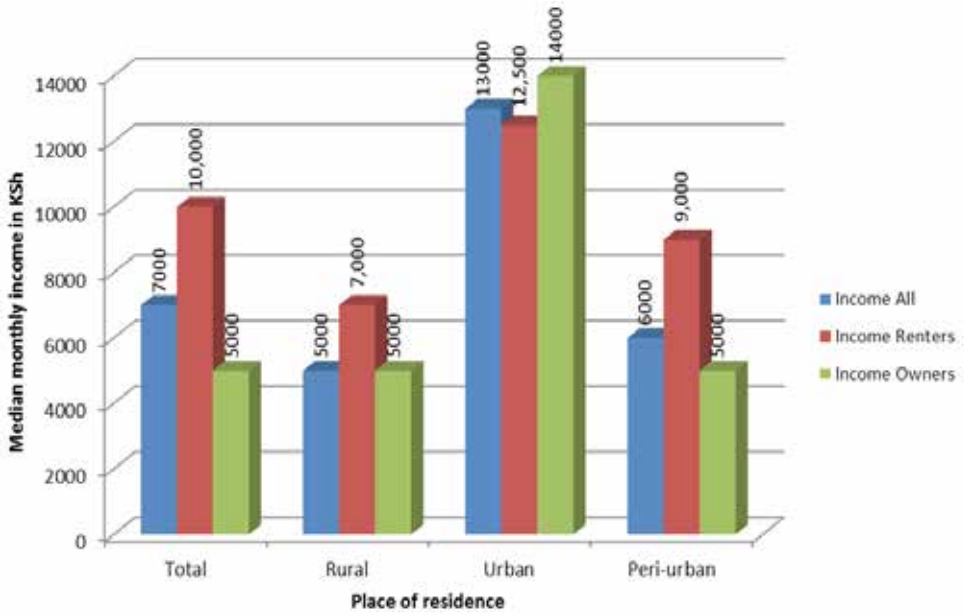
Household income, expenditure and savings are indicators of the well-being of the household. This is particularly important as it impacts on the ability of the household to afford housing within their neighbourhood and beyond. The results as shown in table 3.7 reveal that the median monthly income, expenditure and savings stood at KSh 7,000, KSh 6,000 and KSh 2,000 respectively. As would be expected, the median monthly income, expenditure and saving is higher in urban compared to rural areas.

Table 3.7: Households by median monthly income, expenditure and savings

	Household income (KSh)	Household expenditure (KSh)	Household savings (KSh)
National	7,000	6,000	2,000
Rural	5,000	5,000	1,500
Urban	13,000	9,700	3,000
Peri-urban	6,000	5,000	2,000

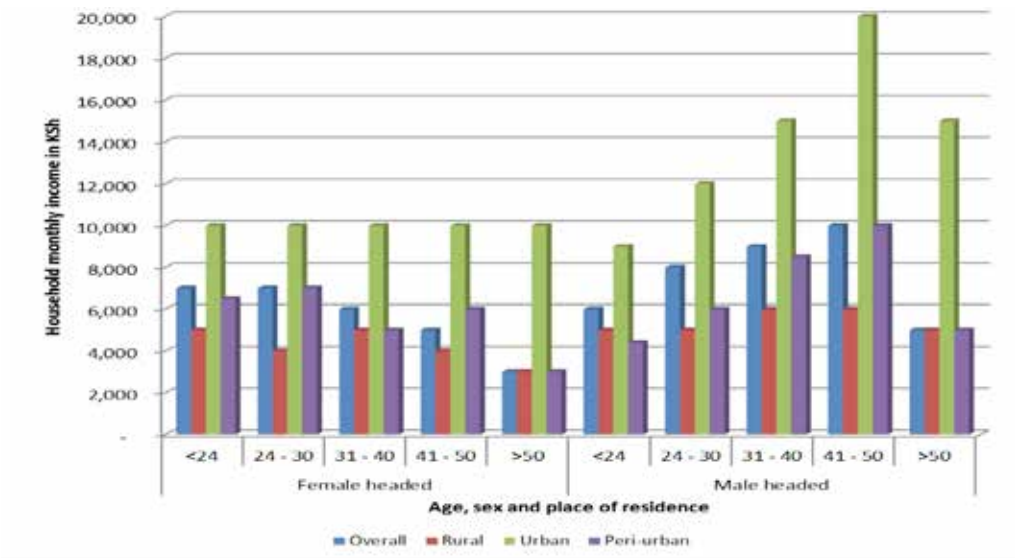
Nairobi, Mombasa and Kiambu counties recorded the highest median monthly income of KSh 16,000, KSh 11,500 and KSh 11,000 respectively while Busia and West Pokot counties recorded the least incomes at KSh 3,000 and KSh 2,000 respectively. From figure 3.5, urban owner occupiers' incomes are higher compared to those of urban renters. In rural and peri-urban areas, the incomes of renters are higher than those of owner occupiers.

Figure 3.5: Median monthly incomes by tenure and residence



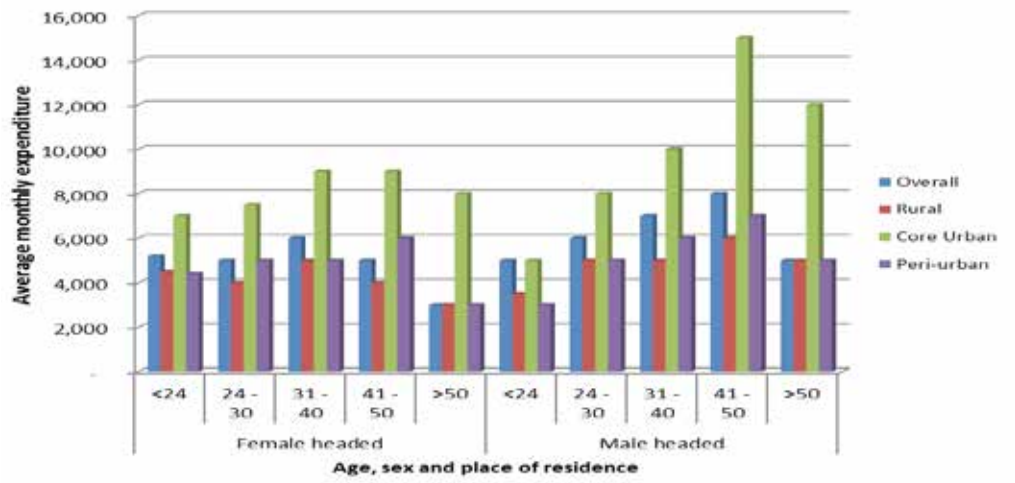
From the survey results in figure 3.6, the income of female headed household was generally lower than that of their male counterparts. There was no marked difference in incomes of female headed households across the age cohorts especially in the urban areas. However, marked disparities were observed in the incomes of male headed households between the different age cohorts. Notably, incomes of the male headed households were highest for the age cohort of 41 – 50 years.

Figure 3.6: Household by income, age and sex of head



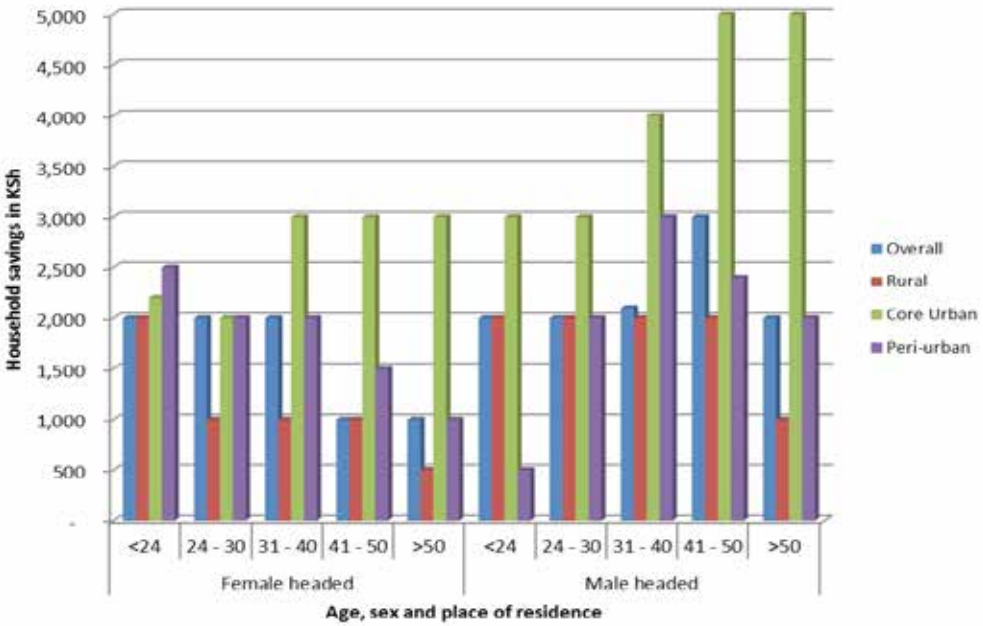
The survey as shown in figure 3.7 revealed that expenditure in male headed households was generally higher than that in female headed households. This is consistent with the scenario of household incomes by age and sex of household head. The expenditure of male headed households was noted to be highest within the age cohort of 41-50 years. As was evident with incomes, the expenditure of both male and female headed households is higher in urban areas compared to rural areas.

Figure 3.7: Monthly average households expenditure by age, place of residence and sex of household head



Analysis of saving within the age groups, place of residence and sex is presented in Figure 3.8. The data shows that for female headed households, savings are higher in the younger age groups. For the male headed households, the highest savings are recorded in the 41-50 age cohort. As is the case with income and expenditure, the level of savings for urban households is generally higher compared to rural household for both male and female headed households.

Figure 3.8: Households savings by age, sex and place of residence of household head



3.3 Economic Activity Status of Household Members

In the 2012/2013 KNHS, information on the economic activity status was collected for all individuals aged 5 years and above. Information was sought for all household members to indicate whether during the reference period they were employees, employers, own-account workers, contributing family workers, member of a producer cooperative, volunteer, intern, seeking work, not seeking work, student, household work, pensioner, retired, elderly persons, disabled or sick/ill. These categories were collapsed into four broad groups: - those engaged, seeking work, economically inactive (pensioner, retired, elderly person, incapacitated, other economically inactive-students and home makers) and those whose economic activity status could not be determined. It should be noted that the proportion of those seeking work here does not necessarily represent the unemployment rate of the country as there are other attributes also considered in the computation of the unemployment rate. Three broad age categories (5 years and

above, 15 years and above, and 15 – 64 years) are considered in the subsequent analysis provided in tables 3.8, 3.9 and 3.10.

Details on the economic activity of the population seven days prior to the interview date are provided in Table 3.8. Results from the survey indicate that 41.3 per cent of those aged 5 years and above were engaged in an economic activity. Further, 50.6 per cent were economically inactive. In the core urban areas, the engaged proportion constituted 45.5 per cent while the economically inactive accounted for 46.3 per cent. At the county level, the highest proportion of engaged population was recorded in Kirinyaga (60.1%). This was followed by Tharaka Nithi County with 54.4 per cent. In Nairobi County, the engaged proportion was 45.6 per cent. The lowest proportion of those undertaking an economic activity was recorded in Kitui County. The highest proportion of the incapacitated population (1.3%) was recorded in Siaya County

Table 3.8: Household members by economic activity (5 yrs and above)

	Total	Engaged	Seeking work	Economically inactive			Status not determined
	Number	%	%	Pensioner, retired, elderly person %	Incapacitated %	Other Economically inactive %	%
Kenya	33,154,873	41.3	3.6	1.7	0.3	50.6	2.6
Rural	21,830,627	39.9	3.0	1.9	0.3	52.0	2.8
Core Urban	8,621,524	45.5	5.0	1.1	0.2	46.3	2.0
Peri-urban	2,702,722	39.5	3.0	2.5	0.3	52.4	2.3
BARINGO	526,873	37.6	2.0	2.9	0.3	55.8	1.5
BOMET	781,576	43.4	0.7	1.3	0.0	52.7	2.0
BUNGOMA	1,480,778	41.4	5.4	1.1	0.2	48.4	3.5
BUSIA	483,165	30.3	1.5	1.3	0.5	61.4	5.0
ELGEYO MARAKWET	329,265	38.8	2.5	0.6	0.3	52.2	5.6
EMBU	443,943	49.3	1.3	0.6	0.3	47.9	0.6
HOMA BAY	866,835	39.1	2.1	0.5	0.3	54.5	3.5
ISIOLO	120,104	29.9	2.0	1.4	0.7	63.7	2.4
KAJIADO	614,114	42.7	3.2	0.9	0.0	51.5	1.7
KAKAMEGA	1,449,084	33.3	4.1	1.4	0.7	57.3	3.1
KERICHO	769,564	45.2	1.1	0.6	0.1	52.4	0.7
KIAMBU	1,360,989	52.8	3.3	0.9	0.1	40.5	2.5
KILIFI	909,132	41.1	1.8	3.4	0.3	48.1	5.2
KIRINYAGA	465,468	60.1	0.7	1.6	0.0	36.6	0.9
KISII	967,132	47.0	1.6	1.6	0.1	49.2	0.6
KISUMU	836,486	35.8	5.5	4.7	0.2	53.1	0.7

	Total	Engaged	Seeking work	Economically inactive			Status not determined
KITUI	930,459	22.5	4.5	4.9	0.2	65.7	2.3
KWALE	602,850	30.8	6.3	1.9	0.2	57.9	2.9
LAIKIPIA	321,171	48.8	3.3	2.0	0.2	42.6	3.1
LAMU	74,230	46.1	1.2	2.9	0.2	48.1	1.6
MACHAKOS	1,015,065	33.5	4.1	4.4	0.3	52.3	5.4
MAKUENI	749,402	28.6	4.3	1.9	0.1	63.5	1.5
MARSABIT	263,958	34.5	3.0	3.0	0.1	54.7	4.7
MERU	1,176,304	51.1	7.1	1.5	0.1	39.7	0.4
MIGORI	736,435	41.4	1.6	1.0	0.0	54.2	1.8
MOMBASA	870,381	42.0	8.6	1.4	0.2	44.3	3.6
MURANGA	832,499	50.8	1.9	1.8	0.3	43.9	1.3
NAIROBI	3,233,788	45.6	5.1	1.3	0.1	46.5	1.4
NAKURU	1,551,389	39.8	3.5	1.3	0.1	52.0	3.4
NANDI	744,934	33.5	3.0	1.0	0.6	60.8	1.1
NAROK	744,565	36.3	3.3	0.2	0.4	48.6	11.3
NYAMIRA	646,618	50.3	3.0	0.9	0.4	43.9	1.4
NYANDARUA	511,561	49.6	2.9	2.1	0.5	42.7	2.2
NYERI	621,628	53.2	1.4	3.0	0.4	40.7	1.3
SAMBURU	202,605	37.7	5.1	1.4	0.1	46.0	9.8
SIAYA	927,192	42.4	0.8	0.9	1.3	52.1	2.6
TAITA TAVETA	256,307	37.3	3.5	3.6	0.2	54.7	0.7
TANA RIVER	226,772	31.0	2.7	2.6	0.3	61.1	2.4
THARAKA NITHI	336,527	54.4	2.3	1.5	0.2	40.9	0.7
TRANS-NZOIA	839,309	32.3	2.5	1.5	0.4	61.2	2.1
TURKANA	588,114	41.2	2.9	3.3	0.4	49.0	3.1
UASIN GISHU	851,813	38.6	5.2	1.0	0.2	53.9	1.1
VIHIGA	428,262	40.9	6.7	2.2	0.3	49.0	0.9
WEST POKOT	466,226	38.8	2.1	1.7	0.2	51.0	6.3

Table 3.9 presents information on the labour force for all individuals aged 15 years and above. As shown in the table, 59.8 per cent of this population was engaged. Kirinyaga County had the highest proportion of persons engaged at 80.5 per cent, which is consistent with high incomes recorded in the county. The least proportion of those engaged was recorded in Kitui County.

Table 3.9: Household members by economic activity (15 yrs and above)

	Individuals	Engaged	Seeking work	Economically inactive			Other
	Number	%	%	Pensioner, retired, elderly person %	Incapacitated %	Other Economically inactive %	%
Kenya	22,546,781	59.8	5.0	2.5	0.3	31.3	1.0
Rural	14,307,179	59.6	4.4	2.8	0.4	31.8	1.0
Core Urban	6,447,859	60.4	6.6	1.5	0.1	30.5	0.9
Peri-urban	1,791,743	59.2	4.4	3.8	0.4	31.0	1.1
BARINGO	337,294	56.7	3.1	4.5	0.5	35.2	0.1
BOMET	487,759	69.4	1.1	2.1	0.0	27.5	0.0
BUNGOMA	917,942	64.5	6.8	1.7	0.3	24.7	2.0
BUSIA	298,374	48.6	2.5	2.1	0.8	40.9	5.1
ELGEYO MARAKWET	215,152	56.9	3.8	1.0	0.3	33.3	4.6
EMBU	313,802	69.4	1.6	0.8	0.4	27.8	0.0
HOMA BAY	533,572	62.8	3.4	0.7	0.0	33.0	0.0
ISIOLO	77,840	44.8	3.1	2.1	0.9	48.1	1.1
KAJIADO	436,592	59.5	4.5	1.3	0.0	34.4	0.3
KAKAMEGA	916,745	52.6	6.5	2.2	0.8	36.5	1.4
KERICHO	518,418	66.5	1.6	0.9	0.2	30.8	0.0
KIAMBU	1,035,295	69.2	4.3	1.1	0.1	24.0	1.3
KILIFI	598,350	62.0	2.8	5.1	0.3	29.3	0.5
KIRINYAGA	347,347	80.5	1.0	2.2	0.0	15.8	0.5
KISII	625,308	72.1	2.4	2.5	0.2	22.4	0.4
KISUMU	558,193	53.3	7.8	7.1	0.3	31.3	0.3
KITUI	585,215	35.6	7.1	7.7	0.3	49.3	0.1
KWALE	405,580	45.4	8.9	2.9	0.3	42.1	0.3
LAIKIPIA	229,333	66.8	4.6	2.8	0.3	24.0	1.5
LAMU	52,742	64.9	1.6	4.1	0.1	28.9	0.4
MACHAKOS	731,710	45.8	5.6	6.0	0.4	38.1	4.0
MAKUENI	497,507	42.7	6.1	2.9	0.2	47.8	0.4
MARSABIT	165,748	46.0	3.8	4.8	0.1	45.1	0.2
MERU	883,627	68.1	9.4	2.0	0.1	20.4	0.0
MIGORI	444,274	68.3	2.6	1.6	0.0	26.9	0.6
MOMBASA	661,483	54.6	11.3	1.7	0.2	30.8	1.4
MURANGA	594,626	71.0	2.7	2.5	0.5	23.1	0.2

	Individuals	Engaged	Seeking work	Economically inactive			Other
	Number	%	%	Pensioner, retired, elderly person %	Incapacitated %	Other Economically inactive %	%
NAIROBI	2,501,020	58.5	6.6	1.6	0.1	32.6	0.6
NAKURU	1,043,845	58.2	4.7	1.7	0.1	33.3	2.0
NANDI	460,888	54.0	4.8	1.6	0.8	38.3	0.5
NAROK	455,604	59.3	5.0	0.3	0.4	30.7	4.3
NYAMIRA	438,737	70.3	3.5	1.3	0.5	24.0	0.3
NYANDARUA	344,775	72.9	4.3	3.1	0.6	18.1	0.9
NYERI	461,596	71.2	1.9	3.9	0.3	22.4	0.4
SAMBURU	129,916	55.5	7.1	2.1	0.1	30.7	4.5
SIAYA	608,662	63.5	1.1	1.4	1.8	31.5	0.6
TAITA TAVETA	179,598	52.4	4.9	5.1	0.3	37.1	0.2
TANA RIVER	131,664	48.5	4.6	4.5	0.4	41.4	0.6
THARAKA NITHI	236,028	77.6	3.3	2.1	0.2	16.7	0.0
TRANS-NZOIA	541,426	49.7	3.9	2.3	0.6	42.0	1.6
TURKANA	382,963	52.0	4.4	5.1	0.6	36.8	1.1
UASIN GISHU	586,773	55.4	7.5	1.4	0.2	35.2	0.4
VIHIGA	308,477	56.8	9.2	3.1	0.3	30.7	0.0
WEST POKOT	264,980	61.6	3.1	3.0	0.1	31.2	1.0

Table 3.10 presents the activity status of the population aged 15-64 years. From the results, the unemployment rate was estimated at 8.1 per cent nationally. Unemployment rate in the urban areas was estimated at 9.9 per cent compared to 7.3 per cent in the rural areas.

Table 3.10: Economic activity status for population aged 15-64 years

	Total	Engaged	Seeking work	Pensioner, retired, elderly person	Incapacitated	Other Economically inactive	Other	Labour force	Unemployment rate (%)
Kenya	21,095,427	12,683,233	1,115,452	178,493	46,821	6,873,255	198,173	13,798,685	8.1
Rural	13,129,650	7,856,947	614,297	111,515	33,424	4,388,748	124,720	8,471,243	7.3
Urban	6,299,026	3,830,163	423,009	42,087	7,389	1,941,583	54,795	4,253,171	9.9
Peri-urban	1,666,751	996,123	78,147	24,890	6,008	542,924	18,658	1,074,270	7.3

3.3.1 Economic Activity Status of Household Head

A focus on the household head and their economic activity status shows that 86.0 per cent were engaged. The pensioners, retired and elderly persons accounted for 4.1 per cent nationally. In the rural areas, 85.7 per cent of the heads were working compared to 87.0 per cent in the core urban areas. Further details for the counties are provided in table 3.11.

Table 3.11: Household heads by economic activity

	Total	Engaged	Seeking work	Economically inactive (%)			Other (%)
	Number	(%)	(%)	Pensioner, retired, elderly person%	Incapacitated	Other Economically inactive	
Kenya	9,180,716	86.0	2.4	4.1	0.3	6.4	0.7
Rural	5,491,367	85.7	1.4	4.9	0.4	6.9	0.6
Urban	2,973,279	87.0	4.4	2.0	0.1	5.8	0.7
Peri-urban	716,070	84.0	1.7	7.0	0.4	5.9	1.0
BARINGO	121,966	81.6	3.0	10.2	0.0	4.9	0.3
BOMET	156,634	95.4	0.0	4.5	0.0	0.1	0.0
BUNGOMA	339,915	92.4	1.6	3.1	0.6	0.2	2.0
BUSIA	107,393	82.6	0.8	2.2	1.5	8.4	4.5
ELGEYO MARAKWET	85,344	85.6	2.9	1.3	0.0	5.5	4.8
EMBU	138,003	93.3	0.4	1.9	0.8	3.6	0.0
HOMA BAY	220,807	93.1	0.2	1.4	0.0	5.1	0.1
ISIOLO	33,166	79.1	2.1	3.3	0.9	14.2	0.5
KAJIADO	191,919	88.4	3.9	1.7	0.0	5.7	0.3
KAKAMEGA	376,748	83.8	2.0	4.5	0.8	8.0	0.8
KERICHO	180,841	96.5	0.2	1.8	0.6	0.9	0.0
KIAMBU	500,472	91.1	3.0	1.5	0.0	3.6	0.8
KILIFI	221,008	86.3	1.9	8.0	0.1	3.5	0.2
KIRINYAGA	165,031	95.4	0.0	1.8	0.0	2.7	0.0
KISII	262,652	90.3	0.2	4.1	0.0	4.5	1.0
KISUMU	244,529	78.8	2.7	14.3	0.6	3.5	0.1
KITUI	215,060	61.4	2.0	11.4	0.2	24.8	0.2
KWALE	134,826	74.9	7.2	6.9	0.3	10.2	0.4
LAIKIPIA	109,222	89.3	2.9	3.7	0.2	2.8	0.9

	Total	Engaged	Seeking work	Economically inactive (%)			Other (%)
LAMU	24,634	91.4	1.5	4.7	0.0	2.0	0.4
MACHAKOS	277,277	67.6	3.1	10.3	0.1	16.5	2.4
MAKUENI	195,294	70.7	2.1	5.0	0.0	22.0	0.2
MARSABIT	59,960	74.2	1.2	10.0	0.2	14.1	0.3
MERU	334,489	94.8	0.8	2.7	0.0	1.6	0.0
MIGORI	193,163	92.3	0.8	3.4	0.0	2.8	0.7
MOMBASA	299,439	79.7	9.7	2.2	0.3	7.1	1.1
MURANGA	272,402	91.1	0.9	4.0	0.0	3.7	0.3
NAIROBI	1,128,693	85.6	4.8	2.3	0.0	7.1	0.2
NAKURU	452,820	91.1	2.0	1.9	0.0	4.1	0.9
NANDI	169,448	92.8	0.0	2.7	1.1	3.0	0.4
NAROK	187,017	83.0	1.4	0.8	0.0	14.3	0.5
NYAMIRA	140,139	93.0	0.4	3.6	0.8	1.9	0.5
NYANDARUA	152,812	90.0	1.2	5.8	0.0	2.2	0.9
NYERI	215,824	90.2	0.8	6.6	0.3	2.0	0.1
SAMBURU	52,388	89.3	5.5	2.9	0.2	1.7	0.4
SIAYA	213,400	88.6	0.0	1.8	4.5	5.0	0.0
TAITA TAVETA	79,950	73.1	3.7	5.8	0.0	17.2	0.2
TANA RIVER	52,234	79.2	4.4	7.5	1.0	6.6	1.4
THARAKA NITHI	92,796	96.6	0.0	2.0	0.0	1.4	0.0
TRANS-NZOIA	187,506	78.4	2.7	4.0	0.7	12.1	2.2
TURKANA	136,242	64.0	4.8	11.4	1.0	16.5	2.2
UASIN GISHU	223,618	88.8	3.2	1.8	0.0	6.2	0.1
VIHIGA	130,465	82.4	1.7	6.1	0.1	9.6	0.0
WEST POKOT	103,169	89.0	0.6	5.4	0.4	4.6	0.0

3.3.2 Distribution of Household Heads by Age and Economic Activity

Analysis on age and economic activity as indicated in Table 3.12 shows that 41.8 per cent of household heads were own account workers while those employed constituted 32.3 per cent of all household heads. As expected, most of the heads who were students were found in the age groups 15-19, 20-24 and 25-29 years. Majority of those seeking work were found to be in the ages of 20 - 44 years

Table 3.12: Percentage distribution of household heads by age and economic activity

	Total	Employee	Employer	Own-account worker	Contributing family worker	Member of a producers' cooperative	Volunteer	Intern	Seeking work	Not seeking work	Student	Household work	Pensioner, retired, elderly person	Disabled	Sick/ill	Other
Total	9,180,716	32.3	2.3	41.8	8.9	0.4	0.1	0.1	2.1	0.3	1.1	4.4	4.1	0.3	0.9	0.7
<15	12,213	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 - 19	52,478	0.2	0	0.1	0	0	0	0	0	0	0.1	0.1	0	0	0	0
20 - 24	527,656	2.2	0.1	1.6	0.3	0	0	0	0.3	0	0.7	0.3	0	0	0	0
25 - 29	1,322,300	6.2	0.3	5.2	0.9	0	0	0	0.5	0.1	0.2	0.8	0	0	0	0.1
30 - 34	1,372,212	5.9	0.4	6.3	1	0	0	0	0.4	0	0	0.5	0.1	0	0.1	0.1
35 - 39	1,241,237	5.2	0.3	5.8	1.1	0.1	0	0	0.3	0	0	0.5	0	0	0	0.1
40 - 44	1,036,893	3.9	0.3	5.2	1	0.1	0	0	0.2	0	0	0.4	0	0	0	0.1
45 - 49	808,422	3.2	0.2	3.9	0.8	0	0	0	0	0	0	0.3	0.1	0	0	0.1
50 - 54	767,572	2.3	0.2	3.9	1	0.1	0	0	0.1	0	0	0.4	0.2	0	0.1	0
55 - 59	494,937	1.2	0.1	2.7	0.6	0	0	0	0.1	0	0	0.3	0.2	0	0	0
60 - 64	497,821	0.8	0.1	2.5	0.8	0	0	0	0	0	0	0.3	0.7	0	0.1	0
65 - 69	306,661	0.4	0.1	1.6	0.4	0	0	0	0	0	0	0.2	0.5	0	0.1	0
70 - 74	294,744	0.2	0	1.4	0.4	0	0	0	0	0	0	0.2	0.7	0	0.1	0
>75	445,572	0.4	0.1	1.5	0.5	0	0	0	0	0	0	0.2	1.6	0.1	0.3	0.1

3.4 Education Status of Household Members

The 2012/2013 KNHS, collected data on the highest level of education completed for all household members. Table 3.13 presents the findings on education level completed for all persons aged 3 years and above. Overall, 20.0 per cent of the household members had not attained any level of education. Out of the total population aged 3 years and above, the proportion from the rural areas with no level of education was 15.2 per cent. This is partially explained by the fact that Kenya has a young population. A further 34.3 per cent have attained pre-school level of education. Only 1.1 per cent had attained university level of education. 3.5 per cent of urban household members had not attained any level of education.

Table 3.13: Proportion of household members by level of education completed

	None	Pre -school	Primary	Post primary college	Secondary	Post-secondary college	University	Post Graduate	Total
Total	20.0	34.3	26.0	6.1	8.9	3.7	0.9	0.2	35,355,679
Peri-urban	1.4	2.9	2.3	0.6	0.6	0.2	..	..	8.1
Rural	15.2	25.7	16.7	4.4	2.9	0.9	0.1	..	66.0
Core Urban	3.5	5.7	6.9	1.1	5.4	2.6	0.7	0.2	25.9

.. Negligible

3.4.1 Education Status of Household Head

Overall, the proportion of the household heads whose highest level of education was primary stood at 32.0 per cent. Further the results reveal that about a third of the household heads had less than pre-primary level of education. Those who had secondary level of education and above were 26.2 per cent. In the rural areas, 44.7 per cent of the heads had not attained primary level of education. On the other hand, only 11.6 per cent of the heads in the urban areas had not attained primary level education.

Table 3.14: Education status of household head

	Total	None	Pre-school	Primary	Post primary college	Secondary	Post-secondary college	University	Post Graduate
National	9,180,716	16.6	16.5	32	8.7	15.5	8	2.2	0.5
Rural	5,491,367	22.8	21.9	33.1	10.4	7.9	3.4	0.5	0.1
Urban	2,973,279	5.4	6.2	29.2	5	30.2	17	5.6	1.4
Peri-urban	716,070	15.9	17.3	35.5	11	13.7	5.5	1.1	0.1

3.5 Households by Type of Dwelling Units

The 2012/2013 KNHS collected information of the type of houses where the households lived. This information is presented in Table 3.15. 57.4 per cent of the households lived in bungalow type of dwelling units. The Manyatta/traditional houses accounted for 16.5 per cent. In the rural areas, 64.9 per cent of the dwellings were bungalows followed by Manyattas/traditional houses at 24.5 per cent. In the urban areas, 40.9 per cent were bungalows. The flats accounted for 20.6 per cent. Most of the owners (67.4%) lived in bungalows while those who lived in maisonettes accounted for only 0.8 per cent in the rural areas. For renters, 39.2 per cent of the households lived in bungalows while those

living in flats accounted for 20.6 per cent. Almost a quarter of the households who were renting lived in Swahili type of structures.

Table 3.15: Percentage distribution of households by type of dwelling unit

	Total	Bungalow	Flat	Maison-ette	Swahili	Shanty	Manyatta /Tradition-al Hse	Other
National	9,180,716	57.4	7.6	1.3	10.3	5.3	16.5	1.7
Rural	5,491,367	64.9	1.2	0.8	5.1	1.7	24.5	2
Urban	2,973,279	40.9	20.6	2.2	20.6	12.7	1.8	1
Peri-urban	716,070	68	2.6	1.2	8.2	2	15.8	2.2
Owner occupiers	5,900,720	67.4	0.7	1	2.4	1.6	24.9	2
Renters	3,279,997	39.2	20	1.8	24.7	12	1.3	1

3.5.1 Household Heads by Age and Type of Dwelling

Analysis of type of dwelling units by age of the household heads is presented in Table 3.16. The bungalow was the main type of house accounting for 57.4 per cent of all dwelling units followed by manyatas/traditional houses which constituted 16.5 per cent. Further, the bungalow was the most common type of a house across the board with the highest proportions (7.6 %) being recorded in the age groups of 30-34 and 35-39. Maisonettes accounted for 1.3 per cent of all types of dwelling units. The highest proportion (1.3 %) of those living in shanties was found in the age group of 25-29 years.

Table 3.16: Distribution of Household heads by age and type of dwelling (All areas)

Age Group of head	Bunga-low	Flat	Maison-nette	Swahili	Shanty	Manyatta/ Traditional House	Other	Total
10-14	..	0	0	0	0	..	0	800
15-19	0.2	0	0	0.1	0.1	0.1	0	52,478
20-24	2.5	0.8	0	1.1	0.5	0.8	0.1	527,656
25-29	6.6	1.6	0.1	2.5	1.3	2.2	0.1	1,322,300
30-34	7.6	1.9	0.1	2.1	0.9	2.1	0.2	1,372,212
35-39	7.6	1.1	0.2	1.5	0.9	2.1	0.1	1,241,237
40-44	6.5	0.9	0.2	1.1	0.5	1.7	0.3	1,036,893
45-49	5.6	0.5	0.2	0.7	0.3	1.4	0.1	808,422

Age Group of head	Bungalow	Flat	Maisonnette	Swahili	Shanty	Manyatta/ Traditional House	Other	Total
50-54	5.4	0.3	0.1	0.5	0.4	1.5	0.2	767,572
55-59	3.5	0.2	0.1	0.3	0.2	1.1	0.1	494,937
60-64	3.8	0.1	0.1	0.2	0.1	1.1	0.1	497,821
65-69	2.4	0	0	0.2	0	0.6	0.1	306,661
70 and above	5.5	0.1	0.1	0.2	0.1	1.9	0.3	740,315
No Value Given	0.1	0	0	0	0	0	0	11,413
Total	57.4	7.6	1.3	10.3	5.3	16.5	1.6	9,180,716

.. Negligible

Distribution of household heads by age and type of dwelling in the urban areas is presented in Table 3.17. The data shows that about 41.0 per cent of the people in urban areas lived in bungalows.

Table 3.17: Percentage distribution of household heads by age and type of dwelling in urban areas

Age group of head		Type of dwelling unit						
	Total	Bungalow	Flat	Maisonnette	Swahili	Shanty	Manyatta/Traditional House	Other
Total	2,973,279	40.9	20.6	2.2	20.6	12.7	1.8	1.0
<15	9,334	0.2	0.1	0.0	..	0.0	..	0.0
15 - 19	17,970	0.2	0.1	0.0	0.2	0.2	0.0	0.0
20 - 24	277,355	3.4	2.1	0.0	2.3	1.3	0.1	0.1
25 - 29	667,768	8.6	4.2	0.2	5.2	3.6	0.4	0.2
30 - 34	594,443	7.2	5.2	0.2	4.6	2.3	0.4	0.1
35 - 39	428,451	5.8	3.0	0.3	2.8	2.2	0.2	0.1
40 - 44	326,265	4.4	2.5	0.5	2.1	1.2	0.2	0.1
45 - 49	219,864	3.7	1.4	0.3	1.1	0.6	0.1	0.1
50 - 54	176,141	2.8	0.9	0.2	0.9	0.8	0.2	0.1
55 - 59	92,747	1.6	0.6	0.1	0.4	0.4	0.1	0.0
60 - 64	59,233	1.1	0.3	0.1	0.3	0.0	0.1	0.1
65 - 69	40,777	0.7	0.1	0.1	0.3	0.1	0.0	0.1
70 - 74	22,397	0.5	0.0	0.1	0.1	0.0	0.0	0.0
>75	40,533	0.8	0.1	0.1	0.2	0.1	0.0	0.0

.. Negligible

3.5.2 Employment Status and Type of Dwelling Structure

As indicated in Table 3.18, 38.4 per cent of the household heads who are employees lived in house/bungalow structures. A further 23.5 per cent lived in flats followed by 14.1 per cent who lived in swahili type structures. About 12.0 per cent of the employee heads lived in shanties. Most employers 46.7 per cent lived in houses/bungalows. Notably, 7.8 per cent of employers lived in shanties. Almost 40.0 per cent of the incapacitated heads lived in houses/ bungalows houses. 30.6 per cent of the incapacitated household heads lived in shanties.

Table 3.18: Percentage distribution of household by Employment Status of heads and type of dwelling

	Total	Bungalow	Flat	Maisonnette	Swahili	Shanty	Manyatta/ Traditional House	Other
Total	2,973,279	40.9	20.6	2.2	20.6	12.7	1.8	1
Employee	1,391,206	38.4	23.5	2.9	20.9	12.3	1.2	0.8
Employer	93,614	46.7	25.4	5.1	14	7.8	0	1
Own-account worker	969,115	42.1	19.1	1.4	19.3	14.1	2.4	1.5
Contributing family worker	110,783	60.1	9.1	0.3	21.4	4.4	4.5	0.2
Member of a producers' cooperative	9,424	52.7	13.0	0	27.6	3.2	0	3.5
Volunteer	5,714	35.6	0	24.1	9.1	31.3	0	0
Intern	6,317	7.1	37.8	0	25.9	29.1	0	0
Seeking work	119,961	28.7	14.2	1	32.6	22.5	0.4	0.5
Not seeking work	11,735	43.8	7.2	0	31.6	4.7	2.9	9.9
Student	66,746	36.5	31.7	0.1	18.8	9.9	0.9	2.2
Household work	92,057	47.7	14.6	2.7	20.9	10.5	3.4	0.1
Pensioner, retired, elderly person	59,131	52.7	13.6	5.7	14.8	7.8	5.3	0
Disabled	2,785	39.9	0	0	11.1	30.6	18.4	0
Sick/ill	14,484	49.2	0	0	24.7	23.2	2.9	0
Other	20,208	45.1	13.4	0	28.3	12.5	0.8	0

The tabulation of employment status by type of dwelling unit in the urban areas is presented in Table 3.19. Overall, with the exception of interns, the highest proportions irrespective of the economic activity lived in House/Bungalow. The data shows that 37.8 per cent of the employees lived in a house/Bungalow with a further 23.9 per cent living in flats. About 12.3 percent of the employees lived in shanty type of dwelling unit.

Table 3.19: Percentage distribution of households by Employment status of head and type of dwelling in urban areas

		Type of dwelling unit						
	Total	Bungalow	Flat	Maisonnette	Swahili	Shanty	Manyatta/ Traditional House	Other
	2,973,279	40.9	20.6	2.2	20.6	12.7	1.8	1
Employee	1,353,037	37.8	23.9	3	21.1	12.3	1.1	0.8
Employer	93,220	46.9	25.5	5.1	14.1	7.5		1
Own-account worker	934,472	41.9	19.7	1.4	19.1	14.3	2.1	1.6
Contributing family worker	110,783	60.1	9.1	0.3	21.4	4.4	4.5	0.2
Member of a producers' cooperative	9,424	52.7	13		27.6	3.2		3.5
Volunteer	5,714	35.6		24.1	9.1	31.3		
Intern	6,317	7.1	37.8		25.9	29.1		
Seeking work	119,961	28.7	14.2	1	32.6	22.5	0.4	0.5
Not seeking work	10,576	37.6	8		35	5.2	3.2	11
Student	66,613	36.6	31.7	0.1	18.8	9.7	0.9	2.2
Household work	91,410	47.4	14.8	2.8	21.1	10.5	3.4	0.1
Pensioner, retired, elderly person	59,506	52.3	13.6	5.7	15.5	7.8	5.1	
Disabled	1,961	56.6			15.7	1.5	26.2	
Sick/ill	14,484	49.2			24.7	23.2	2.9	
Other	95,802	53.2	8.7		19.8	11	7.1	0.3

3.6 Housing Adequacy and Affordability

3.6.1 Dwelling Space

According to the UN-HABITAT Agenda, adequate housing means more than just a roof over one's head. It encompasses adequate privacy and space among other attributes. The UN-HABITAT considers a house to have sufficient living area for household members if three or less people share the same room. Inadequate living space leads to overcrowding which is often measured by persons per habitable room in a dwelling unit. However, given that sizes of rooms differ, measurement of crowding using floor area per person sometimes facilitates more accurate comparison.

The accepted standards for floor space according to the World Health Organization (WHO) are presented in Table 3.20. Results from this survey indicate that the average floor area per person is higher for owner occupier households compared

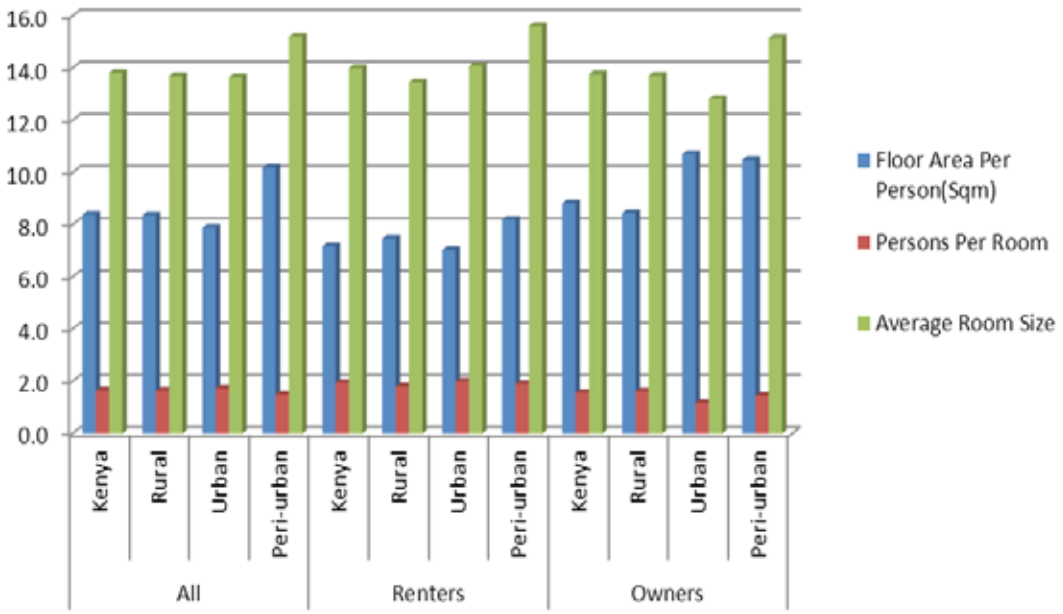
to renting households. For instance, the average floor area per person for urban owner occupier households is 10.7 sq. m compared to 7 sq. m for urban renting households.

Table 3.20: Housing floor space standards

Area (in sq. metre)	No. of persons
11 or more	2 persons
9 to 10	1.5 persons
7 to 9	1 person
5 to 7	0.5 person
Under 5	Nil

Source: WHO

Figure 3.9: Dwelling Space by persons per room and average room size



In relation to WHO standards and guidelines, the owner occupier households have adequate space while the renting households generally lack adequate living space. Considering persons per room as another indicator of crowding, the results revealed that there is minimal difference between the renters and owner occupier households. Nevertheless, the owner occupier households have a comparatively lower number of persons per room (1.6) compared to renting households, which stand at 2.0.

Considering the type of household member composition, it is important to note that if certain types of households are accommodated in a single room, they tend to be more deprived of living space. For instance a couple living with children and other relatives is more deprived of space and privacy if living in a single room compared to a non-couple household composed of non-relatives. Based on the above rationale, the results of the survey reveal that there are more households that are deprived of living space in the urban areas compared to the rural areas as depicted in Figure 3.10. The percentages in the figure are derived from Table 3.21 which presents data on households occupying one room by type and residence.

Figure 3.10: Percentage households deprived of living space

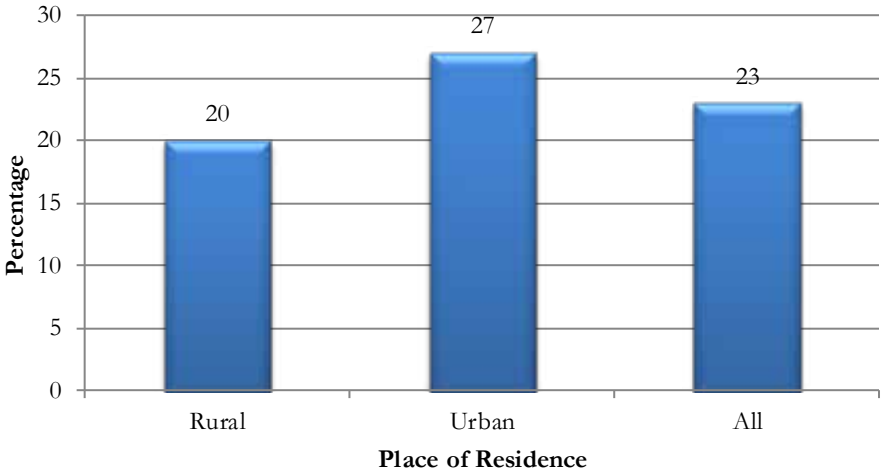


Figure 3.10 is derived from the table below where the shaded categories of households are considered inadequately housed in a single room.

Table 3.21: Households occupying one room by type and residence

Type of Household	Occupying 1 room		
	Rural	Urban	Overall
Total	1,749,528	1,953,656	3,703,184
Couple	107,254	189,798	297,052
Couple and Children	763,482	726,552	1,490,034
Couple, Children and Other relatives	44,641	47,752	92,392
Single person Households	262,311	495,843	758,153
Couple without children	2,181	359	2,540
One parent with children	120,929	177,277	298,206
Child headed household	489	29	518

Type of Household	Occupying 1 room		
	Rural	Urban	Overall
Elderly headed with children and grandchildren	173,840	32,465	206,305
Other households	274,402	283,582	557,983
Deprived of Living Space	1,102,892	984,046	2,086,938

3.6.2 Housing Costs

While deriving the housing costs for households, expenses on the following variables were considered: -rent, electricity, water, sewerage, security, garbage collection and where applicable mortgage repayment, property rates and land rents.

Figure 3.11 indicates the percentage of housing cost expenditure for households. Overall, the survey results indicate that renting households spend 33.8 per cent of their income on rent. This is higher than the United Nations recommended threshold of 30.0 per cent. It is noted that the urban renting households spend 33.1 per cent of their incomes on rent compared to the rural renting households who spend only 13.6 per cent. These results should be interpreted with the general income dynamics in mind, which was presented earlier in this report and indicated that the incomes of urban households are generally higher than the incomes of rural households.

The proportion of monthly income spent on housing related costs including rent and utilities for renting households is 44.7 per cent. Comparing the proportion of housing expenditure by residence, the urban renting households spend a higher proportion (42.3%) of their income on housing compared to rural renting households who spend 24.9 per cent as reflected in the figure.

Figure 3.11: Percentage of housing cost expenditure for households

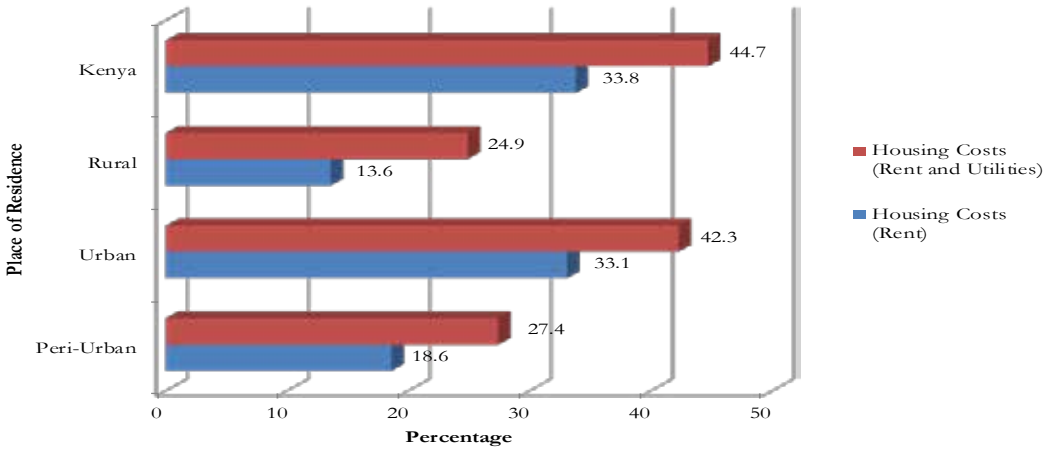
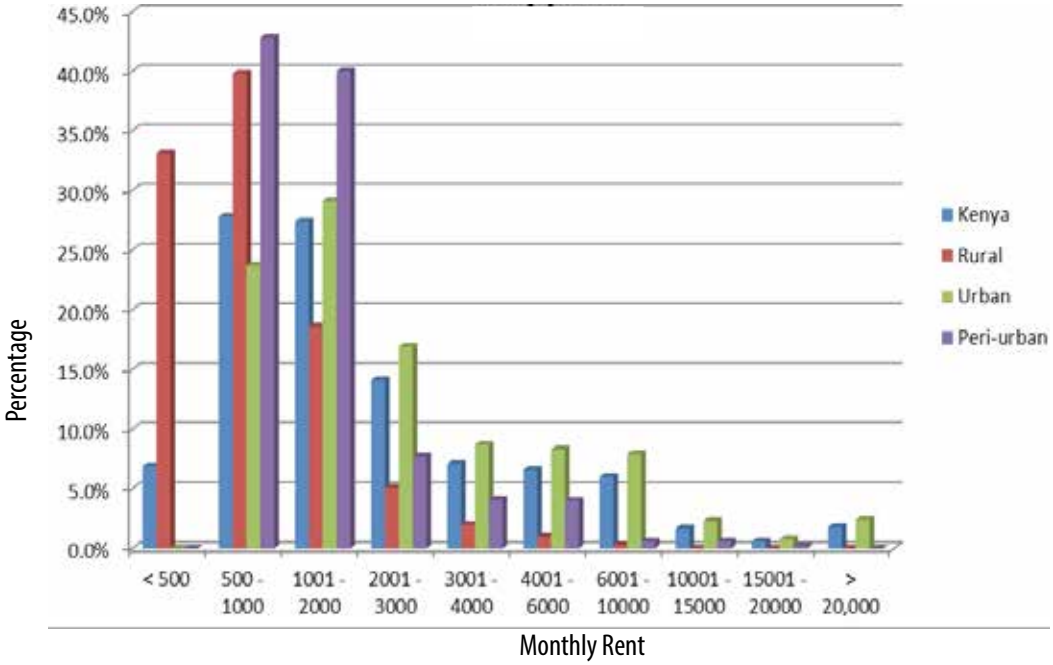


Figure 3.12 shows percentage distribution of households by monthly rents and place of residence. From the results, majority of the households pay rent of between KSh 500 and KSh 2000. However, the low rents have a direct relationship with the type of the house, quality, affordability, household income and housing infrastructure available.

Figure 3.12: Percentage distribution of households by monthly rents and place of residence



Comparison of rent burden among counties reveal that Nairobi County, which is the capital city, recorded the highest proportion of household expenditure on rents at 40.8 per cent followed by Mombasa and Kiambu Counties at 30.9 per cent and 29.0 per cent respectively. While Mombasa is a city, Kiambu County has many "dormitory towns" of Nairobi City which has generally necessitated higher property and rent values in such towns.

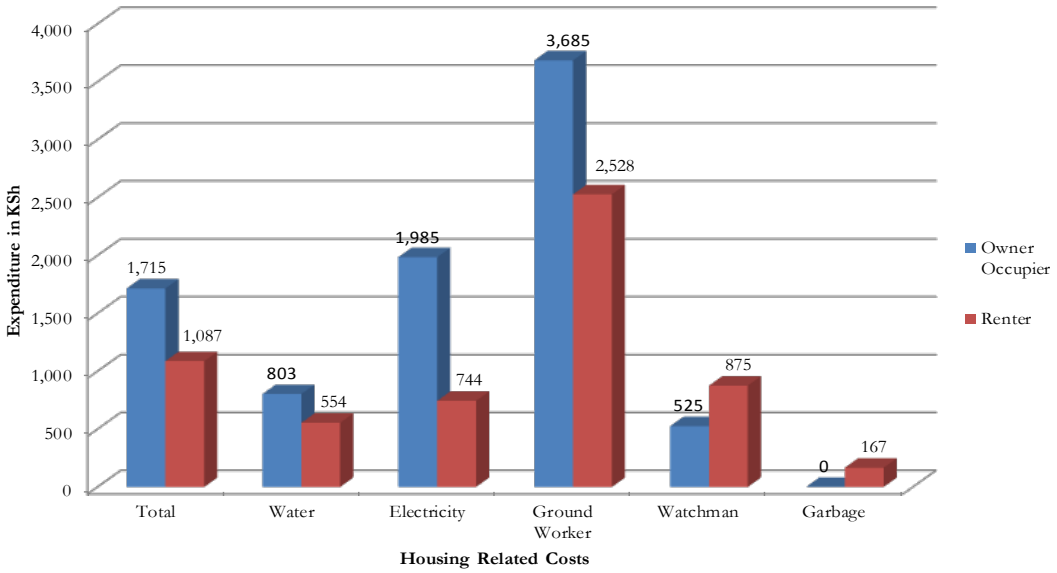
Table 3.22: Households by rent paid per month

	Total		<500		500-1,000		1,001-2,000		2,001-3,000		3,001-4,000		4,001-6,000		6,001-10,000		10,001-15,000		15,001-20,000		>20,000	
Kenya	3,279,997	100%	225,564	6.9%	911,464	27.8%	898,667	27.4%	461,629	14.1%	234,503	7.1%	216,474	6.6%	197,392	6.0%	56,463	1.7%	19,593	0.6%	58,248	1.8%
Rural	680,836	100%	225,564	33.1%	271,258	39.8%	126,963	18.6%	34,971	5.1%	13,538	2.0%	6,661	1.0%	1,881	0.3%		0.0%		0.0%		0.0%
Urban	2,468,060	100%		0.0%	584,125	23.7%	719,277	29.1%	416,519	16.9%	215,646	8.7%	204,534	8.3%	194,704	7.9%	55,663	2.3%	19,342	0.8%	58,248	2.4%
Peri-urban	131,101	100%		0.0%	56,081	42.8%	52,427	40.0%	10,139	7.7%	5,319	4.1%	5,278	4.0%	806	0.6%	800	0.6%	250	0.2%		0.0%
COUNTIES																						
BARINGO	25,340	100%	3,732	14.7%	12,886	50.8%	4,666	18.4%	2,717	10.7%	757	3.0%	584	2.3%		0.0%		0.0%		0.0%		0.0%
BOMET	8,280	100%	1,454	17.6%	1,931	23.3%	2,835	34.2%	1,745	21.1%	315	3.8%		0.0%		0.0%		0.0%		0.0%		0.0%
BUNGOMA	73,820	100%	12,249	16.6%	29,513	40.0%	17,168	23.3%	4,985	6.8%	5,631	7.6%	4,275	5.8%		0.0%		0.0%		0.0%		0.0%
BUSIA	10,122	100%	322	3.2%	4,152	41.0%	2,247	22.2%	2,133	21.1%	326	3.2%	749	7.4%	193	1.9%		0.0%		0.0%		0.0%
ELGEYO MARAKWET	11,586	100%	884	7.6%	3,648	31.5%	5,519	47.6%	564	4.9%	972	8.4%		0.0%		0.0%		0.0%		0.0%		0.0%0
EMBU	32,010	100%	6,120	19.1%	9,388	29.3%	9,244	28.9%	3,587	11.2%	2,365	7.4%	944	2.9%	362	1.1%		0.0%		0.0%		0.0%
HOMA BAY	30,318	100%	5,382	17.8%	15,477	51.0%	3,978	13.1%	4,828	15.9%	418	1.4%	236	0.8%		0.0%		0.0%		0.0%		0.0%
ISIOLO	8,591	100%	750	8.7%	2,675	31.1%	2,166	25.2%	600	7.0%	139	1.6%	1,230	14.3%	663	7.7%	229	2.7%		0.0%	139	1.6%
KAJIADO	110,666	100%	7,460	6.7%	23,620	21.3%	40,675	36.8%	16,054	14.5%	3,238	2.9%	6,018	5.4%	11,762	10.6%	1,873	1.7%		0.0%		0.0%
KAKAMEGA	40,970	100%	1,912	4.7%	12,536	30.6%	14,034	34.3%	4,181	10.2%	2,934	7.2%	1,733	4.2%	2,407	5.9%	422	1.0%		0.0%	812	2.0%
KERICHO	80,524	100%	16,402	20.4%	46,620	57.9%	11,670	14.5%	1,867	2.3%		0.0%	355	0.4%	1,031	1.3%	516	0.6%	1,547	1.9%	516	0.6%
KIAMBU	308,480	100%	27,130	8.8%	64,192	20.8%	78,125	25.3%	33,446	10.8%	22,418	7.3%	39,230	12.7%	29,775	9.7%	7,155	2.3%		0.0%	7,009	2.3%
KILIFI	57,063	100%		0.0%	20,277	35.5%	15,798	27.7%	9,391	16.5%	5,358	9.4%	1,435	2.5%	4,296	7.5%	352	0.6%	157	0.3%		0.0%
KIRINYAGA	43,265	100%	12,310	28.5%	11,344	26.2%	10,946	25.3%	3,337	7.7%	3,597	8.3%	1,512	3.5%	219	0.5%		0.0%		0.0%		0.0%
KISII	28,052	100%		0.0%	16,828	60.0%	6,785	24.2%	2,735	9.7%	666	2.4%	1,037	3.7%		0.0%		0.0%		0.0%		0.0%
KISUMU	75,799	100%	2,151	2.8%	32,227	42.5%	18,787	24.8%	7,218	9.5%	6,347	8.4%	6,997	9.2%	2,071	2.7%		0.0%		0.0%		0.0%
KITUI	13,977	100%		0.0%	7,016	50.2%	3,718	26.6%	1,095	7.8%	1,074	7.7%	716	5.1%	358	2.6%		0.0%		0.0%		0.0%
KWALE	23,738	100%		0.0%	13,080	55.1%	5,324	22.4%	2,178	9.2%	1,685	7.1%	899	3.8%	451	1.9%	121	0.5%		0.0%		0.0%
LAIKIPIA	55,914	100%	13,083	23.4%	17,919	32.0%	12,399	22.2%	4,929	8.8%	1,423	2.5%	4,556	8.1%	1,484	2.7%	60	0.1%		0.0%	60	0.1%
LAMU	6,673	100%	833	12.5%	2,420	36.3%	1,738	26.0%	494	7.4%	348	5.2%	585	8.8%	255	3.8%		0.0%		0.0%		0.0%
MACHAKOS	63,362	100%	1,884	3.0%	28,094	44.3%	15,455	24.4%	6,618	10.4%	2,626	4.1%	4,828	7.6%	3,375	5.3%		0.0%	482	0.8%		0.0%
MAKUENI	27,002	100%	858	3.2%	10,969	40.6%	12,091	44.8%	2,740	10.1%	345	1.3%		0.0%		0.0%		0.0%		0.0%		0.0%

	Total		<500		500-1,000		1,001-2,000		2,001-3,000		3,001-4,000		4,001-6,000		6,001-10,000		10,001-15,000		15,001-20,000		>20,000	
MARSABIT	4,730	100%	11	0.2%	1,878	39.7%	1,839	38.9%	524	11.1%	307	6.5%	172	3.6%		0.0%		0.0%		0.0%		0.0%
MERU	61,424	100%	5,015	8.2%	17,344	28.2%	17,511	28.5%	9,362	15.2%	3,947	6.4%	6,373	10.4%	1,667	2.7%	204	0.3%		0.0%		0.0%
MIGORI	49,400	100%	7,813	15.8%	25,248	51.1%	14,638	29.6%	1,245	2.5%	456	0.9%		0.0%		0.0%		0.0%		0.0%		0.0%
MOMBASA	226,757	100%		0.0%	71,857	31.7%	90,581	39.9%	23,610	10.4%	4,321	1.9%	9,273	4.1%	17,458	7.7%	2,792	1.2%	2,855	1.3%	4,009	1.8%
MURANGA	66,167	100%	13,670	20.7%	37,456	56.6%	7,355	11.1%	4,090	6.2%	1,199	1.8%	2,397	3.6%		0.0%		0.0%		0.0%		0.0%
NAIROBI	1,021,238	100%		0.0%	127,770	12.5%	259,007	25.4%	211,084	20.7%	127,354	12.5%	90,829	8.9%	107,466	10.5%	39,603	3.9%	13,515	1.3%	44,610	4.4%
NAKURU	262,974	100%	16,149	6.1%	71,359	27.1%	90,115	34.3%	51,299	19.5%	16,401	6.2%	9,935	3.8%	6,325	2.4%	1,391	0.5%		0.0%		0.0%
NANDI	796	100%	796	100.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
NAROK	67,717	100%	17,181	25.4%	17,301	25.5%	24,295	35.9%	4,162	6.1%	3,732	5.5%	612	0.9%	433	0.6%		0.0%		0.0%		0.0%
NYAMIRA	16,404	100%	5,152	31.4%	7,850	47.9%	2,163	13.2%	818	5.0%		0.0%		0.0%	421	2.6%		0.0%		0.0%		0.0%
NYANDARUA	41,844	100%	5,930	14.2%	71,359	41.6%	13,112	31.3%	4,826	11.5%	581	1.4%		0.0%		0.0%		0.0%		0.0%		0.0%
NYERI	66,429	100%	11,853	17.8%	20,912	31.5%	19,807	29.8%	8,434	12.7%	1,856	2.8%	2,559	3.9%	1,009	1.5%		0.0%		0.0%		0.0%
SAMBURU	9,112	100%		0.0%	4,112	45.1%	2,540	27.9%	1,021	11.2%	800	8.8%	639	7.0%		0.0%		0.0%		0.0%		0.0%
SIAYA	18,108	100%	1,773	9.8%	9,673	53.4%	3,889	21.5%	1,206	6.7%	772	4.3%	729	4.0%	67	0.4%		0.0%		0.0%		0.0%
TAITA TAVETA	27,810	100%	3,198	11.5%	10,757	38.7%	8,501	30.6%	2,471	8.9%	2,307	8.3%	471	1.7%	106	0.4%		0.0%		0.0%		0.0%
TANA RIVER	4,442	100%	603	13.6%	2,655	59.8%	848	19.1%	210	4.7%	124	2.8%		0.0%		0.0%		0.0%		0.0%		0.0%
THARAKA NITHI	6,908	100%		0.0%	4,783	69.2%	1,075	15.6%		0.0%		0.0%	717	10.4%	334	4.8%		0.0%		0.0%		0.0%
TRANS-NZOIA	57,766	100%	9,509	16.5%	26,418	45.7%	13,289	23.0%	5,319	9.2%	1,909	3.3%	846	1.5%	226	0.4%		0.0%	250	0.4%		0.0%
TURKANA	15,805	100%	945	6.0%	10,050	63.6%	3,031	19.2%	944	6.0%	363	2.3%	304	1.9%	96	0.6%	72	0.5%		0.0%		0.0%
UASIN GISHU	99,072	100%	7,120	7.2%	33,889	34.2%	24,633	24.9%	12,343	12.5%	4,430	4.5%	10,386	10.5%	2,718	2.7%	1,674	1.7%	787	0.8%	1,093	1.1%
VIHIGA	14,914	100%	2,471	16.6%	4,060	27.2%	3,949	26.5%	1,053	7.1%	664	4.5%	2,315	15.5%	401	2.7%		0.0%		0.0%		0.0%
WEST POKOT	4,627	100%	1,457	31.5%	1,884	40.7%	1,122	24.3%	165	3.6%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%

At the national level Figure 3.13 indicates that average monthly household expenditure on utilities is higher for owner occupier households at KSh1,715 compared to slightly over Ksh 1,000 for the renting households. Overall, owner occupier households spend higher amounts on water, electricity and grounds men, while renting households spend more on watchmen and garbage.

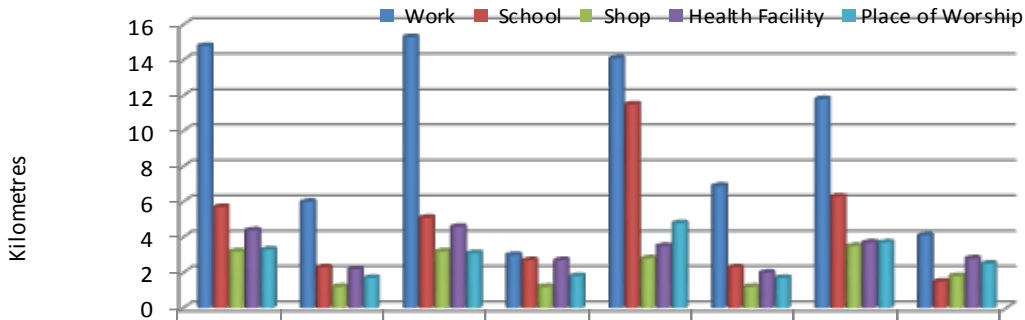
Figure 3.13: Average Monthly Household Expenditure on Utilities and Tenure



3.6.3 Mode of Transport and Distance

In the survey, the respondents were asked to give the main mode of transport and estimate the distance in kilometres to various destinations. As indicated in Figure 3.14 most households travel longer distances to work as compared to school, health facility, shop and worship centres. Owner occupier household be they in urban or rural areas travel slightly longer distances to the shop compared to renting households. The owner occupier households in urban areas travel the longest distance (11.5 km) to school compared to owner occupiers in rural and peri-urban areas

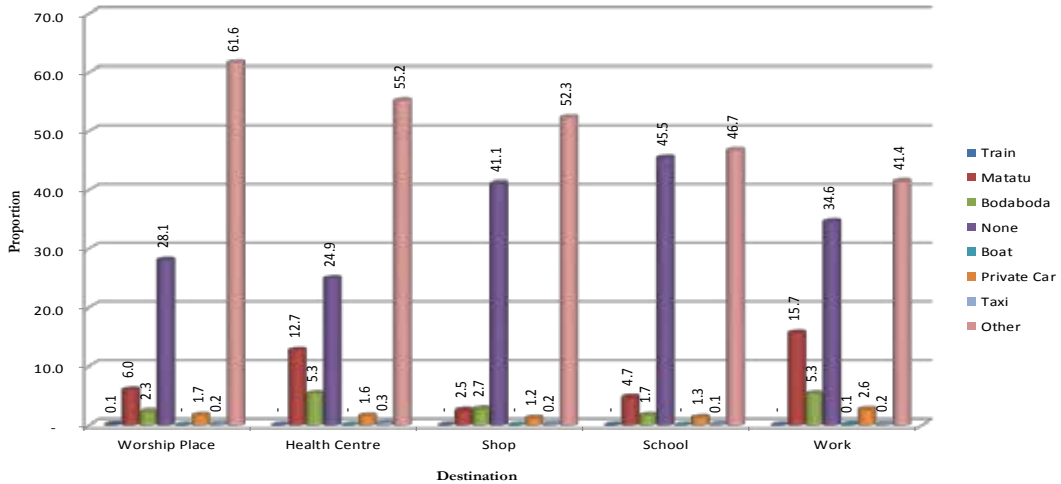
Figure 3.14: Household by average distance (km) travelled, purpose, residence and tenure



	All		Rural		Core Urban		Peri-Urban	
	Owner	Renter	Owner	Renter	Owner	Renter	Owner	Renter
Work	14.8	6	15.3	3	14.1	6.9	11.8	4.1
School	5.7	2.3	5.1	2.7	11.5	2.3	6.3	1.5
Shop	3.2	1.2	3.2	1.2	2.8	1.2	3.5	1.8
Health Facility	4.4	2.2	4.6	2.7	3.5	2	3.7	2.8
Place of Worship	3.3	1.7	3.1	1.8	4.8	1.7	3.7	2.5

Information regarding transport mode is presented in Figure 3. 15. The results reveal that over 70.0 per cent of households at the national level either walk or use other means such as bicycle to commute to work, taking children to school, shop, health centre or worship place. There are more households (32.9 per cent) in urban areas that use matatu to work compared to rural areas at 5.2 per cent. Nairobi and Mombasa registered bigger proportions of 44.9 per cent and 43.7, per cent respectively of households who use matatus to commute to work.

Figure 3.15: Proportion of household by means of transport and purpose



3.7 Construction Materials of Main Dwelling Units

The type of materials used to construct the main dwelling unit gives a general picture of the structural condition of the building based on the durability of the materials and also provides a general picture of the economic condition of the household. In this report the following working definitions for durable roof, floor and wall are adopted.

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

Durable floor: made of wood, terrazzo, concrete, wood tiles, brick, cement, quarry tiles and ceramic tiles.

Durable wall: any wall made of bricks, blocks, stabilized soil blocks, stones and concrete.

3.7.1 Roofing Materials

As indicated in Table 3.23, the 2012/2013 KNHS had the following findings. Overall, 73.7 per cent had corrugated iron sheets as the main roofing material followed by makuti and grass at 8.9 per cent and 7.5 per cent, respectively. This trend is replicated in the rural areas. In the core urban areas, corrugated iron sheets were the main roofing materials followed by concrete at 15.0 per cent. This may be due to the many flats within the urban areas. For renters, corrugated iron sheets accounted for 80.8 per cent, followed by concrete at 13.3 per cent. In the case of owner occupiers, 69.7 per cent of the households had roofs made of corrugated iron sheets while 13.2 per cent of households had makuti. The proportion of households having a durable roof was 82.3 per cent. County details are as tabulated in the table.

Table 3.23: Percentage distribution of households by roofing materials

		Roof Material								
	Total Households	Corrugated Iron Sheet	Tiles	Concrete	Asbestos Sheets	Grass	Makuti	Tin	Mud/Dung	Other
National	9,180,716	73.7	1.7	5.1	0.9	7.5	8.9	0.9	0.5	0.7
Rural	5,491,367	71.6	0.4	0.3	0.5	12.0	12.2	1.3	0.8	1.0
Core Urban	2,973,279	74.6	4.5	15.0	1.6	0.4	3.4	0.3	0.1	0.3
Peri-urban	716,070	85.9	0.9	0.9	1.2	3.4	6.9	0.5	0.1	0.3
Owner occupiers	5,900,720	69.7	1.2	0.6	0.6	11.7	13.2	1.2	0.7	1.0
Renters	3,279,997	80.8	2.7	13.3	1.5	0.1	1.3	0.3	0.0	0.1

		Roof Material								
	Total Households	Corrugated Iron Sheet	Tiles	Concrete	Asbestos Sheets	Grass	Makuti	Tin	Mud/Dung	Other
BARINGO	121,966	71.0	0.5	-	0.3	26.5	1.6	0.0	-	-
BOMET	156,634	75.0	-	0.9	0.8	21.9	0.4	-	-	0.9
BUNGOMA	339,915	87.5	-	0.2	1.7	9.2	-	-	-	1.5
BUSIA	107,393	50.6	-	-	0.2	46.4	1.8	-	-	1.0
ELGEYOMARAKWET	85,344	68.1	-	1.2	0.8	26.5	1.1	-	0.3	2.0
EMBU	138,003	92.2	1.5	0.5	0.6	5.2	-	-	-	-
HOMA BAY	220,807	61.8	0.1	0.3	0.1	3.6	0.2	33.3	0.1	0.5
ISIOLO	33,166	72.6	0.7	0.7	1.4	19.0	3.9	0.4	1.3	-
KAJIADO	191,919	82.4	0.1	1.9	0.3	8.1	2.1	-	2.7	2.5
KAKAMEGA	376,748	86.7	-	0.1	0.1	12.1	1.0	-	0.1	-
KERICHO	180,841	96.1	1.3	1.0	-	0.9	0.8	-	-	-
KIAMBU	500,472	83.0	3.5	10.9	0.9	0.1	1.5	-	-	0.1
KILIFI	221,008	43.7	0.4	2.7	-	21.1	32.0	0.1	-	-
KIRINYAGA	165,031	97.4	0.8	1.7	-	-	-	-	-	-
KISII	262,652	84.8	0.1	0.5	0.6	6.8	7.2	-	-	-
KISUMU	244,529	92.1	0.8	0.7	3.0	3.0	0.2	-	-	0.3
KITUI	215,060	85.1	0.9	-	-	13.7	0.3	-	-	-
KWALE	134,826	45.4	0.7	0.8	0.1	10.3	42.6	-	-	-
LAIKIPIA	109,222	90.0	0.8	1.4	0.2	3.4	1.6	0.4	2.2	0.2
LAMU	24,634	34.3	0.3	10.7	0.3	1.9	39.8	-	-	12.7
MACHAKOS	277,277	91.6	1.5	1.6	1.3	1.3	2.4	-	0.1	0.1
MAKUENI	195,294	91.5	0.7	0.5	-	7.3	-	-	-	-
MARSABIT	59,960	27.0	-	0.1	0.1	28.4	30.0	0.1	1.7	12.7
MERU	334,489	86.9	0.3	1.1	0.5	1.3	9.8	-	-	-
MIGORI	193,163	83.1	0.2	-	2.1	10.2	4.4	-	-	-
MOMBASA	299,439	83.0	5.0	5.9	3.6	0.2	2.3	-	-	-
MURANGA	272,402	90.9	1.2	4.7	1.2	0.2	0.5	1.2	-	-
NAIROBI	1,128,693	59.7	7.6	29.8	1.0	-	1.8	-	0.1	-
NAKURU	452,820	91.8	0.7	1.6	0.5	5.3	0.1	-	-	-
NANDI	169,448	91.7	-	-	0.8	7.1	0.4	-	-	-
NAROK	187,017	66.9	1.2	-	0.3	14.9	7.1	-	9.3	0.3
NYAMIRA	140,139	95.8	0.9	0.9	0.3	2.0	0.1	-	-	-
NYANDARUA	152,812	74.4	1.5	-	-	0.8	23.3	-	-	-

		Roof Material								
	Total Households	Corrugated Iron Sheet	Tiles	Concrete	Asbestos Sheets	Grass	Makuti	Tin	Mud/Dung	Other
NYERI	215,824	50.1	1.2	1.1	1.2	0.0	46.0	0.2	-	-
SAMBURU	52,388	26.5	-	-	9.7	4.3	9.1	-	26.4	24.0
SIAYA	213,400	64.4	0.1	-	0.4	20.3	14.9	-	-	-
TAITA TAVETA	79,950	50.3	0.2	0.3	2.0	1.0	42.3	0.3	0.7	3.0
TANA RIVER	52,234	33.4	-	-	-	53.3	9.9	0.8	-	2.6
THARAKA NITHI	92,796	72.3	-	-	2.2	4.1	20.7	-	0.8	-
TRANSONZOIA	187,506	30.1	0.5	0.5	0.9	7.2	60.8	-	-	-
TURKANA	136,242	32.5	0.1	-	0.1	9.5	42.5	1.1	-	14.3
UASIN GISHU	223,618	42.0	1.8	0.1	1.4	5.6	48.7	0.3	0.1	-
VIHIGA	130,465	83.8	0.2	0.3	1.8	1.1	12.8	-	-	-
WEST POKOT	103,169	28.6	0.4	0.4	-	69.8	0.7	-	-	0.2

3.7.2 Floor Materials

Table 3.24 presents the percentage distribution of floor material. The survey results reveal that only 48.2 per cent of households nationally had cement as their main floor material. Those that had earth as the main floor material were 47.1 per cent. Within the rural areas, 66.7 per cent had earth as the main floor material followed by cement at 30.9 per cent. 80.7 per cent of households in the urban areas had cement as their main type of floor material. Further, it is noted that 84.2 per cent of the renters lived in cemented dwelling units followed by tiles at 4.8 per cent Majority of the owner occupiers (67.8%) lived in dwelling units whose main floor material was earth. Overall, only 52.5 per cent of the households lived in dwelling units that had durable floor materials.

Table 3.24: Percentage distribution of households by floor materials

		Floor Materials				
	Total households	Cement	Tiles	Wood	Earth	Other
Kenya	9180716	48.2	3.1	1.2	47.1	0.4
Rural	5491367	30.9	0.8	1.2	66.7	0.5
Urban	2973279	80.7	7.4	1.2	10.3	0.3
Peri-urban	716070	46.0	2.1	1.5	50.1	0.2
Owners	5900720	28.2	2.1	1.4	67.8	0.5
Renters	3279997	84.2	4.8	0.8	10.0	0.2

		Floor Materials				
	Total households	Cement	Tiles	Wood	Earth	Other
BARINGO	121966	36.2	0.3	0.6	62.9	-
BOMET	156634	18.1	0.4	3.9	77.6	-
BUNGOMA	339915	32.6	1.3	-	65.4	0.7
BUSIA	107393	24.2	0.5	0.5	73.5	1.3
ELGEYO MARAKWET	85344	26.2	0.9	0.7	72.2	-
EMBU	138003	48.7	1.5	0.7	47.8	1.3
HOMA BAY	220807	29.3	2.8	0.9	66.4	0.6
ISIOLO	33166	37.4	3.9	-	57.8	0.9
KAJIADO	191919	61.8	3.4	0.4	33.9	0.6
KAKAMEGA	376748	21.1	0.5	0.3	78.1	-
KERICHO	180841	58.6	1.1	0.9	39.3	-
KIAMBU	500472	81.7	4.5	0.9	12.1	0.8
KILIFI	221008	30.1	2.0	0.3	67.2	0.4
KIRINYAGA	165031	42.9	0.3	-	56.8	-
KISII	262652	24.7	0.8	0.7	73.4	0.3
KISUMU	244529	48.2	1.6	0.4	49.6	0.2
KITUI	215060	33.4	1.7	0.4	64.5	-
KWALE	134826	36.0	0.3	1.1	62.7	-
LAIKIPIA	109222	49.3	0.4	1.4	48.5	0.4
LAMU	24634	37.6	0.4	-	62.0	-
MACHAKOS	277277	57.9	3.6	0.7	37.7	0.2
MAKUENI	195294	57.0	1.3	0.7	40.7	0.3
MARSABIT	59960	15.0	0.2	0.4	84.2	0.2
MERU	334489	54.6	1.4	1.8	42.2	-
MIGORI	193163	35.9	0.9	0.2	62.9	-
MOMBASA	299439	79.6	6.8	0.2	13.3	0.2
MURANGA	272402	49.4	0.5	0.7	49.1	0.3
NAIROBI	1128693	79.2	13.6	2.4	4.6	0.2
NAKURU	452820	62.6	1.5	4.0	31.7	0.1
NANDI	169448	22.4	0.6	5.4	70.8	0.9
NAROK	187017	29.5	0.2	2.1	67.3	1.0
NYAMIRA	140139	30.2	0.8	1.8	67.1	-
NYANDARUA	152812	46.1	0.7	0.3	52.9	-
NYERI	215824	45.1	1.7	2.0	51.2	-
SAMBURU	52388	22.4	1.1	2.6	73.6	0.3
SIAYA	213400	39.2	0.2	0.8	59.8	-

		Floor Materials				
	Total households	Cement	Tiles	Wood	Earth	Other
TAITA TAVETA	79950	59.7	0.7	-	39.1	0.6
TANA RIVER	52234	10.5	-	-	89.5	-
THARAKA NITHI	92796	37.3	0.8	0.6	61.3	-
TRANS-NZOIA	187506	42.3	0.4	0.8	56.1	0.4
TURKANA	136242	13.3	-	0.1	86.0	0.5
UASIN GISHU	223618	52.5	1.5	0.7	45.3	-
VIHIGA	130465	29.8	0.9	0.3	68.9	0.1
WEST POKOT	103169	10.0	-	0.3	80.7	8.9

3.7.3 Wall Materials

The distribution of the main type of wall material is presented in Table 3.25. The main type of wall materials nationally were mud/wood, stone and brick/block at 34.8 per cent, 22.4 per cent and 17.1 per cent respectively. In the rural areas, 48.9 per cent had walls made of mud/wood followed by those made of brick/block at 14.9 per cent. In the urban areas, 44.9 per cent are dwelling units whose main type of wall materials is stone. This is followed by brick/block at 20.6 per cent. Half of the owner occupiers had their main wall materials as mud/wood. Most of the renters (44.4%) lived in dwellings whose main wall material was stone. Approximately 60.0 per cent of urban households had dwelling units made of durable wall materials.

Table 3.25: Percentage distribution of households by wall materials

		Wall Material								
	Total Households	Stone	Brick/Block	Mud/Wood	Mud/ Cement	Wood Only	Corrugated Iron Sheets	Grass/Reeds	Tin	Other
National	9,180,716	22.4	17.1	34.8	6.2	9.8	6.5	1.1	0.3	1.9
Rural	5,491,367	10.4	14.9	48.9	4.7	13.4	2.9	1.8	0.3	2.8
Urban	2,973,279	44.9	20.6	7.8	8.8	3.5	13.6	0.2	0.2	0.4
Peri-urban	716,070	20.7	19.2	39.0	6.9	8.3	4.2	0.1	0.0	1.6
Owners	5,900,720	10.1	14.7	50.5	5.4	11.7	2.8	1.7	0.3	2.8
Renters	3,279,997	44.4	21.4	6.7	7.5	6.4	13.0	0.1	0.3	0.3
BARINGO	121,966	2.8	6.3	49.7	2.8	23.6	12.9	-	0.9	1.1
BOMET	156,634	4.5	4.5	75.5	1.4	13.3	0.2	-	-	0.6

		Wall Material								
	Total Households	Stone	Brick/Block	Mud/Wood	Mud/Cement	Wood Only	Corrugated Iron Sheets	Grass/Reeds	Tin	Other
BUNGOMA	339,915	6.9	20.6	64.9	4.2	0.8	0.8	0.6	-	1.1
BUSIA	107,393	5.3	12.0	75.1	6.1	-	0.8	-	-	0.6
ELGEYO/ MARAKWET	85,344	3.7	12.3	54.0	0.8	22.6	2.7	-	0.4	3.6
EMBU	138,003	26.1	20.8	29.0	1.6	19.1	1.8	1.2	-	0.3
HOMA BAY	220,807	5.1	9.3	64.5	16.0	0.3	3.0	0.2	1.6	-
ISIOLO	33,166	15.1	8.2	35.0	14.8	19.1	1.7	4.9	0.3	0.9
KAJIADO	191,919	30.2	2.3	18.9	0.7	11.1	33.6	-	0.4	2.7
KAKAMEGA	376,748	5.3	8.6	79.7	5.9	0.0	-	0.5	-	-
KERICHO	180,841	21.3	14.8	33.4	0.8	18.2	11.4	-	-	-
KIAMBU	500,472	68.6	0.7	1.5	2.8	8.5	17.0	-	0.4	0.6
KILIFI	221,008	23.6	7.6	48.4	6.4	0.1	0.2	13.3	0.2	0.3
KIRINYAGA	165,031	28.3	25.6	7.3	1.5	33.7	3.6	-	-	-
KISII	262,652	0.9	20.8	72.6	5.1	-	0.2	0.5	-	-
KISUMU	244,529	7.9	18.6	50.9	18.5	0.2	3.4	-	-	0.6
KITUI	215,060	3.1	74.9	21.7	-	-	0.3	-	-	-
KWALE	134,826	29.8	2.4	53.7	12.1	-	0.0	1.1	-	0.9
LAIKIPIA	109,222	20.7	5.3	9.5	3.0	50.3	2.3	0.7	0.1	8.0
LAMU	24,634	27.5	7.9	48.5	8.2	-	-	2.7	-	5.3
MACHAKOS	277,277	24.6	53.8	5.7	4.0	0.4	9.8	-	0.2	1.5
MAKUENI	195,294	10.5	75.3	13.1	1.0	-	0.1	-	-	-
MARSABIT	59,960	3.1	4.3	29.7	7.4	1.9	1.2	20.8	0.9	30.6
MERU	334,489	22.6	1.5	8.2	0.6	56.3	0.6	-	-	10.2
MIGORI	193,163	0.3	23.6	61.0	14.9	0.2	-	-	-	-
MOMBASA	299,439	21.9	42.0	4.4	30.3	0.3	0.9	-	-	0.3
MURANGA	272,402	37.7	7.7	19.5	1.0	19.1	10.0	-	4.0	1.0
NAIROBI	1,128,693	44.3	22.4	3.1	6.1	0.6	23.3	-	0.2	0.1
NAKURU	452,820	47.6	1.2	26.5	7.4	15.0	2.3	-	-	-
NANDI	169,448	3.4	10.7	78.8	4.7	2.1	-	-	-	0.5
NAROK	187,017	17.9	5.2	58.1	1.4	9.2	8.1	-	0.1	0.1
NYAMIRA	140,139	1.4	27.3	49.4	1.6	0.5	0.1	0.3	0.3	19.1
NYANDARUA	152,812	26.8	2.1	30.3	3.5	32.5	4.0	-	-	0.7
NYERI	215,824	26.2	0.8	3.0	0.6	65.3	3.5	-	0.5	0.3

		Wall Material								
	Total Households	Stone	Brick/Block	Mud/Wood	Mud/ Cement	Wood Only	Corrugated Iron Sheets	Grass/Reeds	Tin	Other
SAMBURU	52,388	13.9	0.6	35.4	4.5	9.1	1.1	11.6	-	23.7
SIAYA	213,400	1.2	15.2	65.0	16.5	-	0.0	-	-	2.1
TAITA TAVETA	79,950	23.3	38.1	24.9	9.0	0.7	2.1	-	-	1.9
TANA RIVER	52,234	1.4	4.9	38.4	21.5	-	-	33.3	-	0.5
THARAKA NITHI	92,796	12.6	8.2	45.1	2.3	24.8	1.2	0.8	-	4.9
TRANS-NZOIA	187,506	4.3	23.1	66.4	6.2	-	-	-	-	-
TURKANA	136,242	1.9	7.1	41.7	3.5	9.7	0.5	18.2	0.1	17.5
UASIN GISHU	223,618	22.9	14.6	49.0	4.6	5.2	1.8	-	0.1	1.8
VIHIGA	130,465	6.4	16.6	68.3	7.6	-	1.1	-	-	-
WEST POKOT	103,169	0.8	4.2	86.5	3.6	2.0	0.5	1.3	-	1.1

Chapter 4

THE BUILT ENVIRONMENT PROFESSIONALS AND SELECTED ASPECTS OF HOUSING

4.1 Introduction

The survey was designed to capture both operational characteristics and perceptions of Built Environment Professionals (BEPs) on the built environment issues in Kenya. A total of 450 (BEPs) were interviewed. These included Valuers, Architects, Physical Planners, Engineers (Civil/ Structural/ Mechanical/ Electrical), Building Surveyors, Land Surveyors and Quantity Surveyors. Other categories including Landscape Architects, Environmental Impact Assessment experts and Interior designers were also interviewed.

In many instances, multiple responses were invited especially with regard to questions on opinions/perceptions of the interviewee on various issues. However, in most cases percentages and proportions in the analysis were not computed against a totality of interviewees, but against a totality of responses.

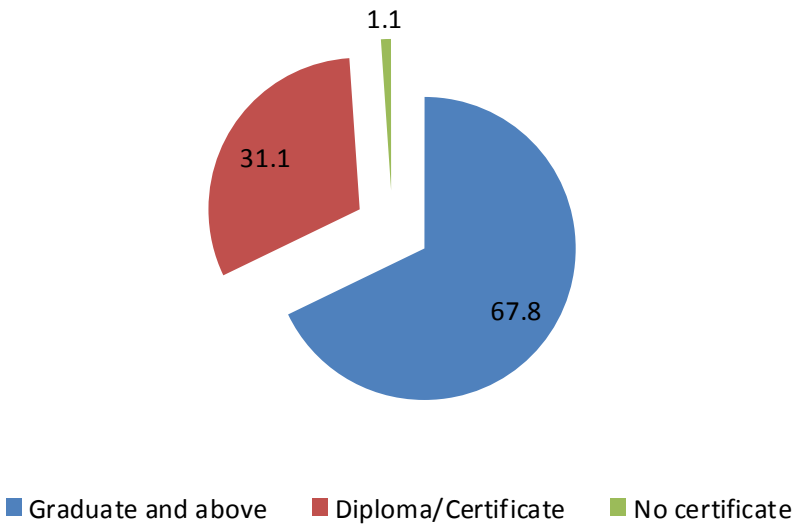
4.2 Characteristics of Built Environment Professionals

4.2.1 Professional Qualifications

In order to capture the reality, the questionnaire was administered to capture both qualified and unqualified persons who offered BEP services. The meaning of the term "*professional*" was hence used loosely in the sense that the "*profession*" given by the respondent was taken without making it mandatory for the research assistant to see the academic certificates as proof of qualification. Fig 4.1 depicts variations in terms of educational qualifications of practicing BEPs as;

- 67.8 per cent of the BEPs as graduate and above,
- 31.1 per cent as diploma/certificate holders and
- 1.1 per cent had no certificate.

Figure 4.1: Percentage distribution of all practicing BEPs by level of education



Of the 450 BEPs, 45.0 per cent were operating in Nairobi. Further, as shown in Table 4.1, of the BEPs with graduate qualification and above 54.5 per cent were based in Nairobi compared to 45.5 per cent who operated in other counties/ municipalities. Those whose qualification was Diploma and Certificate, 74.1 per cent operated outside Nairobi where as those without a certificate operated outside Nairobi.

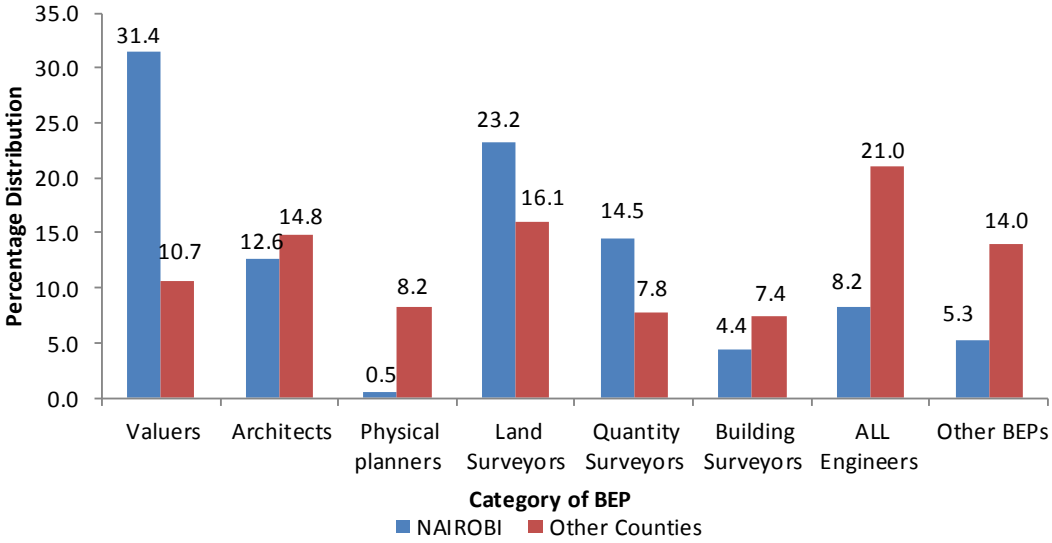
Table 4.1: Distribution of BEPs by level of education and place of operation

Highest Qualification	Nairobi	Other Counties
Graduate and above	54.5	45.5
Diploma/Certificate	25.9	74.1
No certificate	0.0	100.0
All Categories	45.0	55.0

4.2.2 Location of Operation

Fig 4.2 depicts the distribution of different categories of BEPs between Nairobi and other counties. In the case of valuers, the number based in Nairobi is thrice as much as the ones based in other counties. Slightly more land and quantity surveyors are based in Nairobi compared to other counties. However, the number of architects, physical planners, building surveyors engineers and other BEPs who are based in other counties is more than in Nairobi.

Figure 4.2: Percentage Distribution of all BEPs by location of operation

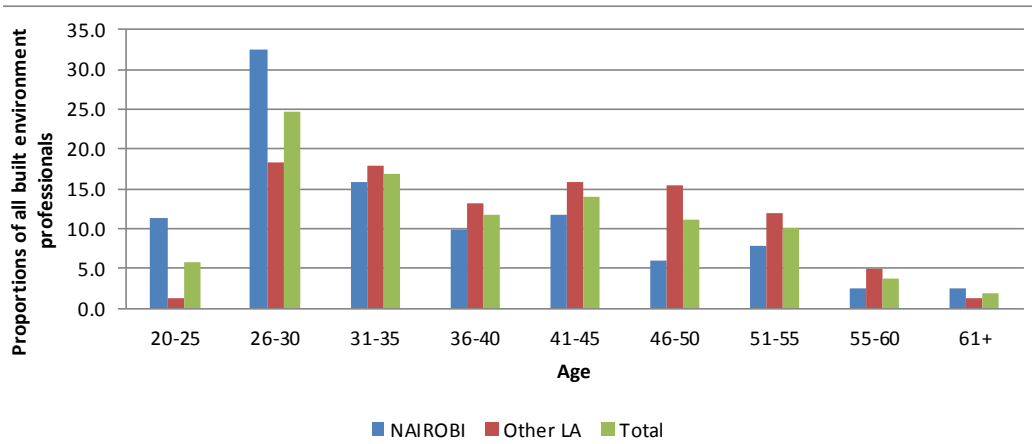


4.2.3 Age Distribution

The 26-30 years age Cohort represented 24.7 per cent of all BEPs in the country. This being ordinarily the fresh graduates of Universities and Polytechnics, was the cohort with the highest number of BEPS. As shown in Fig 4.3, the numbers of BEPs decrease as one move towards the higher age cohorts.

The data also shows a higher proportion of young BEPs in Nairobi compared to other counties. At higher ages, the situation seems to be reversed such that the proportion of older BEPs in other counties is more than the young ones

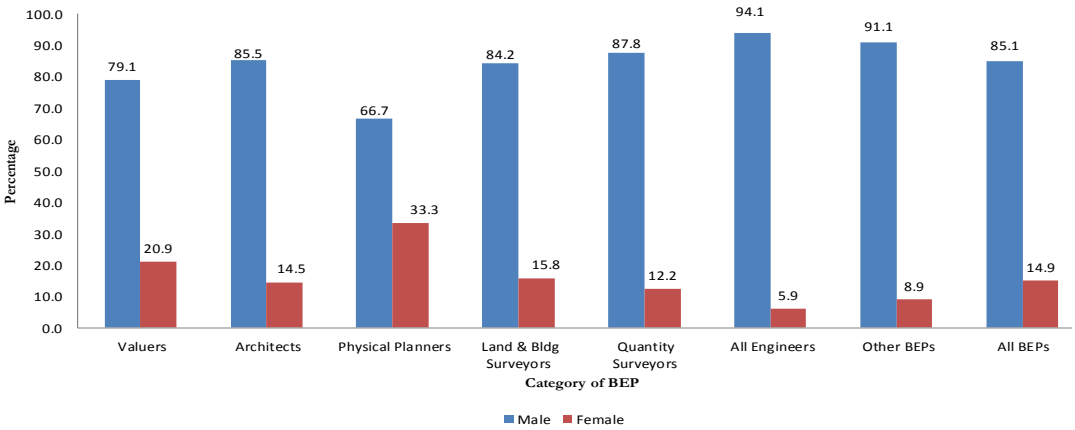
Figure 4.3: Percentage distribution of all BEPs in all areas by age



4.2.4 Sex

The survey revealed a male to female ratio of 85:15 for the interviewed BEPs. Fig 4.4 portrays the gender proportions across all professions. Generally, it was found that the number of females were much fewer than males in all the BEP categories. The worst hit category was that of Engineers where the ratio of Male to female was found to be 94:6. On the other hand, the best Male to Female ratio of 2:1 was found in the case of physical planners. Similarly, a second best male: female ratio of 79:21 was observed in the case of valuers. In the case of the other BEPs, females were less than 20.0 per cent of the total number for each profession.

Figure 4.4: Percentage distribution of all BEPs by sex



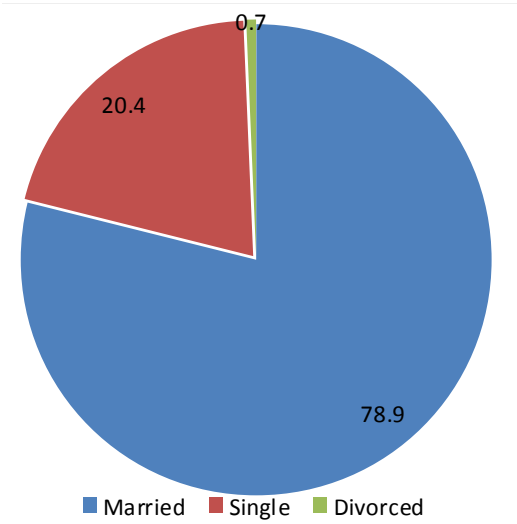
4.2.5 Marital Status

As presented in Table 4.2 and Fig 4.5, of the interviewed BEPs, 78.9 per cent reported to be married, 20.4 as single while 0.7 per cent were either divorced or separated.

Table 4.2: Marital status of all BEPs

	Married	Single	Divorced
Nairobi	68.6	31.0	0.5
Other Counties	87.7	11.5	0.8
All areas	78.9	20.4	0.7

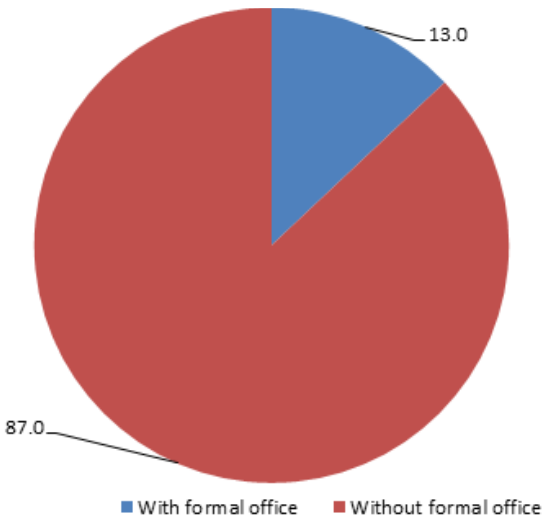
Figure 4.5: Marital status of all BEPs



4.2.6 Physical address

Ideally every BEP whether in the public or private sector, should operate from an office with some physical, postal, email, fax and all other forms of address. In practice however, due to various reasons, some BEPs operate from their houses, while others share offices with other businesses or other persons. The survey established that, 13.0 per cent of the interviewed BEPs did not operate from formal offices. However, as shown in Fig 4.6, 87.0 per cent operated from formal offices.

Figure 4.6: Percentage distribution of BEPs by physical address



4.2.7 Years of Experience

The length (and scope) of experience of BEPs are as shown in Fig. 4.7. About 35.5 per cent of the interviewed BEPs were found to have 0-5 years of experience. Similarly, the 6-10, 11-19 and 20+ years of experience categories represented 22.3, 20.5 and 21.7 per cent respectively.

Figure 4.7: Percentage distributions of BEPs by years of experience

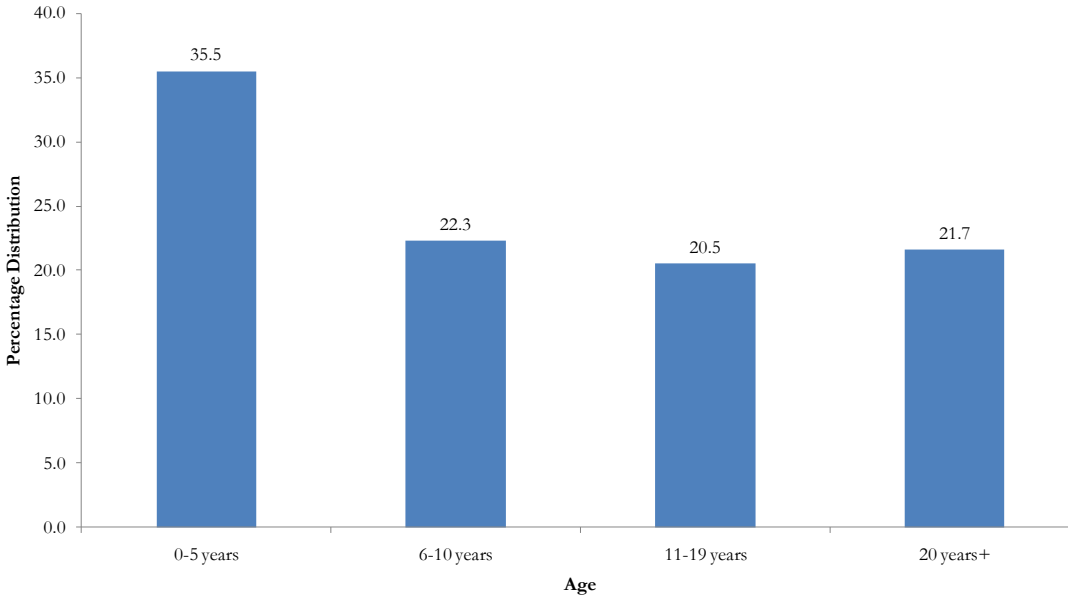


Table 4.3 further shows that out of the interviewed BEPs most of the less experienced operate in Nairobi.

Table 4.3: Proportion of BEPs by years of experience

	0-5 years	6-10 years	11-19 years	>20 years	Total
Nairobi	58.5	45.0	39.1	34.0	46.2
Other Counties	41.5	55.0	60.9	66.0	53.8

4.2.8 Nature of Employment

Table 4.4 and Fig. 4.8 show the distribution of different forms of Employment of interviewed BEPs as follows:

- Self-employed/sole proprietorship BEPs were 18.4 per cent. These were those who operated professional practices on their own, whether with employees

or not.

- Self employed/partnership BEPs were found to be 8.4 per cent. These were those who operated professional practices together with others whether with employees or not.
- Employed by public agency BEPs were found to be 51.2 per cent. This referred to professionals who are either employed by central government, local authorities or parastatals.
- Employed by private company BEPs were found to be 20.9 per cent. This referred to professionals who are either employed by private companies.
- BEPS working for non-governemntal agencies were 0.5 per cent.

Fig. 4.9 further in aggregate categorises all the BEPs into;

- Private sector i.e. (Self employed /sole proprietorship, self employed/ partnership and Employed by private company).
- Public sector i.e. (Employed by public agency and Non Governmental public sector e.g. churches, NGOs etc.)

Table 4.4: Proportions of different BEPs by nature of their employment

	Self-employed/ Sole proprietorship	Self-employed/ Partnership	Employed by public agency	Employed by private company	Non Governmental public sector (e.g. Churches, NGOs etc.)
Valuer	12.1	9.9	26.4	51.7	0.0
Architect	32.3	12.9	40.3	14.5	0.0
Physical Planner	14.3	4.8	76.2	4.8	0.0
Land Surveyor	12.6	1.2	78.2	8.1	0.0
Quantity Surveyor	18.4	12.2	55.1	14.3	0.0
Building Surveyor	15.4	7.7	57.7	15.4	3.9
Engineer (Civil, Structural, Mechanical, Electrical)	11.8	7.4	64.7	14.7	1.5
Other	42.2	13.3	24.4	20.0	0.0
All Categories	18.9	8.5	51.2	20.9	0.5

Figure 4.8: Proportions of all categories of BEPs by nature of their Employment

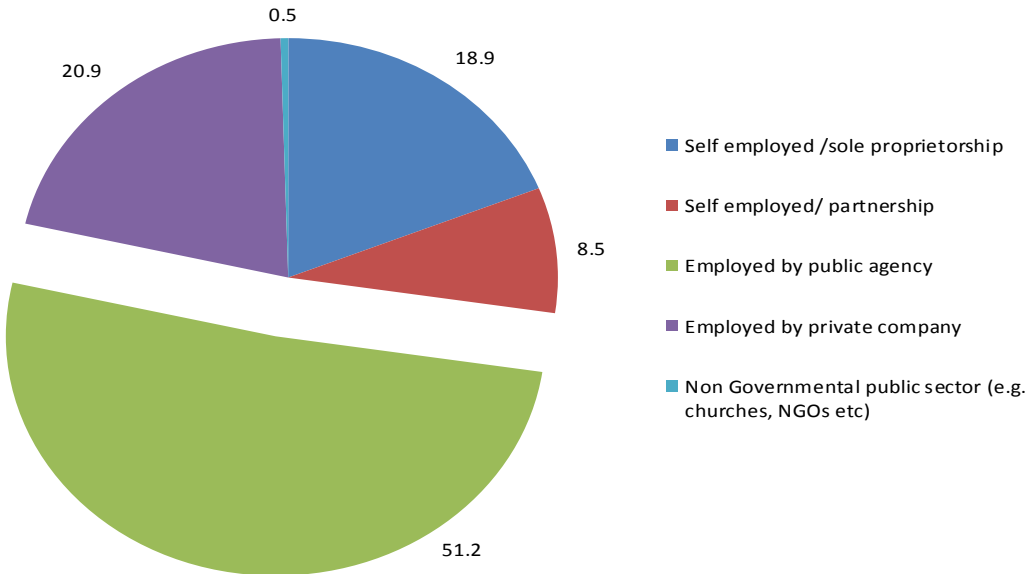
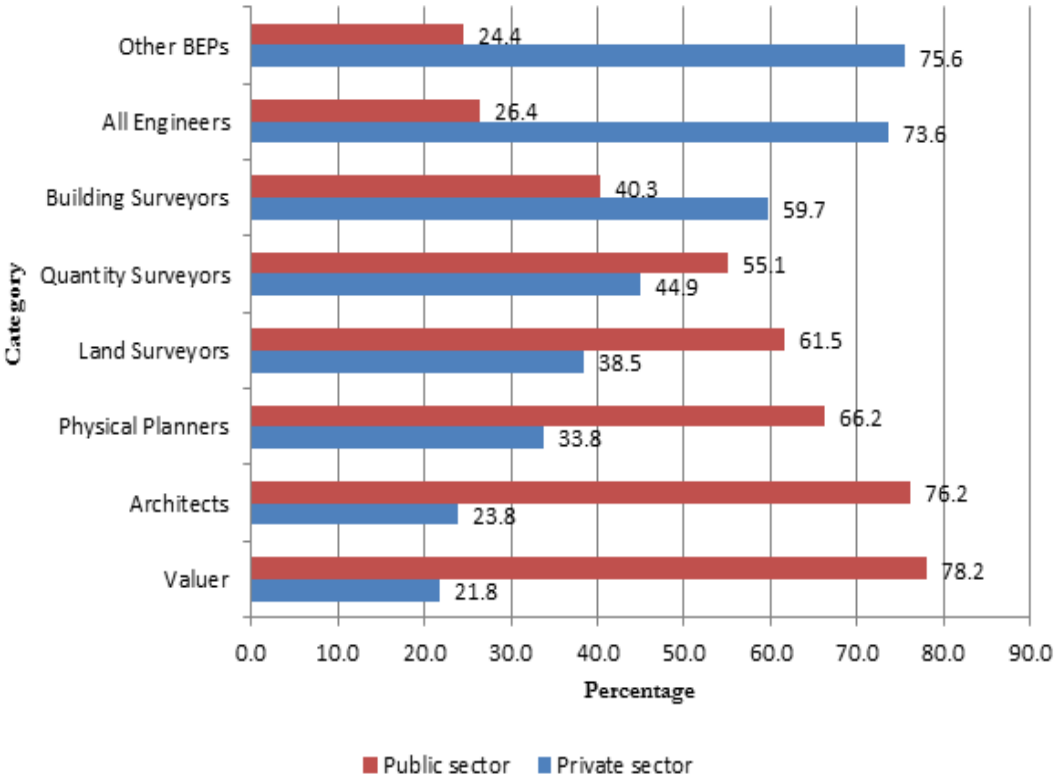


Figure 4.9: Percentage employment of BEPs into Private or Public sectors



4.2.9 Engagement of Other Build Environment Professionals

A vibrant and optimally functioning building and construction sector could have a direct positive impact on urban development, economic growth, employment creation and income generation. Generally, more vitality in the housing sector could result in more employment opportunities generated in the course of increasing supply of houses.

CEOs, principals, or senior partners and other key operators of BEP establishments, firms or agencies were asked to give information on the number and qualifications of other BEPS who are engaged as employees in their practices. The question however did not cover accountants, lawyers and other non-BEP professionals employed in the respondents' firms.

Table 4.5 shows the proportions of degree and diploma holders engaged by other BEPs. From the findings a higher proportion of architects, valuers and quantity surveyors who were degree holders were employed by other practicing BEPs compared to the other categories. In addition a similarly high proportion of diploma/ certificate holders who were engineers, land surveyors and architects were engaged by other BEPs.

Table 4.5: Percentage distribution by educational qualifications of BEPs who are engaged by other BEPs nationally

	Degree	Diploma/Certificate
Valuers	15.9	2.3
Architects	20.6	17.7
Physical Planners	2.1	0.9
Land Surveyors	6.0	14.6
Quantity Surveyors	18.8	8.0
Building Surveyors	4.3	7.8
Civil Engineers	6.7	2.5
Structural Engineers	7.0	5.4
Electrical Engineers	8.9	23.5
Mechanical Engineers	7.7	14.9
Other BEPs	1.9	2.5

4.2.10 Housing Projects in 2010 and 2011

The survey sought information on the projects the BEPs were involved in, in 2010 and 2011. This information is presented in table 4.6 and Fig 4.10. Over the two year period, most valuers (47.9%) were involved in valuation of single residential houses. A good number (38.1%) undertook valuation of multi residential houses.

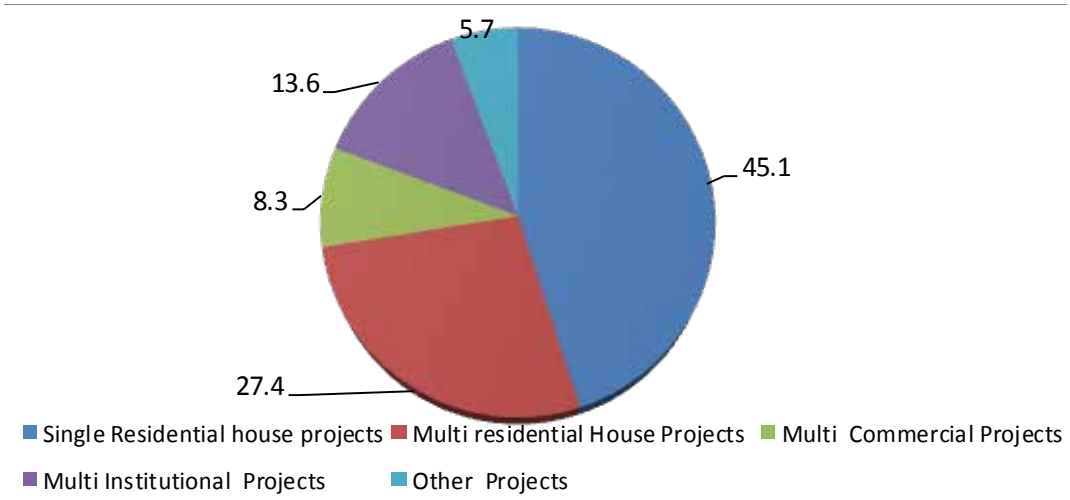
The total valuations of commercial, institutional and other houses were only 14.0 per cent.

As shown in Table 4.6, in the case of building surveyors 83.0 per cent of their activities had to do with single residential houses. However valuers, architects and engineers carried out more of their activities on both single and multiple residential houses as opposed to commercial ones. In terms of the number of housing projects undertaken, the trend depicted by valuers, architects and engineers compares very well with the aggregate trend for all BEPs combined. Further, Fig. 4.10 portrays all BEPs being more involved in residential compared to other types of housing units.

Table 4.6: Percentage distribution of combined projects undertaken by all BEPs in 2010/11

TYPE OF BEP	Single Residential House Projects	Multi Residential House Project	Multi Commercial Projects	Multi Institutional Projects	Other Projects
Valuers	47.9	38.1	10.1	3.1	0.9
Architects	45.9	32.7	4.8	15.3	1.4
Quantity Surveyors	9.3	15.0	8.9	26.8	40.0
Building Surveyors	83.0	7.6	2.1	7.3	0.0
Engineers	40.3	29.6	6.2	22.9	1.0
Others	19.5	21.2	34.9	23.0	1.5
All BEPs	45.1	27.4	8.3	13.6	5.7

Figure 4.10: Percentage distribution of Projects undertaken by all BEPs in 2010/11



4.3 The Built Environment Professionals and Use of Appropriate Technologies

4.3.1 Advice on Use of Appropriate Building Technologies

Supply of building materials (availability, quality) and use of technology directly affect housing supply. The 2012/2013 KNHS sought to understand the attractiveness of, and challenges which hinder embracing of alternative materials and technologies. It also sought to get BEP opinions on what could be done to overcome these obstacles.

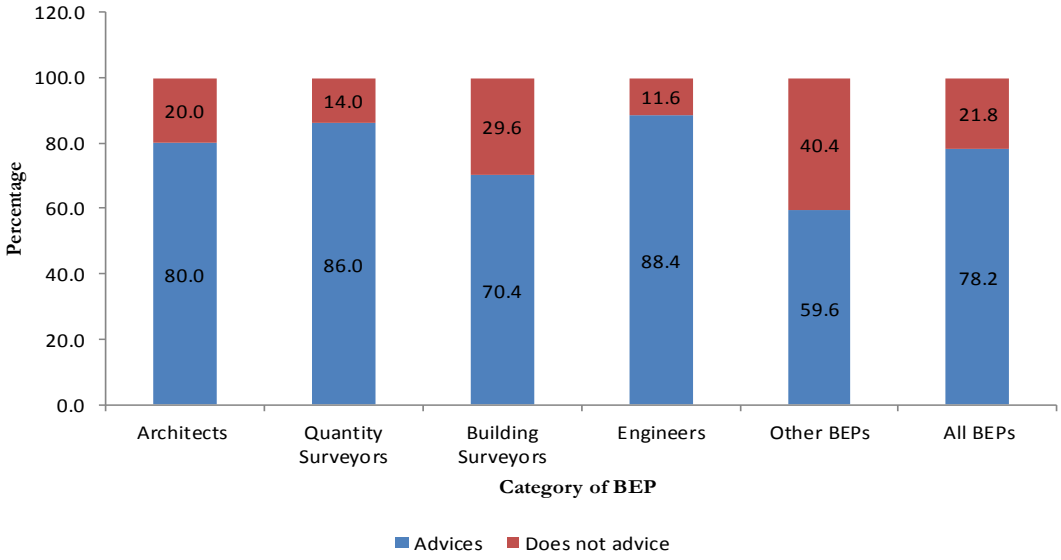
Generally, 66.0 per cent of the relevant BEPs reported to have been advocating for use of alternative building materials and appropriate technologies. In Fig 4.11 physical planners, valuers, land surveyors are not reflected because their line of duty is not applicable to advice on use and other BEPs consider this kind of advice as not applicable to their lines of duties.

The proportion of Engineers (civil, structural, mechanical, electrical), quantity surveyors and architects who reported to having advised on use alternative building materials and appropriate technologies in building was 80, 86 and 88.4 per cent respectively. Incidentally 16.9, 8.0 and 2.9 per cent of architects, quantity surveyors and engineers in Kenya do not believe in and actually do not advise their clients to use alternative building materials and alternative appropriate technologies.

Table 4.7: Proportions of BEPs on whether they advise their clients to use alternative building materials and alternative appropriate technologies in building.

	Yes	No	Not applicable
Architects	80.00	16.92	3.08
Quantity Surveyors	86.00	8.00	6.00
Building Surveyors	70.37	7.41	22.22
Engineers (Civil, Structural, Mechanical, electrical)	88.41	2.90	8.70
Other BEPs	59.57	14.89	25.53
All BEPs	78.24	7.77	13.99

Figure 4.11: Percentages of BEPs on whether they advise their clients to use alternative building materials and alternative appropriate technologies



4.3.2 Types of Alternative Building Materials and Technologies Advocated for by Kenyan BEPs

Alternative Building Materials

The main alternative building materials considered in the survey included: - Stabilized Soil Blocks (SSBs), Reinforced Concrete Panels and Prefabricated Panels. As presented in Table 4.8, over 41.0 per cent of interviewed BEPs reported to have been advocating for use of SBSs. This indicates that SBSs in Kenya have gained a relatively wider acceptability among BEPs compared to other alternative materials. About 26.0 per cent of the interviewed BEPs reported to advocate and advice on use of reinforced concrete panels. While only 19.0 per cent of BEPs reported to advocate and advice on use of prefabricated panels.

The data shows that Engineers, architects and quantity surveyors have the same liking to the three common alternative building materials. On the other hand the building surveyors were found to have a bias in terms of favouring towards Stabilized Soil Blocks.

Table 4.8: Proportions of common alternative building materials advocated for use by the different BEPs

	Stabilized Soil Blocks	Reinforced Concrete Panels	Prefabricated Panels	Others
Architects	34.0	30.2	18.9	17.0
Quantity Surveyors	34.9	25.6	27.9	11.6
Building Surveyors	76.9	15.4	0.0	7.7
Engineers (Civil, Structural, Mechanical, Electrical)	38.9	31.5	16.0	13.0
Other BEPs	59.1	13.6	18.2	9.1
All BEPs	41.6	26.5	18.9	13.0

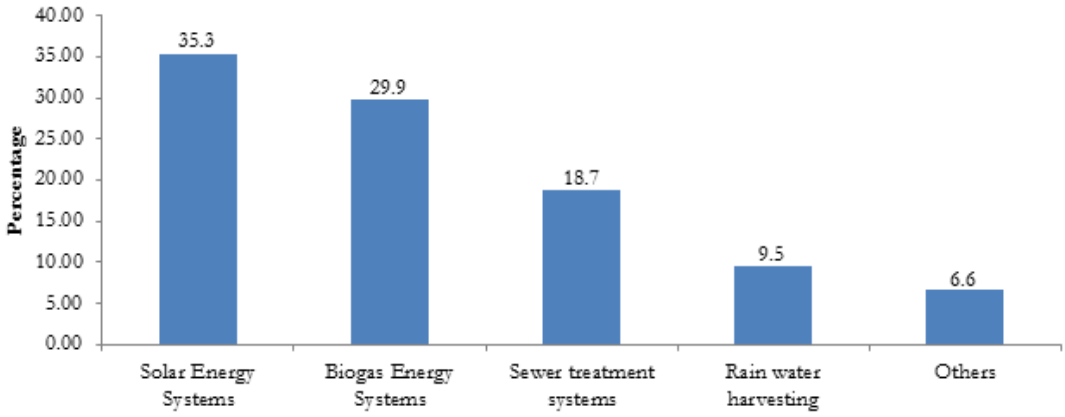
4.3.3 Advocated Alternative Technologies

As presented in Fig 4.12 and Table 4.9, solar and biogas energy systems emerged as the most popular appropriate technologies (35.7 and 31.4%) among the interviewed BEPs. the result further show that a small proportion (9.1%) of BEPs advises their clients to use rain water harvesting as an appropriate technology.

Table 4.9: Proportions of common alternative appropriate technologies advocated for use by different BEPs

	Solar Energy Systems	Biogas Energy Systems	Rain Water Harvesting	Sewer Treatment Systems	Other Alternative Appropriate Technologies
Architects	27.6	26.4	14.9	21.8	9.2
Quantity Surveyors	38.1	21.4	7.1	26.2	7.1
Building Surveyors	36.4	45.5	9.1	9.1	0.0
Engineers (Civil, Structural, Mechanical, Electrical)	43.2	28.4	6.8	14.9	6.8
Other BEPs	31.3	56.3	0.0	12.5	0.0
All BEPs	35.7	31.4	9.1	18.2	5.6

Figure 4.12: Percentages of all BEPs who advise their clients to use different common alternative technologies



4.3.4 Promoting Use and Non-Use of Alternative Building Materials and Technologies

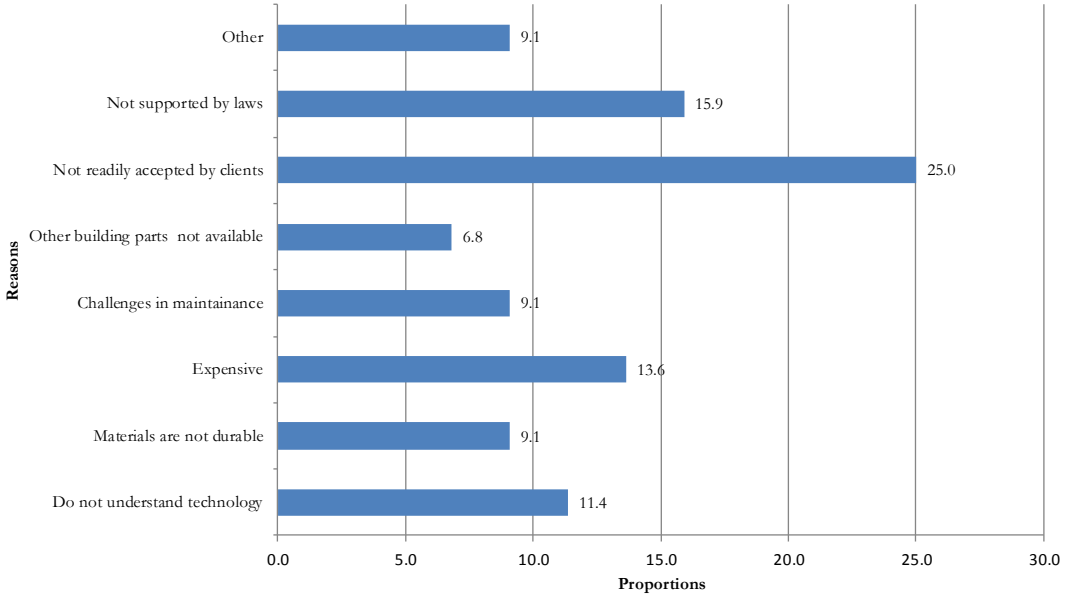
Table 4.10 presents the reasons why many BEPs advocate for use of appropriate materials and technologies in building. The results show that 31.0 per cent of all BEPs advise on alternative materials and technologies because they believe they are more economical in the long run and help in realizing savings on electrical bills, water bills. Further 29.0 per cent of the interviewed BEPs advise on use of alternative building materials and technologies because they believe they are environmentally friendly and reduce energy consumption and 24.0 per cent of the BEPs advise on alternative materials and technologies because they believe they maximize on use of natural resources available. Based on the perceptions of Kenya's practicing BEPs, one then sees that the biggest benefits that would accrue to Kenyans for use of alternative building materials and technologies are economy and environmental conservation.

Table 4.10: Percentage distribution of BEPs reason for advising on use of Appropriate Building Materials and Technologies

	They are environmentally friendly	Use traditional ways of construction	Maximize natural resources available	More economical in the long run	Less time for construction	Other
Architects	31.0	5.0	23.0	26.0	12.0	4.0
Quantity Surveyors	27.0	1.0	18.0	37.0	16.0	-
Building Surveyors	25.0	-	31.0	38.0	6.0	-
Engineers	28.0	4.0	26.0	31.0	9.0	2.0
Other BEPs	38.0	3.0	24.0	30.0	5.0	-
All BEPs	29.0	3.0	24.0	31.0	11.0	-

From the foregoing, it is worth noting that, for different reasons, a small fraction of BEPs does not advise their clients to use alternative building materials and technologies. As shown in Fig 4.13, 25.0 per cent of these BEPs do not provide that advice believe alternative building materials and technologies are not readily acceptable by the market/clients Further 16.0 per cent believe they are not supported/enabled by laws/legislation Another 14.0 per cent believe that they are expensive/unaffordable.

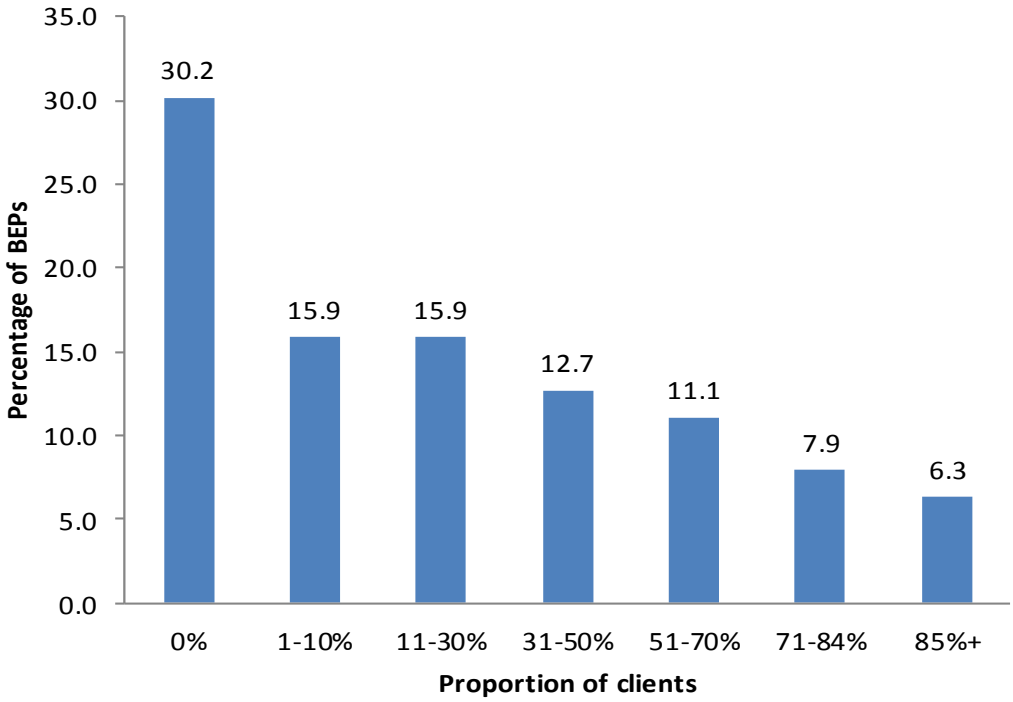
Figure 4.13: Proportional distribution of reasons why some BEPs do not advice their clients to use Alternative Building Materials and Technologies



4.3.5 Compliance to Building Plans' Approval Process

The 2012/2013 KNHS survey sought to establish the experience of BEPs with clients on seeking building plans approval. The results in Fig 4.14 show that 30.2 per cent of interviewed BEPs reported that all their clients had no problem in going through the approval process. Further 15.9 per cent of the interviewed BEPs indicated that between 1-10% of their clients did not bother to go through the building plans approval process. A similar proportion of BEPs indicated between 11-20% did not bother to go through the approval process. The proportion of BEPs who reported over 80% of their clients who do not bother to go through the approval process was 6.4 per cent.

Figure 4.14: Proportions of BEPs based on experience with their clients on seeking building plan approval



4.4 The Built Environment Professionals and Housing Development

4.4.1 Measures to Reduce Housing Development Costs

The survey invited ideas and constructive opinions from BEPs on what needs to be done to improve on housing delivery with regard to legislation, financing, incentives, management systems, use of appropriate technology, building plan approval processes and procedures etc.

Table 4.11 presents the percentage responses with respect to the different categories of BEPs and their aggregated responses on steps to be taken to reduce costs of housing construction. Almost 40.0 per cent of the BEPs responses were in favour of adoption and encouragement of use of affordable construction materials. A further 23.0 per cent of the responses were in favour of provision of incentives and (tax) concessions to enable construction of low-cost housing by builders/developers.

Table 4.11: Proportions of responses of BEPs views on measures to reduce costs of housing construction?"

	Provision of affordable construction materials	Government subsidy	Incentives and (tax) concessions	Adequate infrastructure	Other
Valuers	35.0	13.0	28.0	20.0	4.0
Architects	37.0	20.0	20.0	18.0	5.0
Planners	45.0	15.0	18.0	15.0	6.0
Land Surveyors	41.0	22.0	23.0	11.0	4.0
Quantity Surveyors	39.0	18.0	21.0	19.0	4.0
Building Surveyors	35.0	20.0	25.0	17.0	3.0
Engineers (Civil, Structural, Mechanical, Electrical)	41.0	17.0	22.0	15.0	5.0
Other BEPs	43.0	10.0	25.0	18.0	5.0
All BEPs	39.0	17.0	23.0	17.0	4.0

4.4.2 Measures to Improve Housing Development

Table 4.12 presents combined and specific suggestions by BEPs on steps to be taken to improve housing development.

Table 4.12: Proportions of proposals/suggestions by BEPs to improve housing development

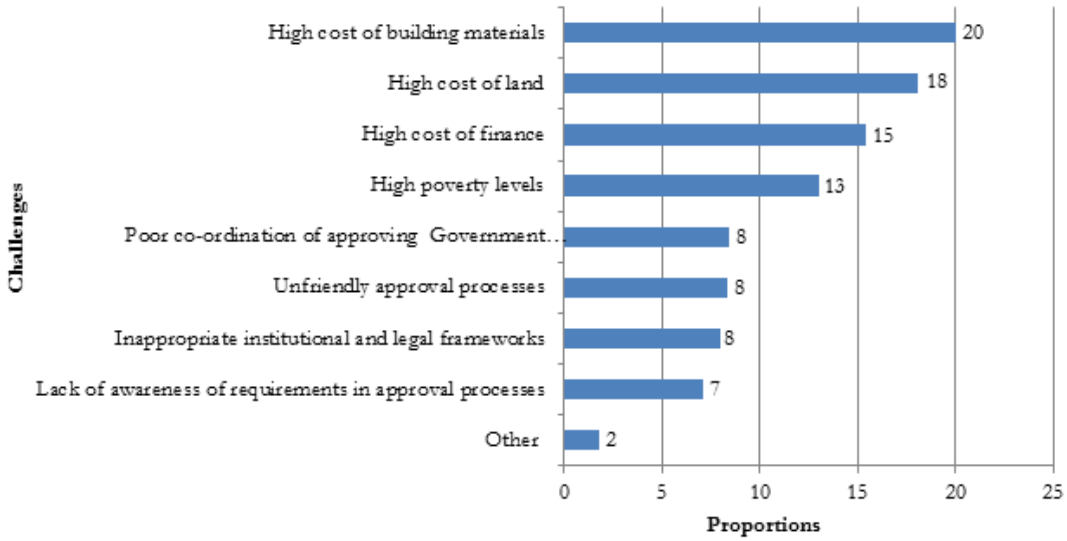
	Improve mechanisms for monitoring, regulation, and enforcement of standards of housing by the government	Promote awareness on housing rights (e.g. access to portable water) among citizens	Provide access to enabling financing	Upgrade all slums	Other actions	Total
Valuers	40	16	34	7	3	100
Architects	42	15	26	16	1	100
Physical Planners	35	16	23	26	-	100
Land Surveyors	45	15	25	13	2	100
Quantity Surveyors	43	16	30	8	3	100
Building Surveyor,	44	18	28	8	3	100
Engineers	46	22	19	10	3	100
Other BEPs	45	18	25	7	4	100
All BEPs	43	17	27	11	2	100

On the overall, a majority of the responses from BEPs were in favour of "Improve mechanisms for monitoring, regulation, and enforcement of standards of housing by the government" and "Provide access to enabling financing" as key steps to improving housing conditions.

4.4.3 Challenges to Housing Development

In aggregate BEPs cited the following issues as key challenges facing the housing sector/housing development in Kenya. High cost of land, high cost of building materials and high cost of finance emerged as the most critical challenges which impede development of housing in Kenya. These results are presented in Fig 4.15.

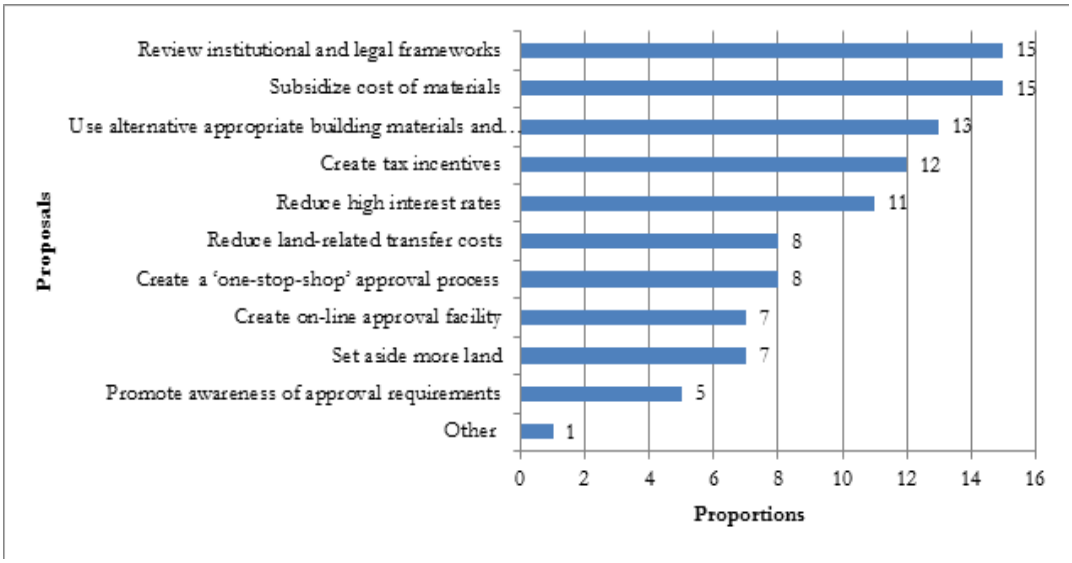
Figure 4.15: Proportions of BEPs responses on key challenges facing housing development in Kenya



4.4.4 Addressing the Key Challenges to Housing Development

Fig 4.16 presents information on suggestion by BEPs on how to address challenges facing housing development. About 15.0 per cent of the interviewed BEPs were in favour of both subsidizing cost of building materials by government and review institutional and legal framework as ways of addressing the challenge of housing development. Only 5.0 per cent of the BEPs felt that promoting awareness on approval requirements is a key challenge facing housing development.

Figure 4.16: Percentage distribution of BEP proposals to address key challenges facing housing development in Kenya



4.4.5 Measures to Reduce Housing Maintenance Costs

Maintenance is often overlooked, side-lined, or neglected altogether by clients and professionals. This is detrimental to the performance and appearance of the housing unit(s) in the long run. The survey sought views of BEPS on how to minimise maintenance costs as indicated in table 4.13, 34.0 per cent of the interviewed BEPs indicated that ensuring use of good quality building materials. A further 25.0 per cent recommended the engagement of sound workmanship.

Table 4.13: Proportional distribution of proposals by BEPs towards reducing buildings/ homes maintenance cost of

	Ensuring use of good quality building materials	Sound work man-ship	Using locally available materials whose replace-ment parts are also locally available	Using materials and techniques that are well un-derstood by local workmen/ artisans	Other	Total
Valuers	32	26	20	18	4	100
Architects	33	27	17	19	4	100
Physical Planners	38	17	25	19	2	100
Land Surveyors	39	19	20	20	2	100

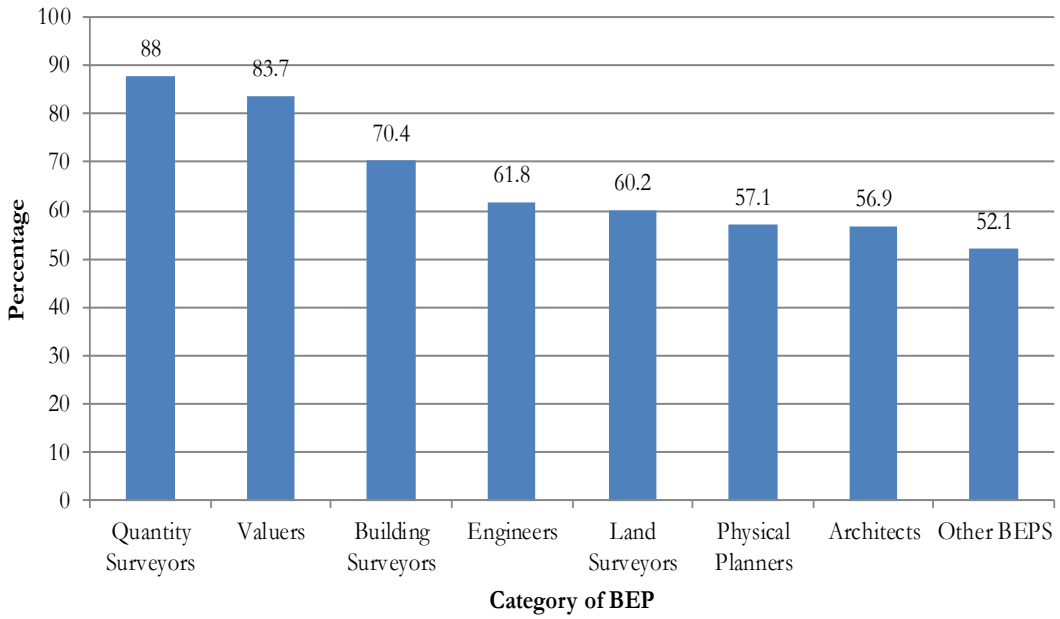
	Ensuring use of good quality building materials	Sound work man-ship	Using locally available materials whose replace-ment parts are also locally available	Using materials and techniques that are well un-derstood by local workmen/ artisans	Other	Total
Quantity Surveyors	35	28	16	18	3	100
Building Surveyors	28	28	19	24	1	100
Engineers	36	26	18	17	3	100
Other BEPs (specify)	34	27	15	22	2	100
All BEPs	34	25	18	19	3	100

4.5 Formal Registration and Membership to Professional Bodies

4.5.1 Status of Registration of the Built Environment Professionals

As shown in Fig 4.17 over 50.0 per cent of the interviewed BEPs were registered. The largest proportions of registered BEPs were quantity surveyors followed by valuers at 88.0 per cent and 83.7 per cent respectively.

Figure 4.17: Percentage distribution of registered BEPs



4.5.2 Reasons for Non Registration

The survey sought to find out why some BEPs were not registered. Follow up questions were posed to the BEPs who had indicated that they were not registered. The reasons for non registration with respective professional bodies are as shown in Table 4.14. Most of the BEPs who were not registered indicated that they were in the process of gaining experience to be eligible for registration examination.

Table 4.14: Proportional distribution of non- registered BEPs by reasons for non-registration

	Do not see the need	In the ptin in process of registration examinations	Registration process is tedious and long	Do not have enough money for registration process	Lack of internship opportunities	Change in career pursuits	Other reason
Valuers	8	50	17	8	4	8	4
Architects	6	35	21	15	3	3	18
Physical Planners	-	50	-	-	-	-	50
Land Surveyors	8	44	23	13	3	3	8
Quantity Surveyors	14	57	-	-	-	-	29
Building Surveyors	11	56	-	-	11	11	11
Engineers	9	44	25	9	3	-	9
Other BEPs	8	35	8	19	15	8	8
All BEPs	8	43	17	11	5	4	12

4.5.3 Advantages of Membership in Professional Bodies

Qualified professionals are encouraged to be registered with their umbrella professional bodies. The mandates of these bodies provide a variety of opportunities, advantages, and benefits. The survey sought to determine the relevance of the bodies, whether they deliver on their core businesses and mandate, and what can be done to enhance their role and service. As shown in Table 4.15, different BEPs received different benefits from their respective professional bodies. The survey revealed that 21.5 per cent of the BEPs benefited from publicist of their professional services. A further 18.0 per cent benefited in direction in matters of professional practice.

Table 4.15: Percentage distribution of BEPs responses on benefits received from professional body

	Promotion of integrity among professionals	Direction in matters of professional practice	Provision of professional opinions on matters pertaining to violation of statutes	Continuous Professional Development	Publicity of professional services	Defence of professionals in the event of unfair accusations	Other benefits
Valuers	13.7	17.9	9.5	14.8	22.0	17.8	4.5
Architect	19.1	16.3	10.5	11.5	20.6	17.2	4.8
Planner	20.7	17.2	12.1	12.1	20.7	17.2	0.0
Land Surveyor	18.7	21.0	10.3	10.3	20.2	15.9	3.6
Quantity Surveyor	14.5	19.3	7.3	15.0	24.6	13.5	5.8
Building Surveyor	14.1	17.7	12.9	12.9	21.2	17.7	3.5
Engineer	19.2	15.9	13.6	10.8	20.6	14.5	5.6
Other BEPs	15.3	17.4	15.3	8.2	20.4	14.3	9.2
All BEPs	16.6	18.0	10.7	12.4	21.5	16.1	4.8

4.5.4 Improving Service Delivery of Professional Bodies

Views were sought from BEPs on how to improve service delivery of professional bodies. As presented in table 4.16, 34.0 per cent of the interviewed BEPs advocated for hosting of more education workshops and increase professional development opportunities.

Table 4.16: Percentage distribution of BEPs views on improving service delivery of professional bodies

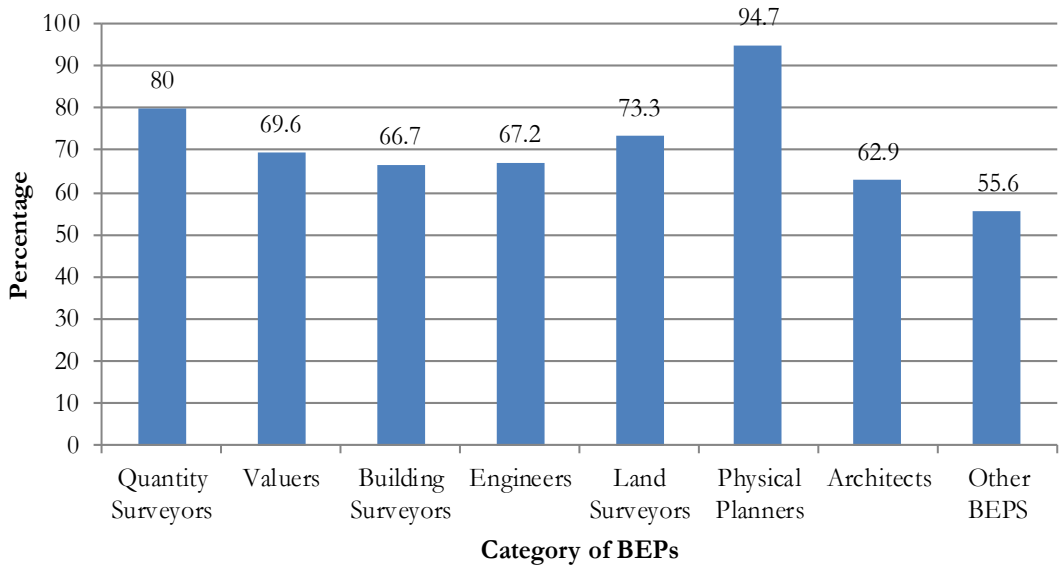
	Host more education workshops / professional development opportunities.	Lobby government for better regulations on transactions and ownership of land.	Promote awareness of professionals / skills.	Recognize and award outstanding professionals.	Create a loan facility.	Other suggestions
Valuers	31	30	19	10	3	6
Architects	38	17	15	17	7	6
Planners	33	23	18	13	3	10
Land Surveyors	38	26	16	11	4	4
Quantity Surveyors	34	18	28	14	3	3
Building Surveyors	26	13	26	19	8	8
Engineers	37	13	24	17	6	2

	Host more education workshops / professional development opportunities.	Lobby government for better regulations on transactions and ownership of land.	Promote awareness of professionals / skills.	Recognize and award outstanding professionals.	Create a loan facility.	Other suggestions
Other BEPs	30	25	19	9	7	11
All BEPs	34	22	20	14	5	5

4.5.5 Effectiveness of Registration Boards

Professionals' Boards of Registration have mandates that include registration, regulation, and undertaking of disciplinary action. The 2012/2013 KNHS survey sought to find out from the BEPs whether the registration boards under which they operate were effective in enforcement of regulations and discipline. Most of the BEPs indicated that their registration bodies were effective with regard to enforcement of regulations and discipline as indicated in Fig 4.18.

Figure 4.18: Percentage distribution of BEPs views on effectiveness of registration boards



The survey further sought the views of the BEPS who felt that their registration bodies were effective on what made them effective. The findings are presented in Table 4.17. Majority of the BEPs felt that their registration board mandate were supported by legislation as well as following the laid rules and regulations.

Table 4.17: Percentage distribution of BEPs views on what makes their respective registration boards effective

	Its mandate is supported by legislation	Commitment and integrity of board members	Proper compensation for board members	Clear rules and regulations	Payment of subscription, registration and other fees	Other
Valuers	33.8	19.4	2.9	23.7	19.4	0.7
Architects	34.6	21.0	2.5	25.9	16.1	0.0
Planners	32.4	16.2	5.4	27.0	16.2	2.7
Land Surveyors	31.9	19.8	4.3	35.3	7.8	0.9
Quantity Surveyors	34.1	24.2	4.4	26.4	11.0	0.0
Building Surveyors	25.0	30.6	2.8	27.8	11.1	2.8
Engineers	36.0	19.1	3.4	28.1	13.5	0.0
Other BEPs	36.1	11.1	8.3	16.7	19.4	8.3
All BEPs	33.4	20.3	3.8	27.2	14.1	1.1

4.5.6 Enhancing the Effectiveness of Registration Boards

The survey also sought for the views of BEPs on how to enhance the effectiveness of the registration boards that were perceived as not being effective. This information is shown in table 4.18. Almost 40.0 per cent advocated for the strengthening of the institutional and legal framework.

Table 4.18: Proportional distribution of BEP views on enhancing the effectiveness registration boards

	Strengthen enabling institutional and legal frameworks.	Select board members with commitment and integrity	Provide adequate compensation for board members.	Provide clear rules and regulations for the board.	Improve collection of subscription, registration and other fees.	Other suggestion.
Valuers	49	22	4	16	4	4
Architects	38	18	4	24	9	7
Physical Planners	67	-	33	-	-	-
Land Surveyors	34	22	9	25	8	3
Quantity Surveyors	50	25	-	20	-	5
Building Surveyors	32	16	11	21	16	5
Engineers	44	18	-	24	9	6
Other BEPs	30	15	9	24	6	15
All BEPs	39	19	6	22	7	6

4.6 Professional Fees Structure and Indemnity Cover

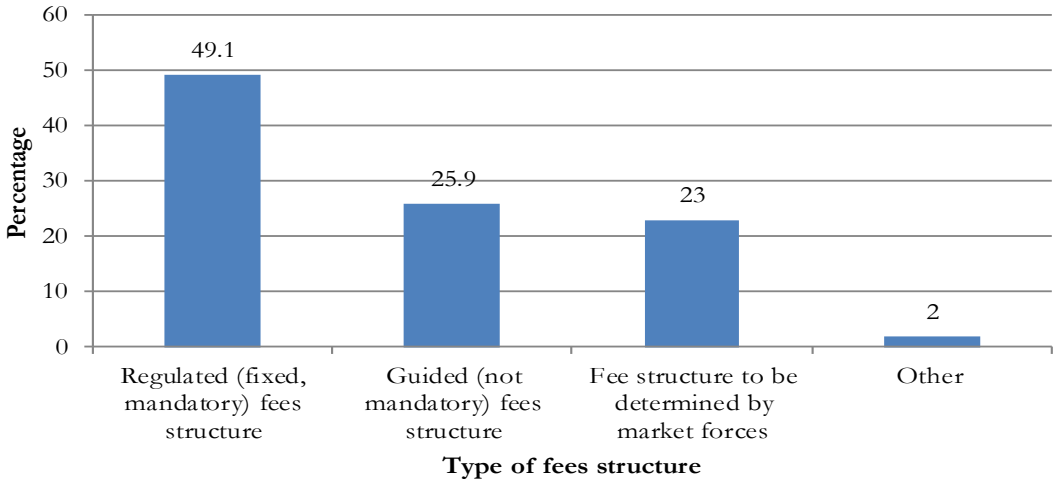
4.6.1 Preference to Certain Fees Structure

Cost/affordability of housing production is in part influenced by professionals' fees. The survey sought to determine the preferred/more attractive approach to fees. Client's paying of professional fees also rightly creates the expectation that their work will be handled in a competent, legal, and professional manner. Findings on the preferred professional fee structure are presented in Table 4.19 and Fig 4.19. These results indicate that, regulated (fixed, mandatory) fees structure emerged as the preferred mode of setting professional fees among most BEPs (49 %).

Table 4.19: Percentage distribution of BEPs views on preferred professional fees structure

	Regulated (fixed, mandatory) fees structure.	Guided (not mandatory) fees structure.	Fee structure to be determined by market forces (fees determined by demand and supply of professionals services).	Other
Valuers	66.3	21.7	12.0	0.0
Architects	48.4	266	20.3	4.7
Physical Planners	76.2	9.52	14.3	0.0
Land Surveyors	42.1	30.7	26.1	1.1
Quantity Surveyors	42.0	34.0	20.0	4.0
Building Surveyors	38.5	38.5	23.1	0.0
Engineers (Civil, Structural, Mechanical, Electrical),	48.5	19.1	30.9	1.5
Other BEPs	31.9	25.5	38.3	4.3
All BEPs	49.1	25.9	23.0	2.0

Figure 4.19: Proportional distribution of all BEPs' views on preferred fees structure



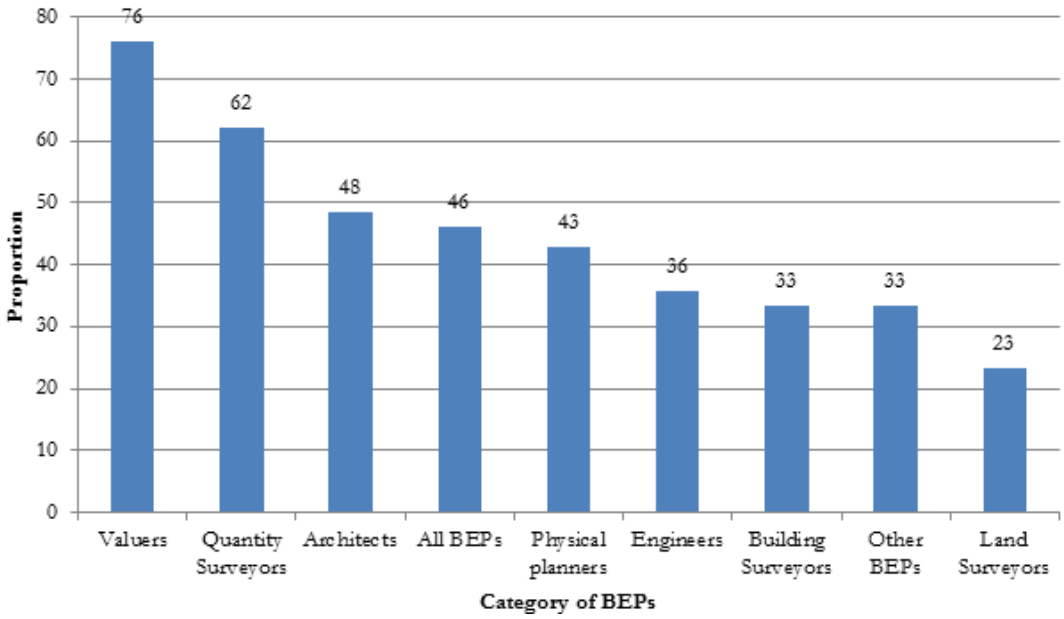
4.6.2 Status of Acquisition of Indemnity Cover by the Built Environment Professionals

The survey intended to determine whether the BEPs had indemnity cover. The survey findings as shown in Table 4.20 revealed over half of the interviewed BEPs did not have an indemnity cover. However 76.0 per cent of the valuers and 62.0 per cent of the quantity surveyors indicated that they had the cover. The proportions of the BEPs by category who had taken indemnity cover are presented in Fig 4.20.

Table 4.20: Percentage distribution of BEPs by possesioj of indemnity cover

	Yes	No
Valuer	76	24
Architect	48	52
Planner	43	57
Land Surveyor	23	77
Quantity Surveyor	62	38
Building Surveyor	33	67
Engineer	36	64
Other BEPs	33	67
All BEPs	46	54

Figure 4.20: Percentage distribution of BEPs by possession of indemnity cover



The reasons why some BEPs had not taken an indemnity cover are presented in table 4.21. The main reason for not taking the cover was that they could not afford it.

Table 4.21: Percentage distribution of reasons why some BEPs do not have an indemnity cover

	Do not see the need for it	Cannot afford it	Indemnity cover has expired	Other reasons
Valuer,	47	29	0	24
Architect,	13	39	19	29
Planner,	40	40	0	20
Land Surveyor,	21	40	6	33
Quantity Surveyor,	22	22	0	56
Building Surveyor,	0	40	0	60
Engineers,	33	47	0	20
Other BEPs	27	42	12	19
All BEPs	25	38	6	31

4.7 The Built Environment Professionals and Service Delivery in Housing Development

4.7.1 Collapse of Buildings under Construction

The survey sought to determine the views of the BEPs on causes of collapse of buildings under construction. The results specify that, as indicated in table 4.22, use of sub-standard materials, use of quacks for supervision and hurried construction, were cited by 28.7 per cent of the BEPs as the main reasons.

Table 4.22: Percentage distribution of BEPs' views on why building under construction collapse

	Valuers	Architects	Physical Planners	Land Surveyors	Quantity Surveyors	Building Surveyors	Engineers	Other BEPs	All BEPs
Faulty building designs.	6.9	7.7	4.1	6.0	9.4	10.5	7.8	7.3	7.4
Faulty construction of buildings.	11.6	13.3	10.2	9.9	16.3	8.6	12.0	10.6	11.8
Poor co-ordination of government institutions in the approval processes.	7.5	2.8	6.1	8.7	5.6	7.9	6.7	5.8	6.5
Approval of unworthy buildings.	8.4	8.0	10.2	11.3	9.0	7.2	8.8	9.7	9.1
Use of sub-standard materials.	14.0	15.0	18.4	16.1	12.0	14.5	13.0	15.0	14.5
Use of 'quacks' for construction.	13.4	14.0	16.3	14.3	12.9	13.2	15.1	15.9	14.2
Use of 'quacks' for supervision.	9.5	12.9	11.2	9.9	12.9	9.9	13.4	11.6	11.3
Theft of building materials from construction sites..	2.8	2.5	1.0	4.5	1.7	3.3	2.5	2.9	2.8
Adverse weather conditions	1.3	1.8	3.1	0.9	1.3	4.0	1.1	1.5	1.6
Hurried construction of buildings.	13.6	14.7	12.2	13.1	10.3	12.5	13.7	13.5	13.2
Cutting corners on approval procedures by clients.	9.5	6.3	6.1	5.1	8.2	7.9	5.6	5.8	7.0
Other issues.	1.5	1.1	1.0	0.3	0.4	0.7	0.4	0.5	0.8
All responses.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

4.7.2 Improving Service Delivery in Housing Development

Views from the BEPs were sought on how to improve service delivery in housing production and are presented in Table 4.23. About 40.0 per cent proposed the continuous review of the training curriculum with a further 21.9 per cent proposing creation of loans facility for graduates.

Table 4.23: Percentage distribution of BEPs views on how to improve service delivery of professionals housing production

	Create loan facilities for graduates	Continuously review training curricula	Facilitate internship opportunities with the relevant institutions	Improve learning facilities in tertiary institutions	Eliminate 'quacks' in the building industries	Other
Valuers	10.6	26.2	15.1	16.5	29.8	1.8
Architects	9.8	22.6	17.3	20.3	27.8	2.3
Planners	9.5	28.6	16.7	23.8	14.3	7.1
Land Surveyors	12.6	20.0	15.8	18.4	32.1	1.1
Quantity Surveyors	7.0	28.5	16.2	20.0	25.4	3.1
Building Surveyors	7.1	25.7	15.7	20.0	24.3	7.1
Engineers	9.9	21.6	19.8	20.4	27.8	0.6
Other BEPs	11.0	22.9	14.7	21.1	28.4	1.8
All BEPs	21.9	39.2	7.2	8.6	20.5	2.7

Going by the findings of the 2012/2013 KNHS the issue of continuously reviewing training curricula was singled out as the most important consideration to help housing sector professionals deliver even better in housing production. Institutions of higher learning should take it upon themselves to regularly review and update the curricula so that BEPs upon graduation are adequately equipped with the knowledge to guide other players in delivery of housing units

Chapter 5

FINANCING OF HOUSING DEVELOPMENT

5.1 Financing of Housing Development

Information on the financial sector collected in this survey aimed at understanding the status of the housing industry and what drives the availability of different financing products in the industry. The financier was defined as any person or institution whether private or public that provides formal or informal credit financing for housing construction and mortgages. The survey targeted commercial banks, Micro-Finance Institutions (MFIs), Savings and Credit Cooperative Societies (SACCOs), housing schemes and any other category of institution that provides financial support for housing development.

A total of 43 commercial banks were respondents in the survey. Nairobi County had the highest response with 28 banks responding. The rest of the counties response ranged between 0-4. Other respondents included 4 microfinance institutions, 36 Savings and Credit Cooperatives, 15 housing schemes and 4 institutions under the category of 'others'.

5.2 Proportions of Deposits and Loans by Customer Base

The average proportion of customer base deposits and loans are presented in Table 4.1. Average proportion of customer deposits held by commercial banks stood at 59.4 per cent for individuals at 53.8 per cent and Self-help groups at 33.3 per cent. The main contributors to MFIs deposits are self-help groups at 71.0 per cent. The SACCOs reported an average of individual deposits at 68.6 per cent and 2.1 per cent from companies.

Table 5.1: Average proportions of deposits by composition of customer base, 2010

Deposits from(%):-		Individuals	Companies	Self-help groups	NGOs and religious institutions	Others
Type of financier	Commercial Bank	59.4	28.8	4.3	4.3	3.2
	Microfinance institution	53.8	7.4	33.3	0.8	4.8
	SACCO	68.6	2.1	-5.5	-3.3	38.0
	Employers Scheme	0.0	86.0	0.0	13.0	1.0
	Other	95.6	3.2	0.6	0.6	.0

Table 5.2: Average proportions of loans by composition of customer base, 2010

Loans to(%):-		Individual	Companies	Self-help groups	NGOs and religious institutions	Others
Type of financier	Commercial Bank	48.7	37.9	6.1	0.2	7.1
	Microfinance institution	14.0	37.9	77.5	2.3	1.7
	SACCO	66.3	3.8	26.6	1.1	2.2
	Employers Scheme	75.0	5.7	3.6	8.5	7.2
	Other	95.7	4.3	0.0	0.0	0.0

5.3 Proportions of Loans by Composition of Customer Base, 2010

Average proportion of customer base loans from commercial banks stood at 48.7 per cent and 37.9 per cent for individuals, and companies respectively. Microfinance lending to individuals averaged 14.0 per cent, 37.9 per cent to companies, and 77.5 per cent to self-help groups. Lending to individuals by SACCOs was 66.3 per cent.

5.4 Deposits and Loans by County

Deposits and loans by county are presented in table 5.3. Nairobi County, reported the highest deposits at KSh 384.4 billion or 69.2 per cent. Out of the 47 counties 15 did not report housing loans. Uasin Gishu reported the highest uptake of housing loans at 56.0 per cent of the total. Financial institutions monitored construction by sending own representative at 65.0 per cent while also relying on report by borrower.

All commercial banks reported to be charging interest on a monthly basis. Of the total reported mortgage products 76.0 per cent were on variable interest rate while 6.1 per cent were on fixed rate and those who reported having short term fixed before variation at 4.6 per cent. Short term fixed before variation was reported to be four months over total loan duration of 11 months.

Table 5.3: Reported Commercial banks deposits, loans and housing loans by county

S/No.	County	Deposits	All Loans	Housing Loans
1	Mombasa	24,638,032,687	14,420,102,182	408,261,216
2	Kwale	1,055,539,929	780,000,000	30,000,000
3	Kilifi	2,284,757,598	2,123,774,276	148,800,000
4	Tana River	119,000,000	151,000,000	
5	Lamu	164,400,000	46,900,000	
6	Taita Taveta	570,000,000	919,000,000	20,150,000
7	Garissa	1,050,800,000	1,434,000,000	
8	Wajir	366,000,000	210,000,000	
9	Mandera	818,000,000	223,000,000	
10	Marsabit	1,085,000,000	551,000,000	
11	Isiolo	910,165,669	758,876,426	100,465,000
12	Meru	7,452,032,040	6,685,631,062	53,300,000
13	Tharaka	2,570,200,000	2,160,965,000	
14	Embu	15,738,880,104	3,753,172,459	313,619,015
15	Kitui	1,648,512,923	1,942,695,989	
16	Machakos	5,153,466,694	4,619,376,061	18,000,000
17	Makueni	996,040,781	1,038,571,560	
18	Nyandarua	4,419,848,584	2,414,189,001	22,400,000
19	Nyeri	7,700,490,450	5,737,218,040	239,274,018
20	Kirinyaga	4,102,848,517	2,523,268,660	2,500,000
21	Muranga	5,248,437,000	3,865,454,000	151,498,000
22	Kiambu	15,288,646,584	12,159,832,556	482,781,076
23	Turkana	428,000,000	470,000,000	
24	West Pokot	430,000,000	514,000,000	1,700,000
25	Samburu	264,000,000	275,000,000	
26	Transnzoia	2,886,652,673	1,923,111,624	12,150,000
27	Uasin Gishu	7,197,966,187	7,265,712,821	403,796,983
28	Elgeyo Marakwet	73,000,000	145,000,000	
29	Nandi	1,239,000,000	2,246,000,000	7,840,000
30	Baringo	355,000,000	319,000,000	1,500,000
31	Laikipia	5,236,225,049	1,202,883,281	8,800,000
32	Nakuru	14,900,051,789	11,606,514,435	197,350,119

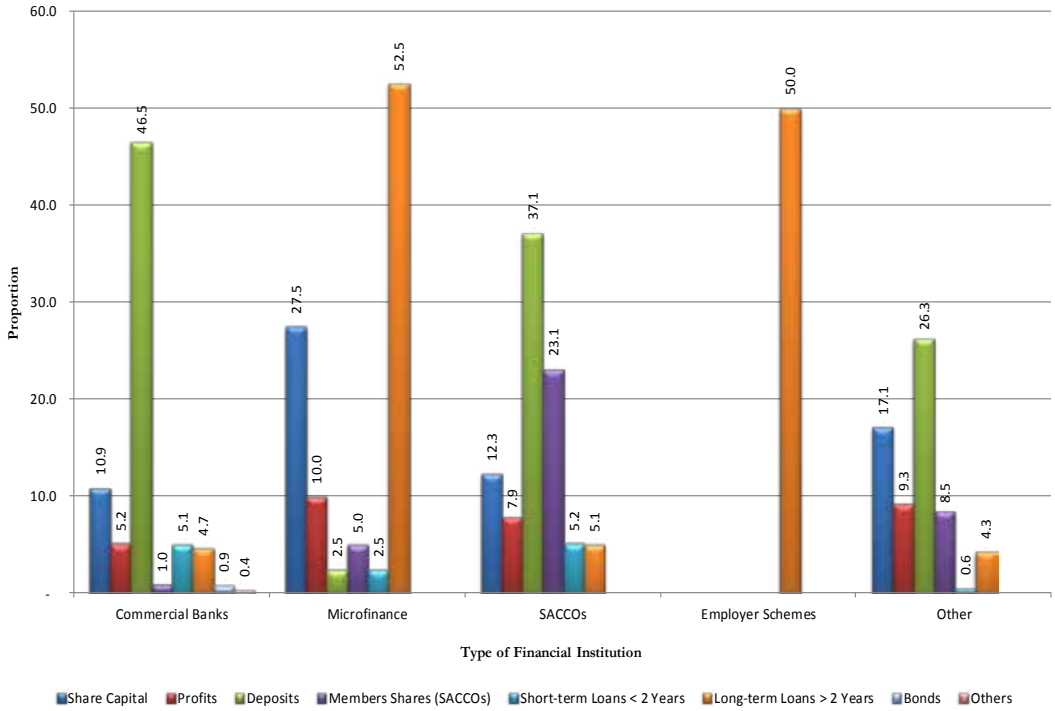
S/No.	County	Deposits	All Loans	Housing Loans
33	Narok	1,889,700,000	2,520,600,000	314,000,000
34	Kajiado	4,912,351,518	4,107,625,760	204,858,000
35	Bomet	680,000,000	715,000,000	
36	Kericho	4,328,133,364	4,981,333,109	28,800,000
37	Kakamega	2,784,000,000	2,486,000,001	11,050,000
38	Vihiga	612,000,000	641,000,000	2,900,000
39	Bungoma	779,599,298	2,200,220,044	7,000,000
40	Busia	797,057,742	1,538,601,982	41,100,000
41	Siaya	1,135,000,000	1,488,000,000	2,782,000
42	Kisumu	9,402,268,928	15,767,146,576	29,589,830
43	Homa Bay	1,641,000,000	1,672,000,000	
44	Migori	1,040,000,000	1,189,000,000	
45	Kisii	5,160,220,362	5,219,547,193	10,000,000
46	Nyamira	918,000,000	1,177,000,000	7,000,000
47	Nairobi	384,452,866,604	138,648,354,421	6,301,334,966

Supplementary data sourced from the Central Bank of Kenya indicates that commercial banks were holding deposits worth of KSh 1,224.3 billion in the reference period of 2010. The banks over the same period issued total loans worth KSh 1,250.3 billion, with loans to housing and real estate sector standing at KSh 78.9 billion, or 6.3 per cent of the total loans reported. Shelter Afrique an inter-governmental finance institution that supports the development of the housing and real estate sector in Africa have so far provided cumulative loans to the housing sector worth KSh 1.4 billion.

5.5 Proportion of Funding Sources for Financial Institutions

From the respondent institutions the main source of commercial bank's funds was in deposit liabilities at an average of 46.5 per cent followed by share capital at an average of 10.9 per cent. For microfinance institutions, long term loans contributed on average 52.5 per cent of funds followed by share capital at 27.5 per cent and profits at 10.0 per cent. SACCOs sourced funds mainly from member deposits and shares at 37.1 per cent and 23.1 per cent, respectively.

Figure 5.1: Proportion of funding sources for financial institutions



5.6 Saving Products Geared Towards Saving for a Mortgage

Over 90.0 per cent of the financiers indicated that they did not have specific products geared towards saving for a mortgage. About 68.4 per cent of respondent commercial banks offered loans for land acquisition, while 71.9 financed construction for sale units. Construction for rental units was financed by 78.9 per cent of respondent banks and 80.7 per cent indicated having funded construction for owner occupier. Funding for incremental and mortgage finance categories stood at 64.9 per cent and 80.7 per cent, respectively while 68.4 offered loans for purchase of rental units. The respondent banks reported to have funded a total of 1851 units of 71.8 per cent of total units reported by the financial institutions. The lowest average price reported for both bungalow and flat in 2010 was KSh 2.5 million while the highest was KSh 11.2 million. The price range for maisonette was between KSh 10.2 million and KSh23.6 million.

The average size of the smallest units financed was 327 square meters for a bungalow and 253 square meters for a flat. The average size of largest units financed was 1176 square meters for bungalow, 1,125 for flat and 1,819 for maisonette. End buyer prices ranged from KSh 4.4 million for bungalows to KSh 20.8 million. Prices for flats end buyer ranged from KSh 6.0 million to KSh 69.3 million.

5.7 Average Banks Mortgage Interest Rates December 2010 and December 2011

Average banks mortgage interest rates in December 2010 and December 2011 stood at 14.36 per cent and 16.36 per cent respectively. Average interest rates charged by SACCOs over the same period stood at 12.40 per cent and 12.10 per cent respectively. Commercial banks who reported to have special products for groups were few at 32.2 per cent for youth, 33.3 per cent for women, 30.0 per cent for disabled, 21.4 per cent for sharia and multi-generational at 48.3 per cent.

5.8 Perceptions on Demand for Special Loan Products

Perceived demand for special products was generally rate 'low' at 56.3 per cent for youth, 57.1 for women, 78.6 for persons with disability and 61.5 per cent for sharia products. Demand for multigenerational products was rated high at 50.0 per cent. Penalties as way of encouraging borrowers to pay in time ranked highest with 83.7 per cent of banks agreeing with it. Only 6.1 per cent agreed that lowering interest rates on subsequent loans would help, while 8.2 per cent thought interest rate rebates would repayment in time. All banks regarded loan as non- performing after 90 days. On average the financiers reported 19 occasions of loan rescheduling, 10 occasions for auction of property, 17 occasions for sale by private treaty , 7 for refinancing with another institution and 8.0 per cent for receivership, for notional rent and 68 occasions for other processes category. The average duration for recovery was 44 months for loan rescheduling, 10 months for auction, 7 months for sale by private treaty 5 months for refinancing with another institution, 12 months for receivership and 3 months to pay a notional rent.

5.9 Barriers for Mortgage and Construction Financing

Lack of long term capital was ranked high as a key barrier to mortgage and construction financing at 34.3 per cent followed by fluctuating interest environment at 19.4 per cent and high default rate at 16.4 per cent. The least ranked was lengthy legal processes for recovering non-performing loans at 6.0 per cent.

5.10 Challenges in Recovery of Construction/Housing Loans

Legal process of recovery, diversion of loans funds to other uses, unwillingness to repay loans, business mismanagement, multiple borrowing, lack of serious buyers to foreclose, as well as time wasting and attendant costs are some of the challenges cited by the respondents.

5.11 Restrictions on Loan Repayment Before Maturity

Regulators directive and guidelines; policies and procedures based on organisations risk assessment; and directors/senior management directive/ guidelines were ranked as key

restrictions to lending to housing sector at 51.5 per cent, 21.2 per cent and 18.2 per cent respectively.

5.12 Institutions with Financial Incentives and their Effectiveness

Banks that reported to have incentives in place for lending to housing sector stood at 37.2 per cent while 62.8 per cent did not have. The respondents who indicated on the effectiveness of the incentives constituted 84.6 per cent.

Chapter 6

HOUSING DEVELOPERS AND SELECTED ASPECTS OF HOUSING

6.1 Introduction

Development of housing poses a key challenge to both the Government and the private sector. This is mainly due to the high cost of housing finance, high cost of building materials, lack of planned land for housing development and conservative housing technologies. In the recent past, there has been a reduction in public investment in housing development and in its place there is more private sector participation. The growth of the housing industry is driven by economic factors such as consumer confidence in mortgage facilities, changes in interest rates and inflation, among others. Other factors include: - governance and housing policy incentives. Population growth also contributes to demand for housing whose development culminates in the production of houses for rental, sale or owner occupation.

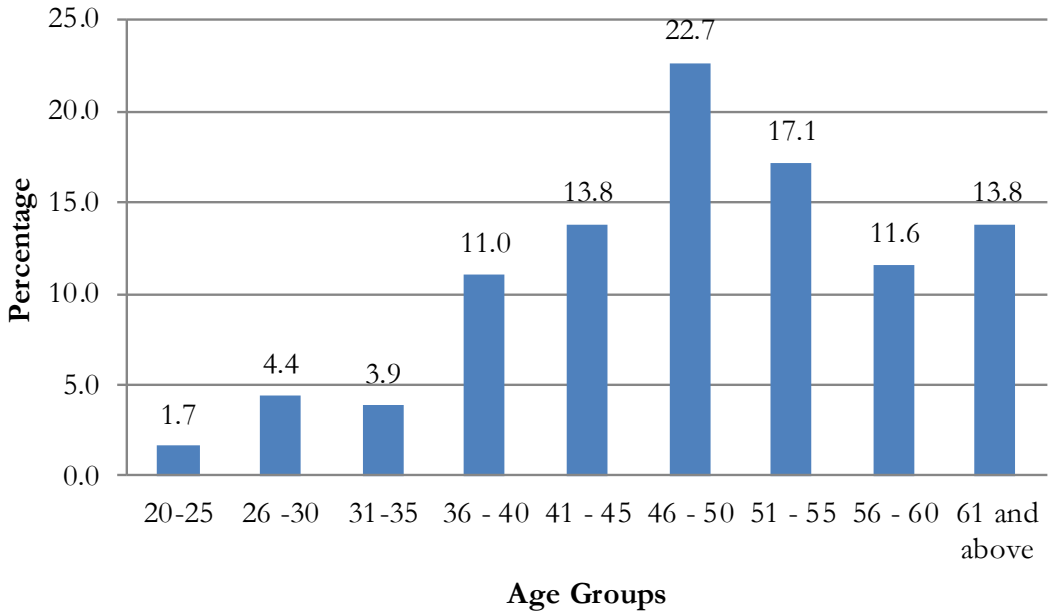
6.2 Characteristics of Housing Developers

A number of factors affecting housing development were monitored during the survey period for both institutional and individual developers. These ranged from availability of resources, labour (both skilled and non-skilled), access to affordable land, building materials and returns on investment. Other indicators of interest included development of housing units (core, subsidiary, and one-off), different types of units, location, engagement of registered professionals and obstacles to housing development. The survey targeted housing developers listed under Kenya Property Developers Association (KPDA), Local Authorities, Ministry of Public Works, households and onsite visits

6.2.1 Distribution of Housing Developers

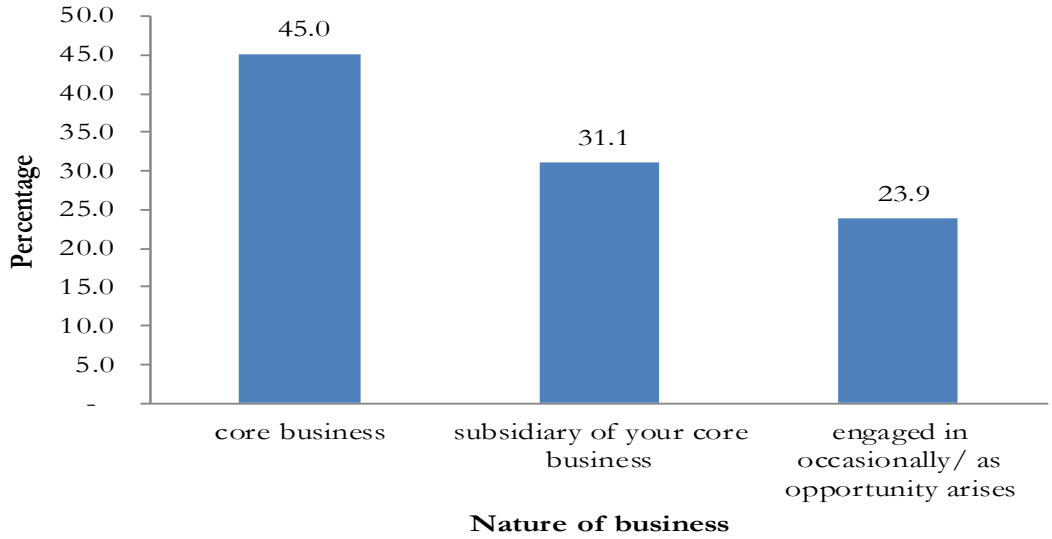
In total, 222 housing developers responded to the survey. Subsequent analysis was based on these respondents. The number of institutions covered was 41, with the largest number being located in Nairobi County. Out of the 181 individual developers interviewed, 82.0 per cent were male. Further review of the data shows that most of the individual developers were in the age cohorts of 46-50 and 51-55 years as presented in Figure 6.1.

Figure 6.1: Percentage of individual developers by age cohorts



Development of housing in both urban and rural areas has been undertaken by housing developers not necessarily as their core business but in some instances as a subsidiary activity or when an opportunity arises. As shown in Figure 6.2, majority of the developers (45.0%) interviewed, undertook housing development as a core business, 31.0 per cent as a subsidiary activity, while 24.0 per cent as a one-off activity.

Figure 6.2: Percentage distribution of housing developers by nature of their business



6.2.2 Years of Experience

This indicator was meant to capture the years of experience of developers from the first year when they undertook housing development. Table 6.1 indicates that the average number of years for individual housing developers was 10 years while institutions was 12 years.

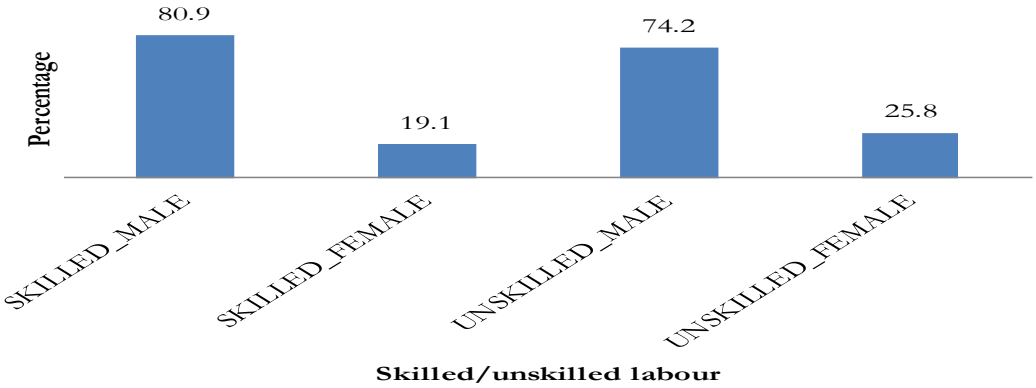
Table 6.1: Average no. of years of operation for individuals and institutions

	Total Number	Mean Years
Total	222	10.6
Individual	181	10.3
Institution	41	12.1

6.2.3 Employment Generation by Housing Developers

This section sought to determine the number of workers engaged in the development of housing and their distribution by level of skill and sex. As shown in figure 6.3, majority of housing developers engaged both skilled and unskilled males at 80.9 and 74.2 per cent, respectively. Female workers constituted 19.1 per cent of skilled workers engaged.

Figure 6.3: Percentage Proportion of skilled and unskilled workers engaged by housing developers by sex



6.3 General Built Environment

6.3.1 Number of Housing Units Developed in 2010 and 2011

Given the challenge of housing development in Kenya, several factors influence decisions in building different types of housing units in different parts of the country. This section therefore aimed at taking stock of the number of housing units done by the developers in 2010 and 2011. This categorization had high,

medium and low density categories of the population. Low density in this case refers to one single dwelling unit on one acre of land or more while high density refers to multiple units very close to each other within a given area.

The 2012/2013 KNHS sought to capture the number of housing units completed in 2010 and 2011 and to determine whether the units were for sale or rent. As shown in Table 6.2 and figures 6.4 and 6.5, flats took the biggest share of housing units completed for sale and rent in both years at 82.2, 75.7 and 30.8 and 77.1 per cent respectively.

Table 6.2: Percentage of housing units completed for sale/rent by type, 2010-2011

Type	Bungalow	Flat	Maisonette	Swahili	Shanty	Traditional	Other	Total
Sale 2010	3.1	82.2	14.1	0.5	0.0	0.0	0.1	100.0
Sale 2011	12.9	75.7	11.3	0.1	0.0	0.0	0.0	100.0
Rent 2010	3.8	30.8	7.3	56.7	0.9	0.4	0.2	100.0
Rent 2011	6.3	77.1	9.7	3.5	0.3	0.1	3.1	100.0

Figure 6.4: Percentage of housing units completed for sale by type

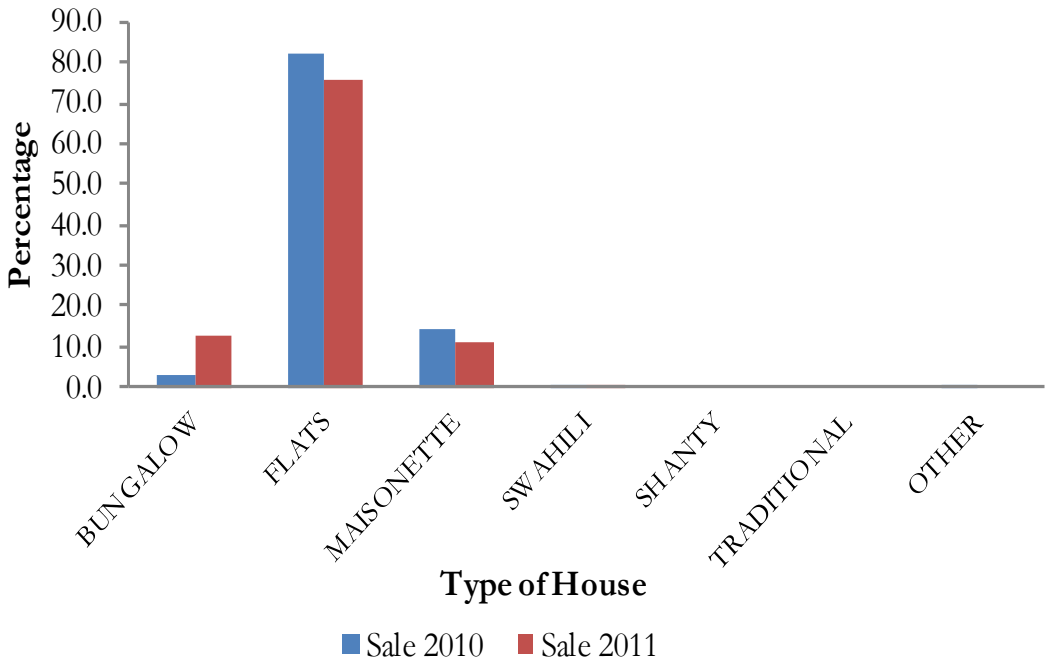
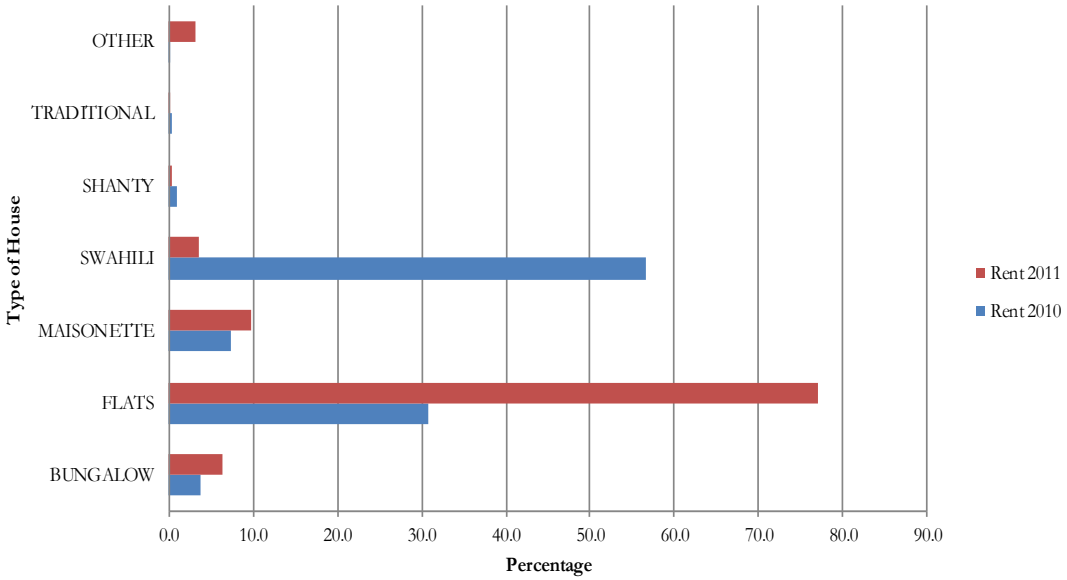


Figure 6.5: Percentage of housing units completed for rent by type



6.4 Housing Demand and Supply

6.4.1 Factors Influencing Choice of Area for Housing Development

Private and institutional housing developers in Kenya have been the main suppliers of housing for rent and sale.

Table 6.3 presents factors that influence developers' choice of areas to develop. Access to affordable land, high returns on investment, and prospective future returns on investment emerged as the key factors in determining where to develop. Closeness to communal home of the developer was the least considered factor in choice of place to develop.

Table 6.3: Factors that affect choice of area for housing development

	%age
Access to affordable land	45.9
Access to building materials	21.6
Closeness to where developer currently lives	21.2
Closeness to communal land	16.7
High returns for investment	43.7
Prospective future returns on investment	41.4
Other	9.0
Note: %age do not add to 100 due to multiple responses by developers	

6.5 Compliance to Housing Development Control Requirements

6.5.1 Development Permission from Regulators

Developers are required to apply for development permission from development control authorities operating under various Acts of Parliament. As shown in Table 6.4, over 80.0 per cent of all institutional developers who responded sought development permission from relevant authorities, with majority seeking permission from local authorities and NEMA at 100.0 and 90.0 per cent, respectively. This shows that the level of compliance in seeking development permission by institutional developers is remarkably high. Responses from the individual developers are as depicted in table 6.4.

Table 6.4: Development permission from regulators

Development control institution	Percentage
Local Authority	100.0
Physical Planning	85.4
National Environment Management Agency (NEMA)	90.2
Public Health Department	80.5

Table 6.4 indicates that most of the individual housing developers sought permission for development from the local authority (78%) followed by Physical Planning (67%), Public Health Department (57%) and NEMA (44%). Besides the above stated institutions, 13.0 per cent of the individuals also sought permission from non-stated institutions.

Table 6.5: Number of individuals housing developers who sought permission from various institutions

	Percentage Male	Percentage Female	Percentage Total
Total	82	18	100
Local Authority	65	13	78
Physical Planning	56	12	68
National Environment Management Authority (NEMA)	38	6	44
Public Health Department	49	8	57

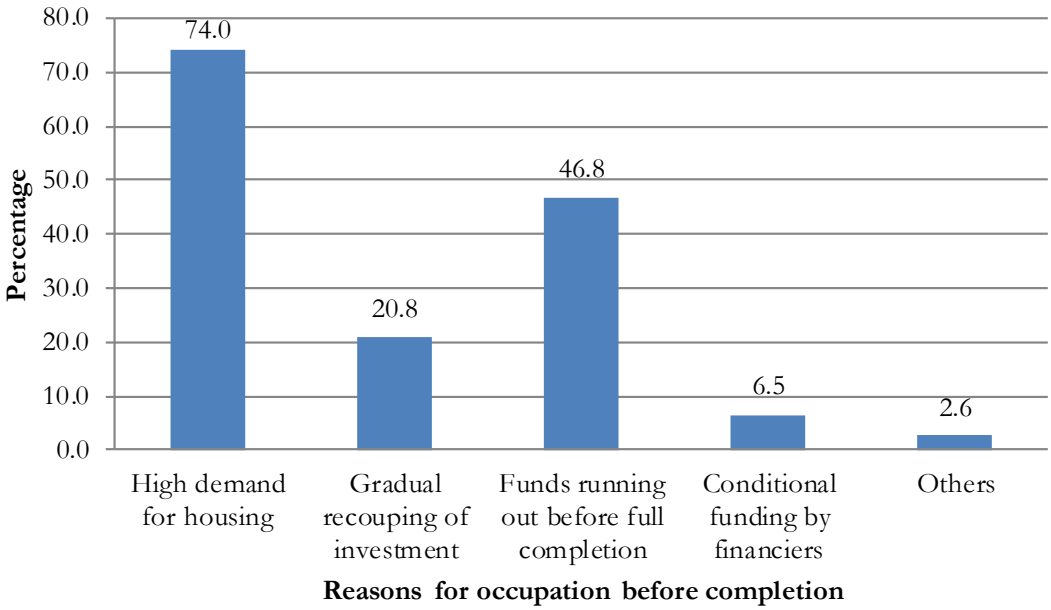
6.5.2 Occupation of Uncompleted Buildings

Majority of institutional developers (68%) reported that their buildings are only occupied after full completion. Those who reported that their buildings were occupied before completion cited high demand for housing and the fact that funds ran out before full completion as the main reasons. Construction by-laws restricting occupation and developers policy to ensure completion before

occupation were the key reasons for not occupying building before completion at 57.0 and 60.0 per cent respectively.

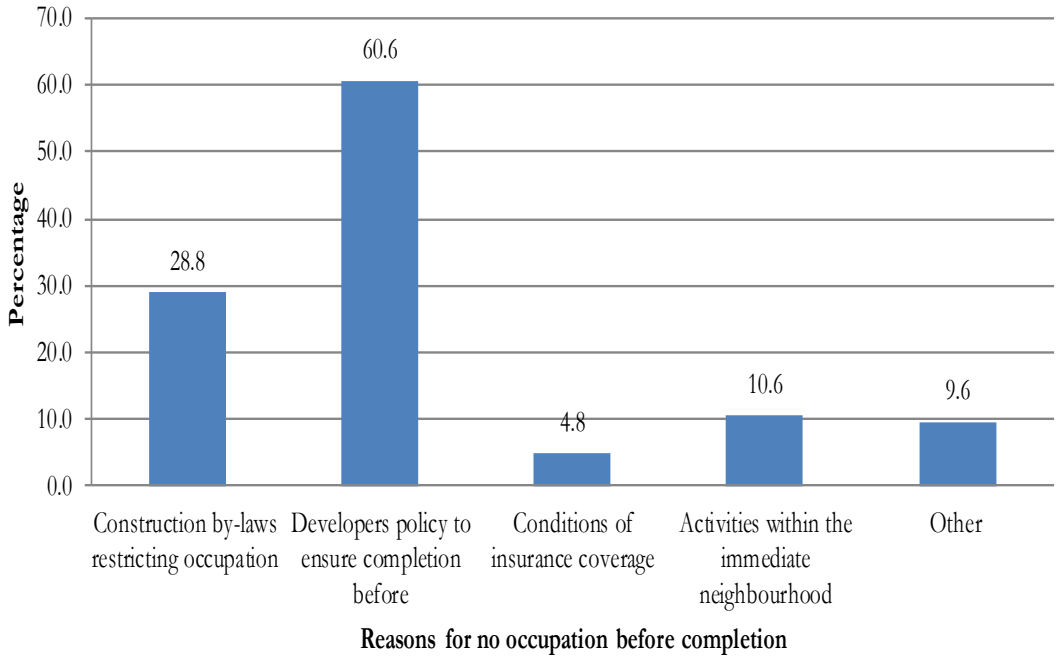
Of all the individual developers interviewed, about 40.0 per cent said the buildings were occupied before full completion. The survey results indicate that key reasons for occupation before completion was the high demand for housing (74%) followed by developers experiencing constraints with flow of funds before full completion at 46.6 per cent as depicted in figure 6.6.

Figure 6.6: Percentage of individual housing developers by reasons for occupation before full completion



From table 6.8, out of the individual developers who reported that their buildings are not occupied before completion, 60.1 per cent gave the main reason as their policy to ensure completion before occupation. This was followed by construction by-laws which restrict occupation before completion at 28.8 per cent.

Figure 6.7: Percentage of individual housing developers by reasons of not occupying before completion



6.5.3 Engagement of the Built Environment Professionals

Institutions involved in housing development highly regard use of various categories of professionals with physical planners, architects, quantity surveyors and electrical engineers playing a very prominent role in housing development. As presented in Table 6.5, the survey revealed that architects were the professionals consulted by most of the individual and institutional developers.

Table 6.6: Percentage of developers engaging Built Environment Professionals in housing development

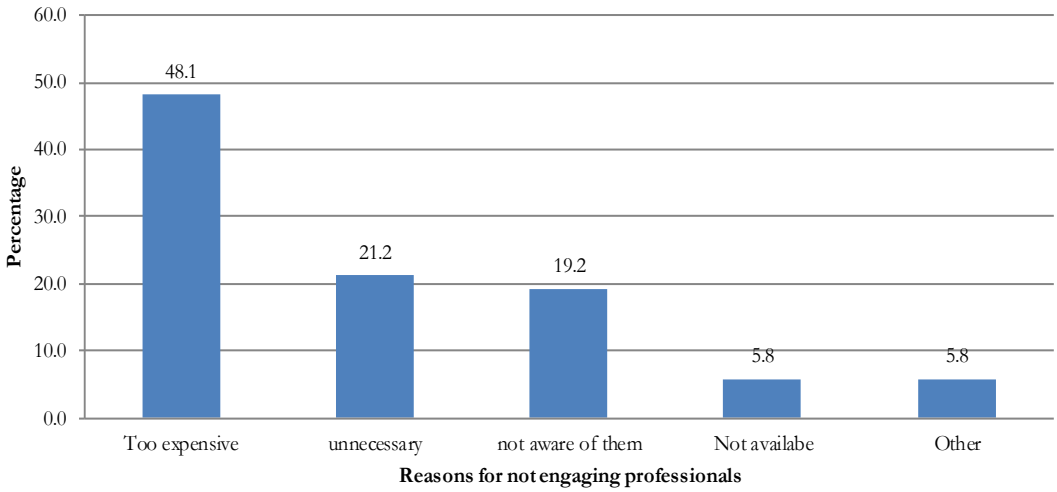
Professional	Individuals	Institutions
Valuers	29	63
Physical Planners	46	73
Architects	52	95
Civil Engineers	26	66
Structural Engineers	29	73
Mechanical Engineers	15	59
Electrical Engineers	28	80
Quantity Surveyors	29	78

Land Surveyors	25	51
Building Surveyors	23	59
Electricians	48	76
Plumbers	41	71

6.5.4 Reasons for not Engaging Professionals

Figure 6.9 presents the reasons given by individual developers for not engaging professionals. Majority cited cost as the main reason that deters them from using the professionals. The survey revealed that the average payments to professionals accounted for 14.3 per cent of the housing development costs.

Figure 6.8: Percentage distribution of reasons for individual developers not engaging professionals



6.5.5 Engagement of Contractors by Housing Developers

The results also showed that majority of individual developers (62%) do not engage housing contractors in their projects. On the contrary, 66 per cent of the institutional developers indicated that they engage housing contractors in their projects.

6.6 Building Materials and Related Infrastructure and Services

Overall, the dominant materials for walling were the brick/blocks and stone at 46.4 and 44.2 per cent, respectively. Corrugated iron-sheets dominated the roofing materials at 88.4 per cent while cement was the main material for the floor at 83.4 per cent. None of the individual developers use grass / reeds or tin in their projects.

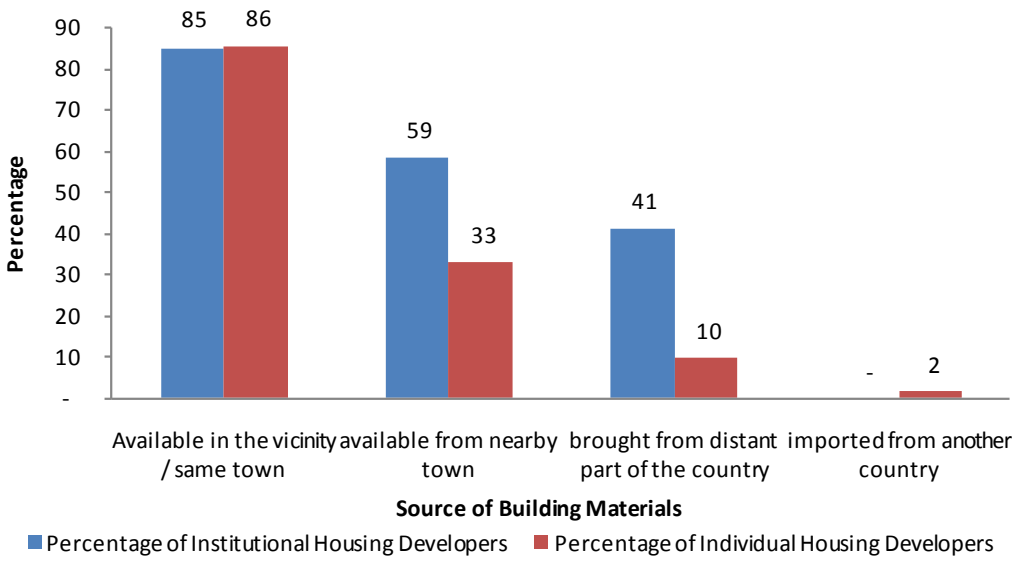
Table 6.7: Percentage distribution of preferred Building Materials by individual developers

Wall Material	age	Roofing materials	age	Floor Material	%age
Stone	44.2	Corrugated Iron Sheet	88.4	Cement	83.4
Brick/Block	46.4	Tiles	8.8	Tiles	14.4
Mud/Wood	2.2	Concrete	2.2	Wood	1.1
Mud/Cement	3.3	Asbestos Sheets	0.0	Earth	0.6
Wood Only	2.8	Grass	0.0		
Corrugated Iron Sheets	0.6	Makuti	0.0	Not stated	0.6
Grass/Reeds	0.0	Tin	0.0		
Tin	0.0	Mud/Dung	0.0		
Not stated	0.6	Not stated	0.6		

6.7 Source and Preference of Building Materials

As shown in Figure 6.10, both individual and institutional developers mainly sourced their materials from the vicinity/same town at 86.0 and 85.0 per cent respectively. The results further show that institutional developers also source building materials (59%) from the nearby towns.

Figure 6.9: Percentage of both Individual and Institutional Developers by source of building materials



6.8 Awareness and Use of Appropriate Building Materials and Technologies

Appropriate building materials and technologies (ABMT) refer to raw materials and technologies that are easily available, low cost and easy to use while maintaining high housing standards. From the survey results, most of housing developers (70.7% individual, 90% Institutions) are aware about existence of ABMT Out of these, 68 per cent of the institutions and 52.3 per cent of individuals are using the same.

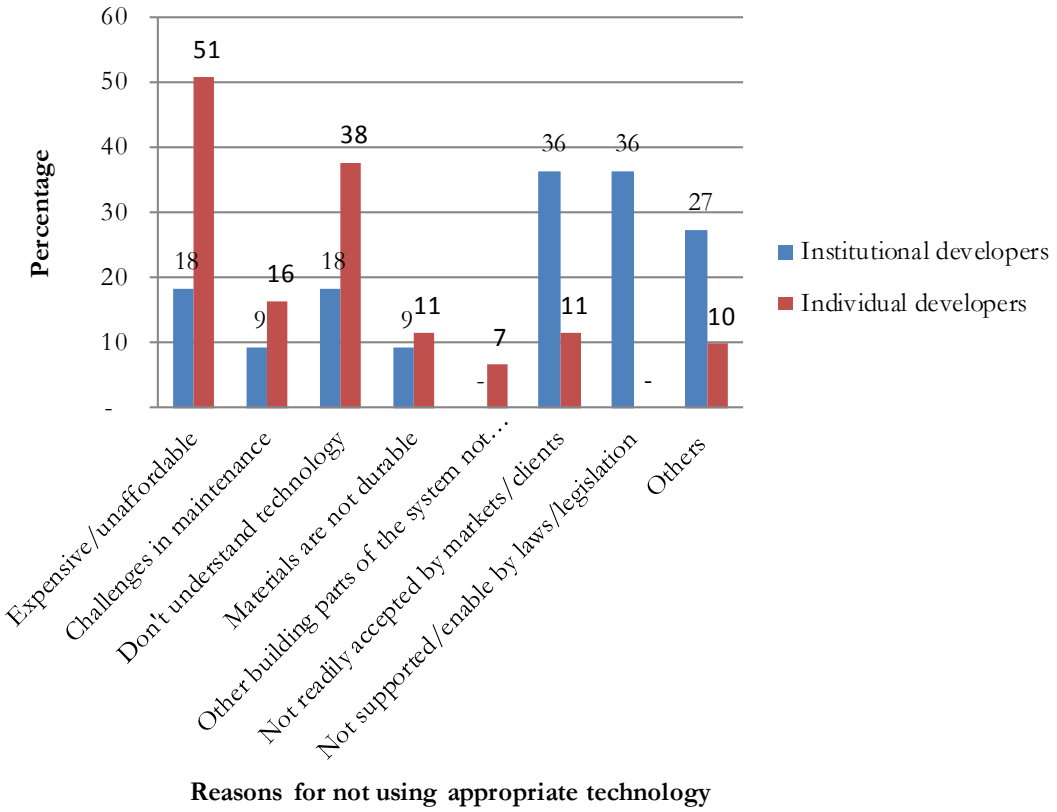
As shown in Table 6.7 and Figure 6.10, the main reason cited by individual developers for not using ABMT (50.8%) was the perception that they were expensive/ unaffordable. There was also a big number (37.7%) who claimed they do not use ABMT because of lack of understanding.

Table 6.8: Percentage of Reason for not using appropriate technology

Expensive/unaffordable	50.8
Challenges in maintenance	16.4
Don't understand technology	37.7
Materials are not durable	11.5
Other building parts of the system not available e.g. doors.	6.6
Not readily accepted by the markets/clients	11.5
Not supported/enabled by laws/legislation	0.0
Others	9.8
Note: %age do not add up to 100 due to multiple responses	

The institutional developers cited the technology as not being readily accepted by market/clients (36 %) thus not using the technology. Considering that ABMT are expected to be low cost, majority of developers believe it is costly and most of the clients do not accept it. In addition, the level of understanding is low.

Figure 6.10: Percentage of both institutional and individual developers not using appropriate materials and technologies and why



6.9 Availability of Related Infrastructure and Services

The survey also sought to establish the kind of infrastructure in existence/available to the developer and funding mechanisms for development. Table 6.8 gives a breakdown of the services available to both individual and institutional housing developers. From the survey results, 51.0 per cent of both individual and institutional developers reported availability of water for the land they build on. A similar trend was noted with availability of electricity at 61.0 per cent.

However, 72.0 per cent of individual developers did not have sewer services compared to 59.0 per cent of the institutional developers.

Table 6.9: Percentage distribution of services available to housing developers

Service	%age of individual developers	%age of institutional developers
Water	51	51
Sewer	28	41
Electricity	61	61
Graded Access Road	48	44
None	13	27
Note: %age do not add up to 100 due to multiple responses		

Survey findings further indicate that the main source of water for construction for both individual developers (30 %per cent) and institutional developers (49 %) was from the spring/well and boreholes respectively. Further, 41.0 per cent of the institutions had water piped into their construction sites.

Table 6.10: Source of water for development

	%age individual	%age institution
Lake	1	2
Stream	14	12
Spring/Well/Borehole	30	49
Piped into construction site	25	41
Piped into yard	26	24
Piped into outside tap	8	10
Jabia/Rain harvested	4	17
Water vendor	10	12
Other	3	-
Note: %age do not add up to 100 due to multiple responses		

As shown in Table 6.10, the source of electricity for development through mains connections was high (82.3% and 95.1 %) for both institutional and individual developers respectively.

Table 6.11: Percentage distribution of source of electricity for development

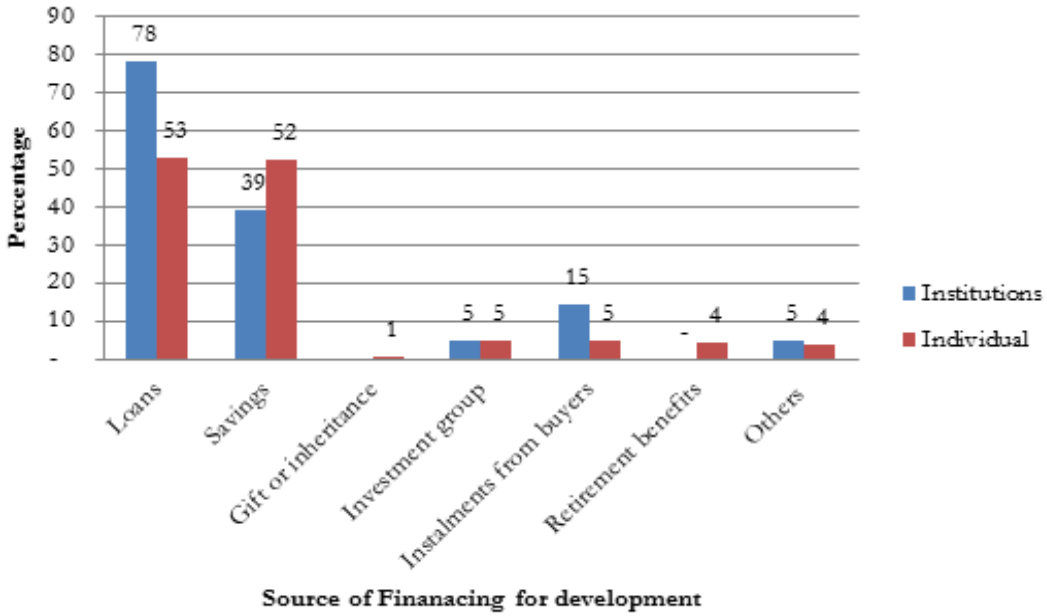
	Individual (%)	Institution (%)
Mains	82.3	95.1
Solar	3.9	0.0
Generator	2.2	4.9
Wind	0.6	0.0
Other	0.6	0.0
N/A	10.6	0.0

6.10 Housing Development

6.10.1 Sources of Funding for Housing Development

There are different alternatives open to developers to finance the housing developments. However, limited access to finance is still a major limiting factor in housing development. The survey explored the different sources of funding and the interest rates prevailing. The main sources of funding were the commercial banks, housing finance institutions, microfinance institutions and cooperatives amongst others. The sources of funds for housing development are however few and the lending institutions cannot be said to reach all the target groups. Figure 6.11 show that developers, who borrowed funds for development, cited the main source as loans and the savings for both institutions and individuals.

Figure 6.11: Source of funding for development for both individual and institutional housing developers



Figures 6.12 and 6.13 depict the interest rates charged on borrowed funds which varied depending on the source of funds. Commercial banks and microfinance institutions charged individual developers an average interest rate of 19.6 per cent and 19.2 per cent per annum respectively. The lowest interest rates were charged by the employer schemes at about 8.0 per cent. Institutional developers borrowed funds mainly from commercial banks, housing finance and the cooperatives at about 18.0 per cent per annum.

Figure 6.12: Average interest rate charged on borrowed money for individual developments

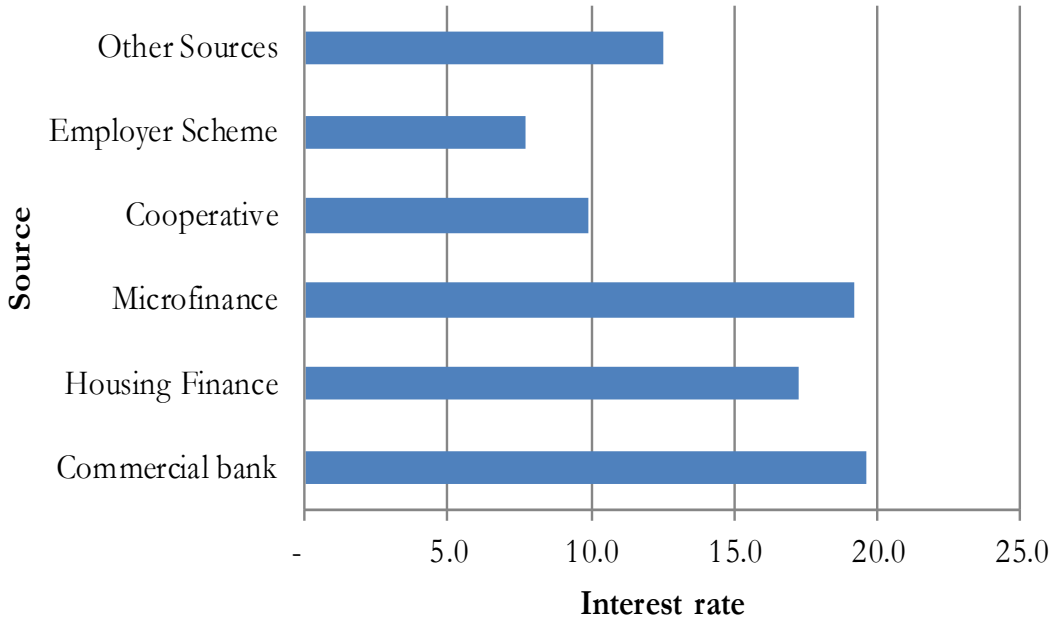
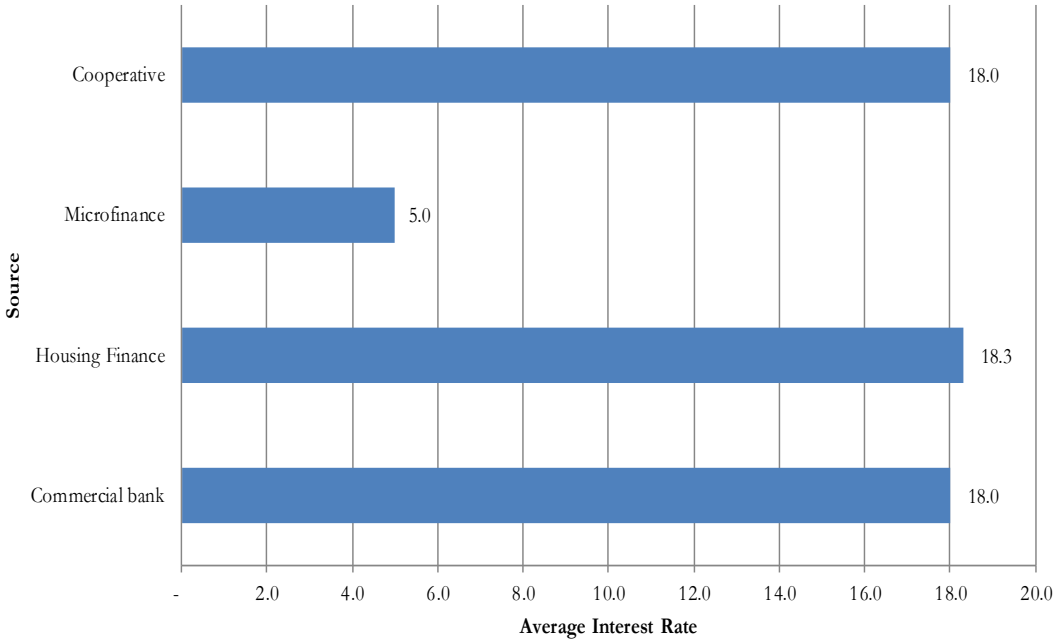


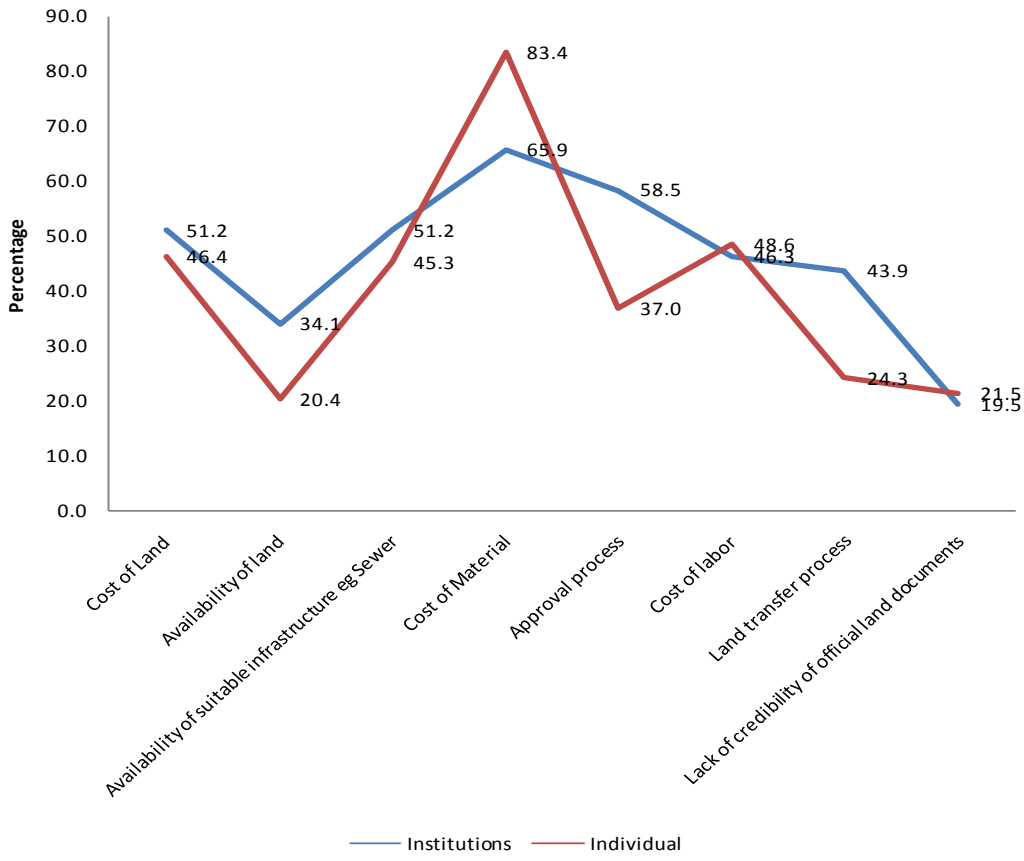
Figure 6.13: Average interest rate charged on borrowed money for institutional developments



6.11 Perceived Challenges in Housing Development

As shown in Figure 6.14, the results suggest that cost of inputs and high cost of land were perceived to be the two biggest challenges facing the housing sector development in Kenya. These are closely followed by unavailability of infrastructure like the sewer systems and the labour costs. These challenges inhibit housing development in the country since most developers bear the entire cost of infrastructure within the project area, which according to them eventually feeds into the final house prices, thus making them unaffordable to the low-income households.

Figure 6.14: Perceived challenges in housing development



6.12 Perceived Incentives to Encourage Housing Development

Housing development is all geared towards ensuring that there is access to adequate, quality and affordable housing by all in sustainable human settlements. Depending on the type of developer i.e. individual or institution, both had different preferences in terms of incentives to be provided by the government in order to encourage housing

development. Both institutional and individual housing developers mainly singled out reduction of taxes on raw building materials as the main incentive to encourage housing development at 83.0 and 84.0 per cent followed by provision of infrastructure at 59 and 51.0 per cent, respectively as shown in Table 6.11.

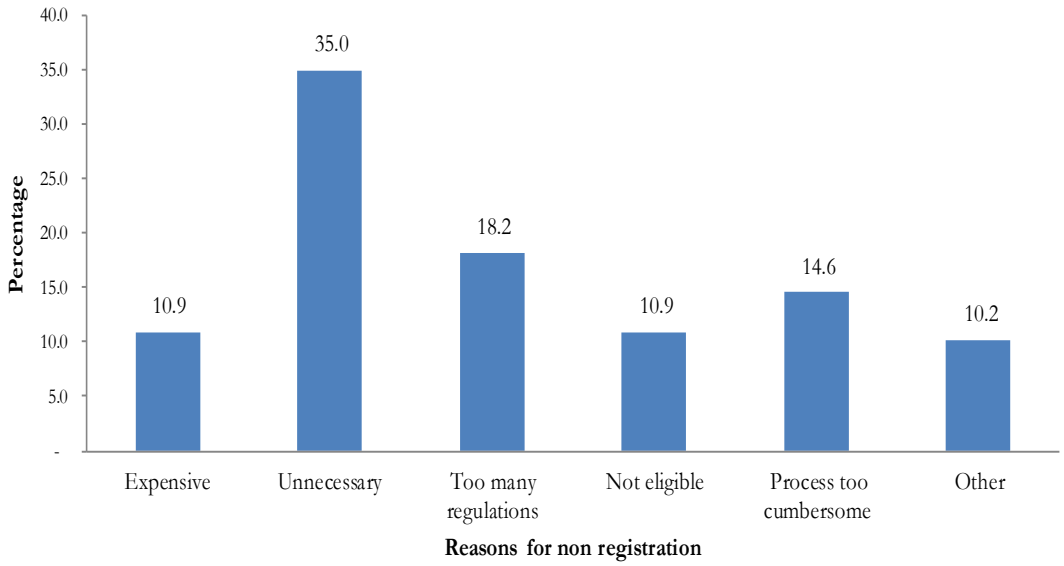
Table 6.12: Perceived incentives to encourage housing development

Government Incentives	Individual (%)	Institutions (%)
Make land available	41	34
Reduce taxes on raw building materials	84	83
Provision of housing infrastructure	51	59
Streamlining building approval processes	45	54
Streamline land management and administration	28	39
Encourage appropriate building materials and technologies	39	51
Income tax holidays for large scale developers	24	51

6.12.1 Registration as a Developer

Although registration as a developer is not a requirement for housing development control, the survey results revealed that over 68.0 per cent of institutions engaged in housing development were registered while only 18.0 per cent of individual developers were registered. Out of the unregistered individual developers, 35.0 per cent found it unnecessary to register while 18.0 per cent cited too many regulations in the registration process as the reason for non-registration.

Figure 6.15: Percentage of non-registered individual developers by reasons



Chapter 7

INSTITUTIONAL AND REGULATORY FRAMEWORK

7.1 Introduction

An effective institutional and regulatory framework is crucial for policy formulation and implementation towards delivery of housing services. Key players in this framework included Ministry of Housing, Ministry of Local Government, Ministry of Lands and Settlement National Environment Management Authority (NEMA), Water and Sewerage Service Providers and other institutions dealing with physical development in urban, peri-urban and the rural areas. These were the main regulatory institutions existing at the time of the survey.

7.2 Local Authorities

The survey covered local authorities as gazetted then under the now repealed Local Government Act Cap 265. Levels of local authorities surveyed were, City Councils, Municipal Councils, Town Councils and County Councils. County Council activities covered rural areas and the small urban settlements within their areas of jurisdiction.

7.2.1 Development Control

Development control is both a process and an activity. All physical developments in urban, peri-urban and rural areas must have development permission in line with the Physical Planning Act Cap 286. Applications for development permission can be by an individual, groups or a corporate body. This is aimed at preventing conflicting land users, promoting environmental sustainability, better land management and to achieve health and safety. In the process of controlling development, regulating authorities also collect revenue.

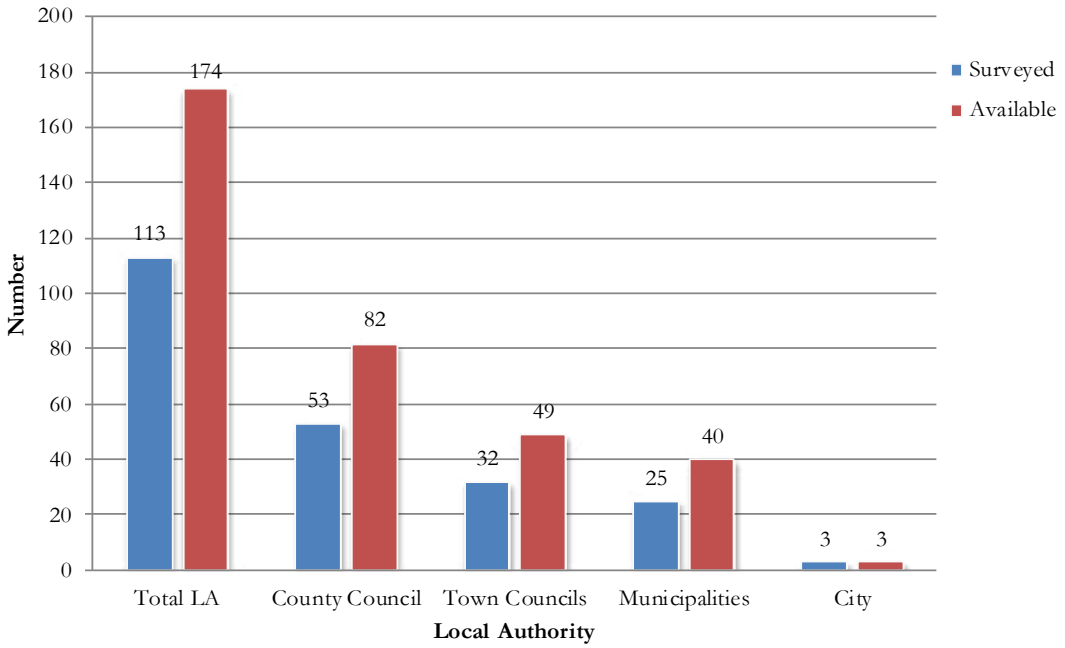
Development of formal housing is a major economic activity especially in the urban and peri urban areas. Under this, land is zoned for housing development; the developer applies for development permission and implements the project activities as approved.

During the survey, development control by local authorities focused on coordination of housing building plan approval process, change of user and extension of user, and challenges in development control.

7.2.2 Distribution of Surveyed Local Authorities

As presented in Fig 7.1, a total of 113 local authorities' respondent to this survey. Out of which 53 were county councils, 32 were town councils and the 3 cities.

Figure 7.1: Distribution of surveyed Local Authorities

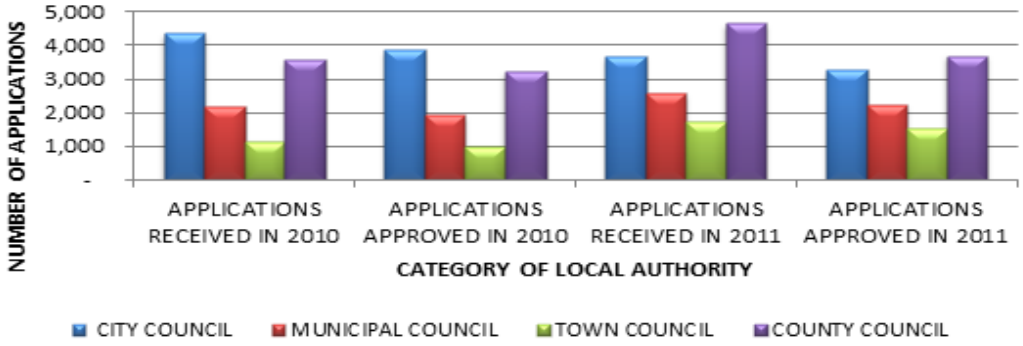


7.2.3 Housing Building Plan Approval

Local authorities are mandated to control all types of development in their areas of jurisdiction. In controlling development, an application can be approved as presented, approved with conditions relating to amendments of architectural designs or rejected due to certain reasons.

Information on the housing development plans received and approved by the local authorities in 2010 and 2011 is presented in Fig 7.2. During the two year period, more housing development plans were received and approved in the cities closely followed by those in the county councils. Notable however, the cities received more plans in 2010 compared to 2011.

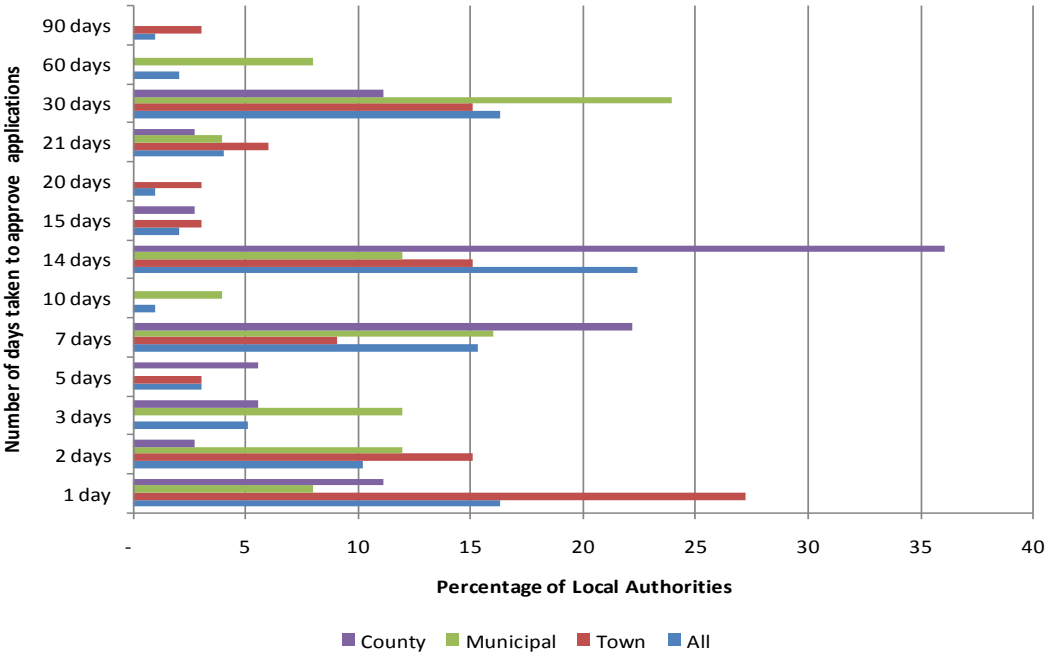
Figure 7.2: Housing development plans received and approved by local authorities, 2010 and 2011



7.2.4 Number of Days Taken to Get Building Approval

The Survey results revealed that local authorities took from 1 to 90 days to approve building plans. Town councils generally took less number of days between 1 and 2 days to approve building plans given that 42.5 per cent of the covered Town councils reported that they take either 1 or 2 days to approve building plans as presented in Fig 7.3.

Figure 7.3: Average number of days to get building plan approval by category of local authority



7.2.5 Building Plan Approval by Type of House

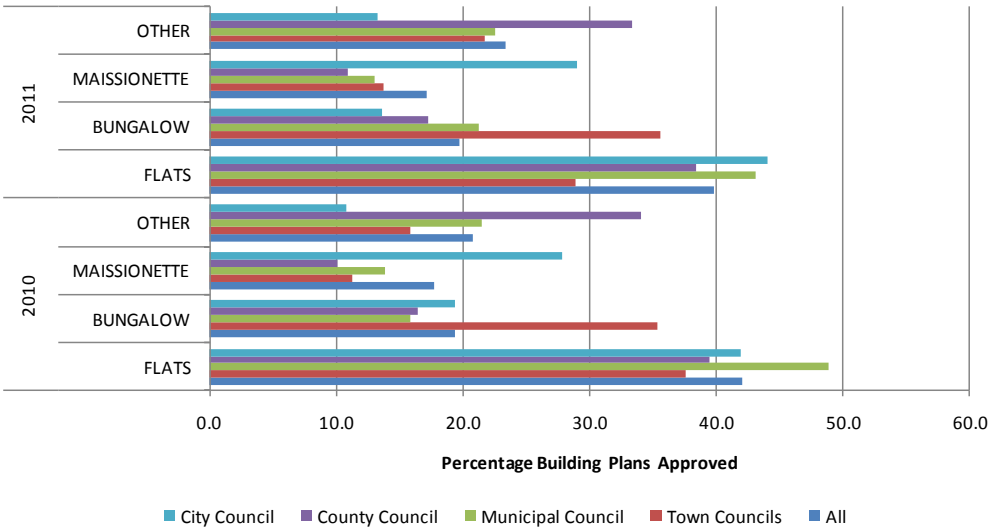
The results show that there was a marginal increase in the number of building plans approved from 9,852 in 2010 to 10,939 in 2011 as shown in Table 7.1.

Table 7.1: Number of Building Plans Approved by Category of Local Authority, 2010 and 2011

	2010					2011				
	FLATS	BUNGALOW	MASSIONETE	OTHER	TOTAL 2010	FLATS	BUNGALOW	MASSIONETE	OTHER	TOTAL 2011
All	4,146	1,913	1,748	2,045	9,852	4,349	2,153	1,877	2,560	10,939
Town Council	386	363	116	163	1,028	449	553	213	337	1,552
Municipal Council	972	315	276	428	1,991	1,024	506	309	536	2,375
County Council	1,213	507	311	1,048	3,079	1,443	649	409	1,254	3,755
City Council	1,575	728	1,045	406	3,754	1,433	445	946	433	3,257

A further scrutiny of the results reveals that flats were the most common residential types approved in 2010 and 2011 in all the categories of the local authorities covered as depicted in Fig 7.4.

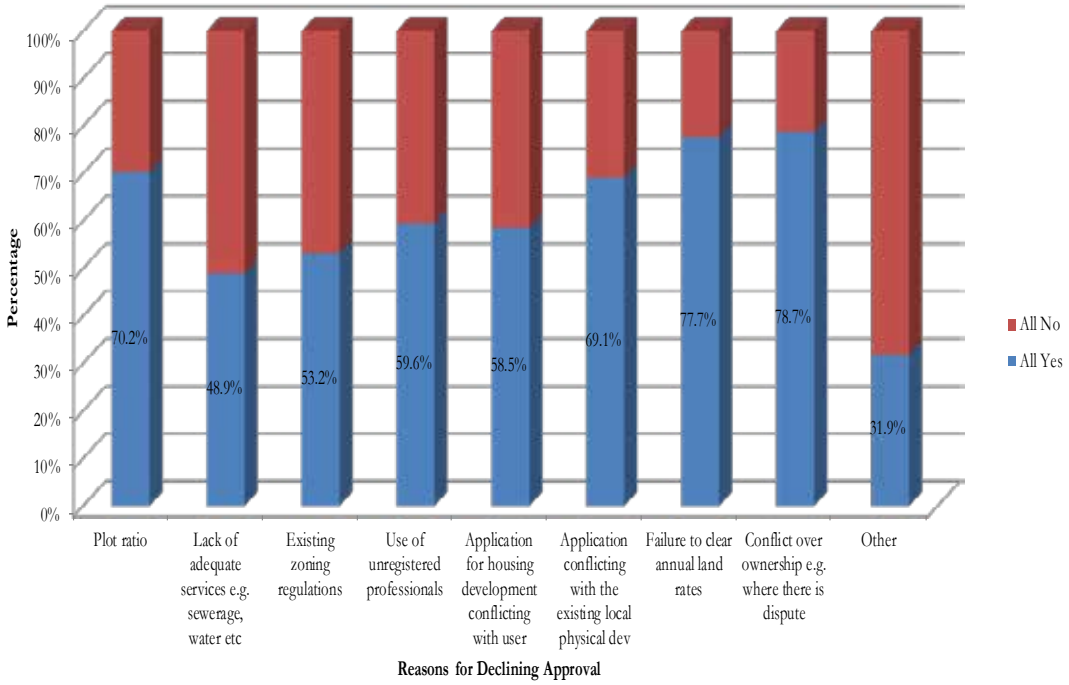
Figure 7.4: Percentage residential building plans approved by category of local authority and type house 2010 and 2011



7.2.6 Reasons for Declining Approval

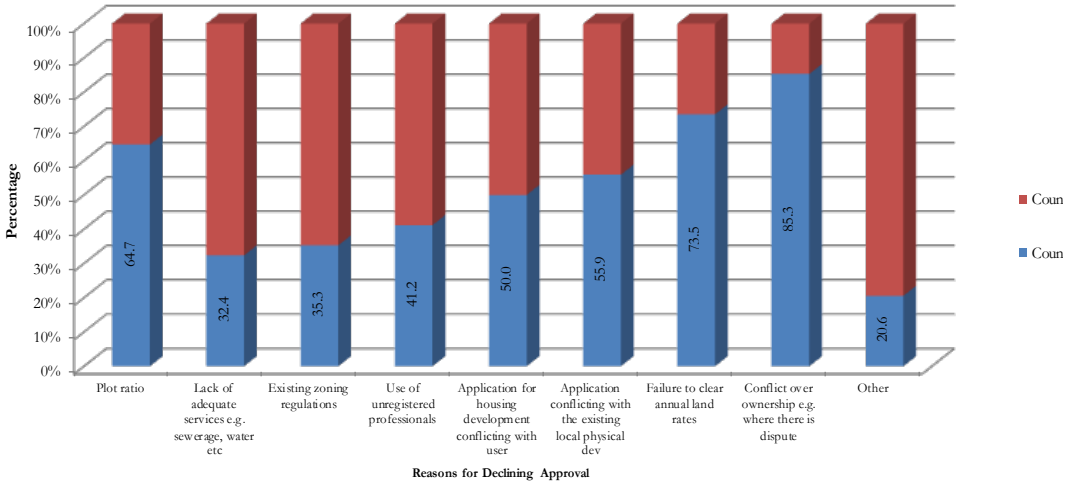
Taking into account all categories of local Authorities covered in the survey, 78.7%, 77.7% and 70.2% prioritized conflict over ownership, failure to clear annual land rates and plot ratio respectively, as the main reasons for declining approval of housing development application as presented in Fig 7.5.

Figure 7.5: Local Authorities by reasons for declining housing development approval applications



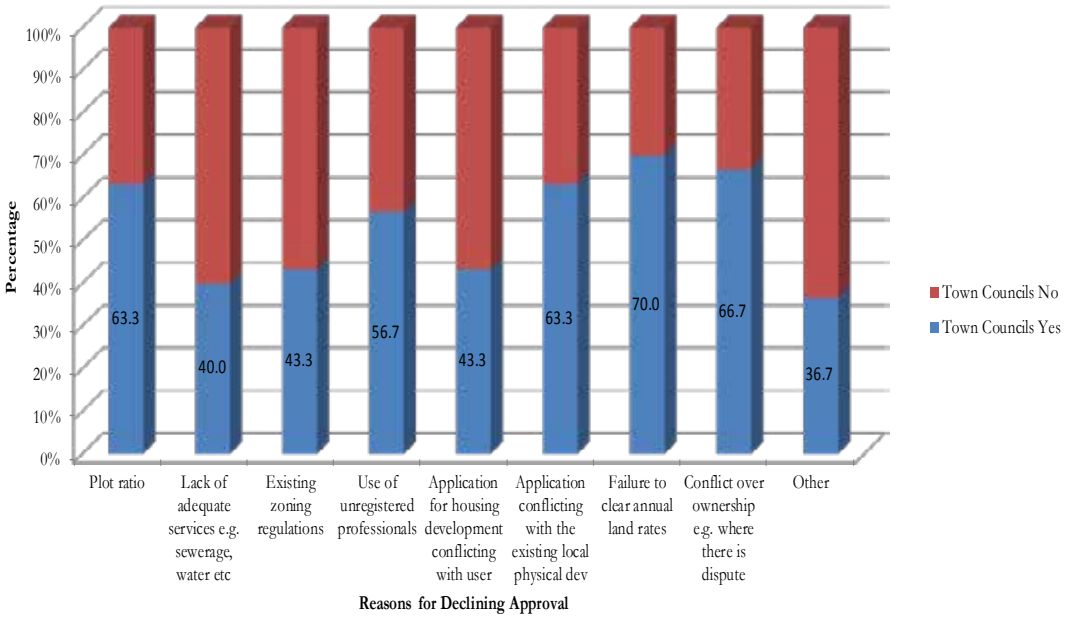
Of the county councils which submitted returns, 85.3%, 73.5% and 64.7% highlighted conflict over ownership, failure to clear annual land rates and plot ratio respectively, as the common reasons for declining approval of housing development applications within their jurisdictions as presented in figure 7.6.

Figure 7.6: Reasons for declining approval of housing development applications in County Councils



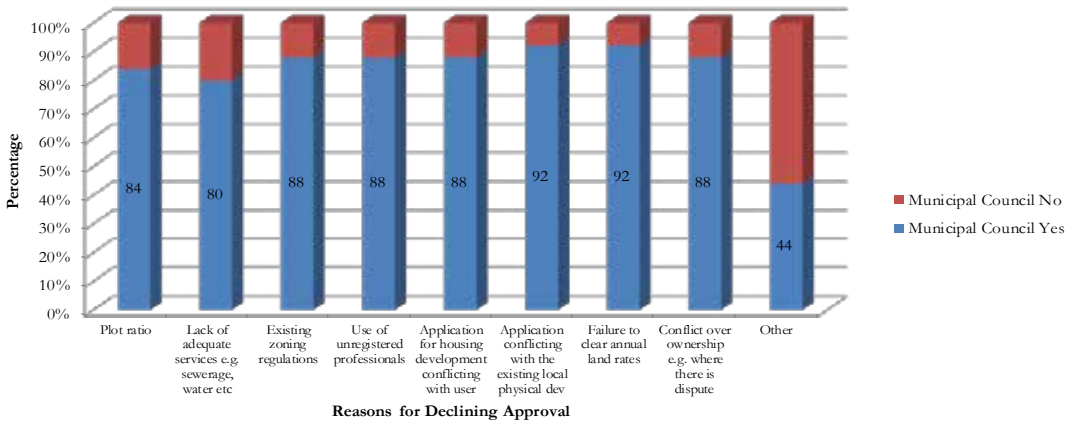
Out of the town councils covered in the survey, a slightly deviating scenario was reported where , 70%, 66.7% and 63.3% highlighted failure to clear annual land rates, conflict over ownership and plot ratio respectively as the common reasons for declining approval of housing development applications within their jurisdictions as presented in Fig 7.7

Figure 7.7: Reasons for declining approval of housing development applications in Town Councils



A completely different scenario prevailed in Municipal Councils where all the reasons were reported as common grounds for declining approval for housing development applications as depicted in Fig 7.8.

Figure 7.8: Reasons for declining approval of housing development applications in Municipal Councils

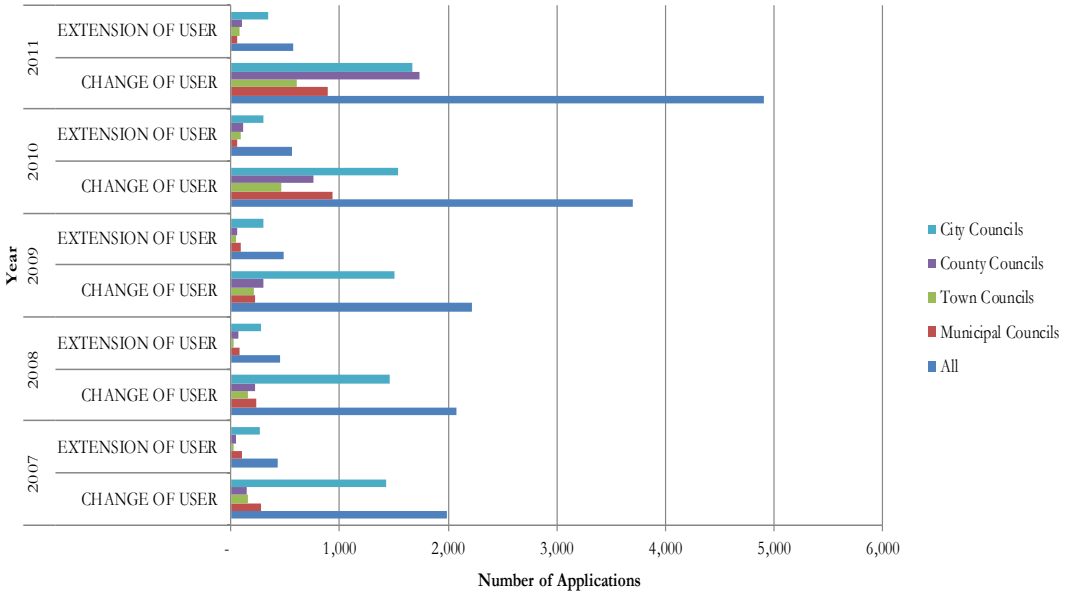


7.2.7 Change and Extension of User

The changing socio-economic dynamics in the urban and peri urban areas demands for periodic review of land uses to accommodate the most rewarding users. This also helps in addressing the emerging challenges and development needs.

A comparison of applications of change of user and extension of user in all the categories of local authorities covered in the survey shows developers submitting more applications for the former than extension of user, as presented in Fig 7.9. The City Councils received more applications followed by the Municipal Councils. County councils and Town councils received the least applications. The highest number of applications received in 2011 for both change and extension of user were at 4,911 and 570, respectively.

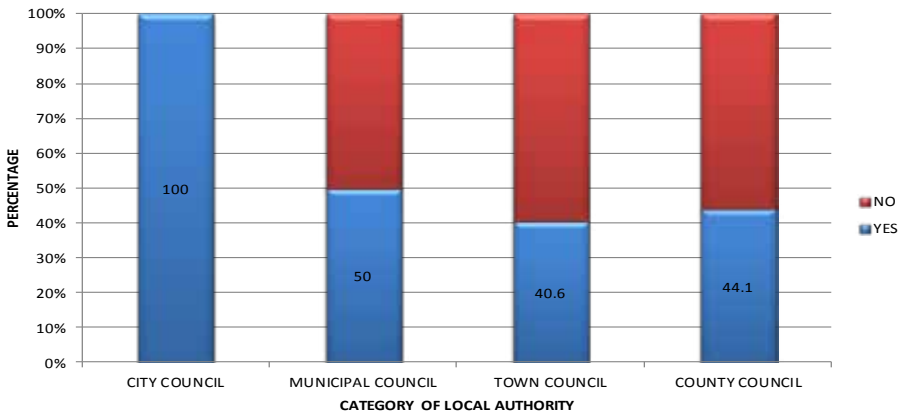
Figure 7.9: The number of change/extension of user applications received by Local Authorities, 2007 – 2011



7.2.8 Ratification of Building Code

The building code (95) is the construction guidelines for use by developers. The main aim is to standardize building and construction to achieve quality, health and safety. During the survey period, all the cities had ratified the building code while 50.0 per cent of the municipal councils, 41.0 per cent of the town councils and 44.0 per cent of the county councils had ratified code 95 as presented in Fig 7.10.

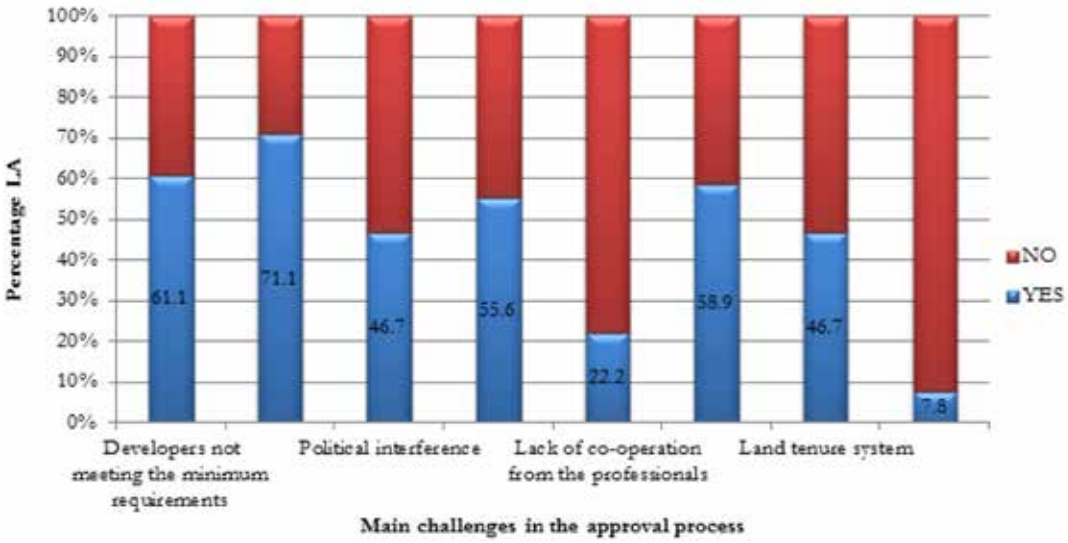
Figure 7.10: Ratification of Code 95



7.2.9 Challenges Faced by Local Authorities in Approval Process

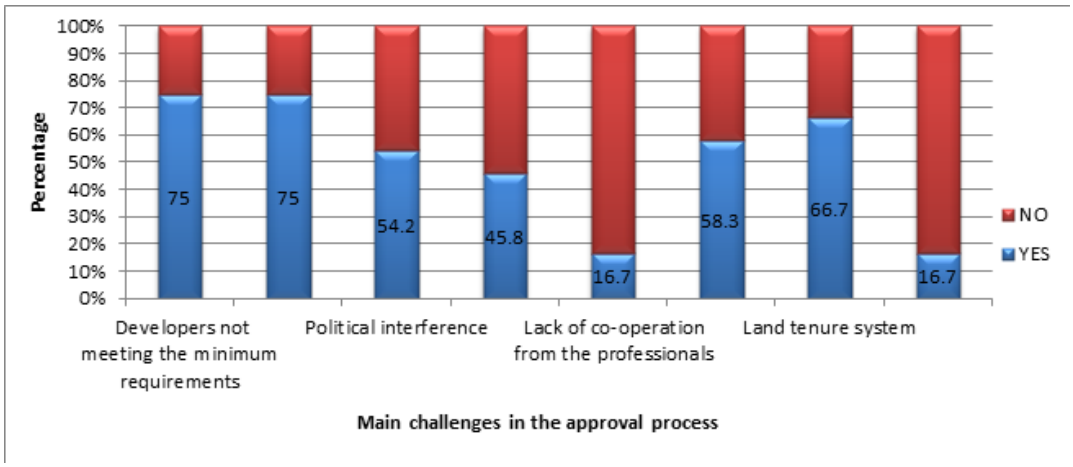
The survey sought information on challenges faced by local authorities in approval process. A tabulation of all the surveyed local authorities revealed that developers (not knowing what is expected of them and also not meeting minimum requirements, 71.0 per cent and 61.0 per cent, respectively) posed the greatest challenge as presented in Fig 7.11. Lack of co-operation from the professionals ranked the least among the challenges at 22.0 per cent.

Figure 7.11: Challenges faced by local authorities in development control



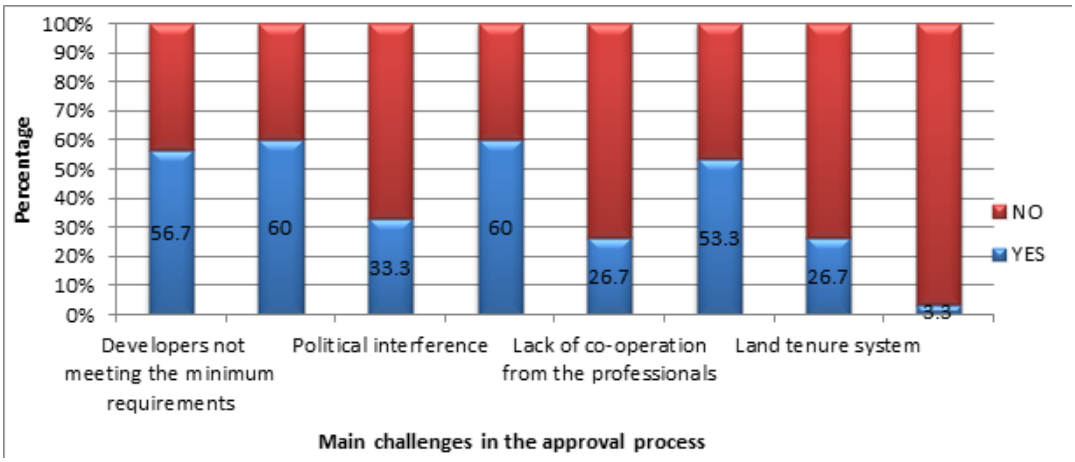
In addition the municipalities cited as a challenge the issue of land tenure system at 67.0 per cent as presented in Fig 7.12.

Figure 7.12: Challenges faced by municipal councils in development control



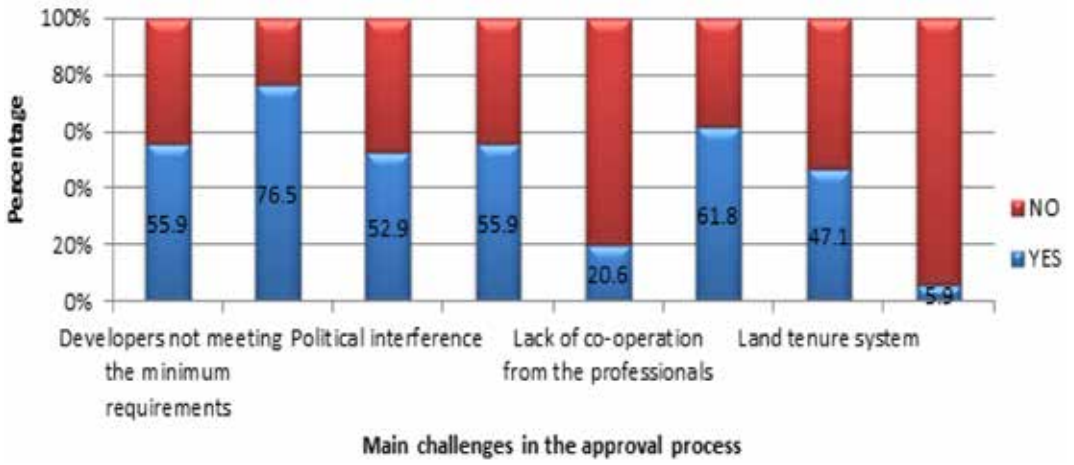
Town councils named lack of capacity as one of the core challenges in approval process. This is as presented in Fig 7.13.

Figure 7.13: Challenges faced by town councils in development control



As presented in Fig 7.14, the county councils cited lack of approved physical development plans (62 %) also as a key challenge to approval process.

Figure 7.14: Challenges faced by county councils in development control



7.3 Water and Sewerage Service Providers

Water and sewerage services are provided by licensed institutions. A total of 104 licensed water and sewerage providers were covered by the Survey. Guided by the water reforms of 2003, companies were formed to be managed separately from the local authorities. The water departments in the local authorities were transformed into water companies. The Survey's main focus was on the services provided to the residential areas. As shown in Table 7.2, the number of applications for sewerage connections is still low.

There was however, a remarkable increase in sewerage connection in Machakos, Makueni and Nyeri Counties between 2010 and 2011 while Murang'a County experienced a reduction in connections from 55 new connections in 2010 to only 6 in 2011.

Table 7.2: Number of applications for sewerage connections to residential areas in various towns

County Council	2010	2011
BUSIA	7	14
EMBU	500	350
KAKAMEGA	109	203
KERICHO	295	249
KIAMBU	38	51
KISII	32	39
KISUMU	99	104
MACHAKOS	24	215
MAKUENI	374	552
MURANGA	55	6
NYERI	433	842
TRANS NZOIA	4	3
UASIN GISHU	158	172

Most of the Counties did not expand areas under sewerage coverage between 2010 and 2011 as indicated in Table 7.3.

Table 7.3: Average Percentage of sewerage coverage in some counties which responded

County	Percentage area of sewerage coverage 2010	Percentage area of sewerage coverage 2011
Busia	44	44
Embu	18	20
Kajiado	50	50
Kakamega	23	30
Kericho	13.8	15.7
Kiambu	21	23.3
Kisii	26	32
Kisumu	100	100
Machakos	30	40
Meru	10.1	10.8
Nairobi	32	35
Nyeri	39.5	41
Trans Nzoia	30	30
Uasin Gishu	98.8	93.9

The data on Fig 7.15 shows that Trans Nzoia County was the most expensive in connecting to sewer lines as charged by the sewerage and water service providers operating in the county while service providers in Kiambu were the least expensive.

Figure 7.15: Cost of sewerage connection to residential areas in some selected towns with sewerage Network

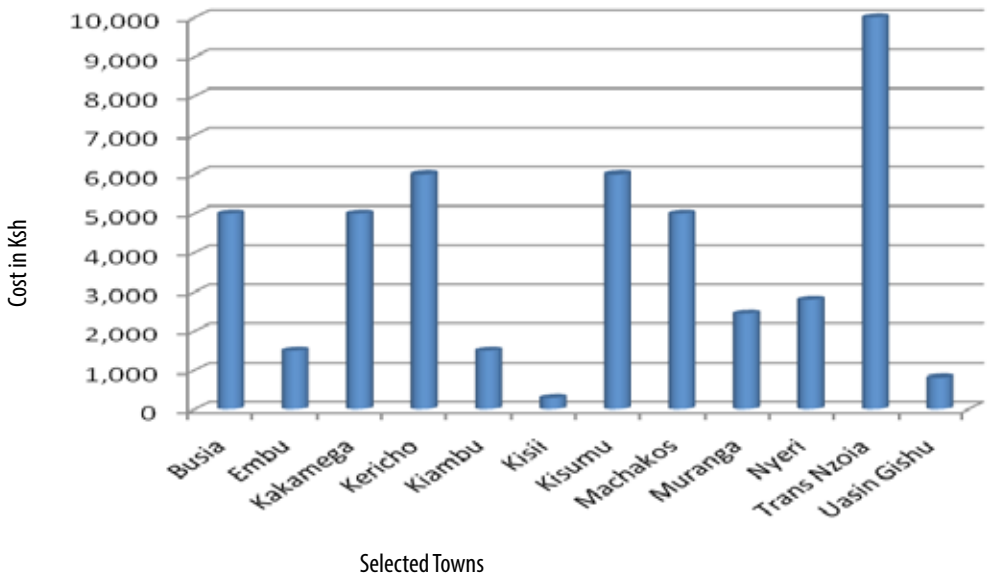


Fig 7.16 shows that different water and sewerage service providers took different days to connect a client to the water reticulation system once all conditions for connection are fulfilled. While one can be connected within one day in Busia County, it takes an average of 17 days in Trans Nzoia and 14 days in Kericho and Nairobi. However, most of the companies reported that on average they connect a client within 7 days when all conditions attached to connection are fulfilled.

Figure 7.16: Average days taken to get connected to the water and sewerage in selected towns

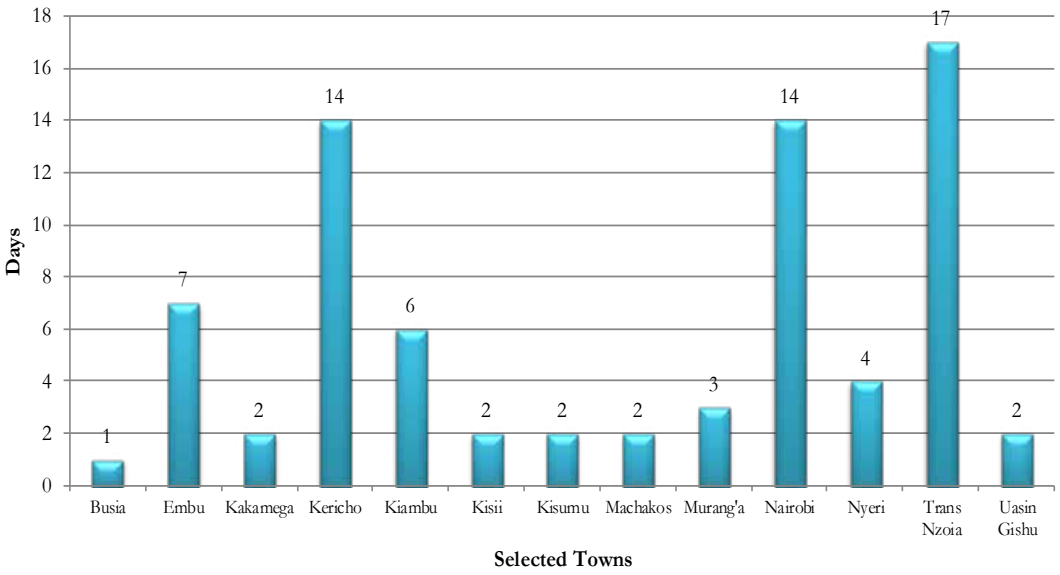


Table 7.4 indicates that the charges for water connection were different in the various providers. The highest charges were being experienced in Kajiado Water and sewerage Company at an average of Kenya shillings 8,633 while the lowest was in Kericho Water and Sewerage Company at Kenya shillings 200. Most of the companies charged above Kenya shilling 2,000 for water connection.

Table 7.4: Average charges for water connection in selected water companies

Water and Sewerage Service Providers	Average charges of water connection in Kenya shillings
Nairobi water and sewerage comp.	2,500
Kabarnet water company	3,000
Thika water and sewerage company	5,000
Bomet water company	1,500
Murang'a water and sewerage company	3,200

Water and Sewerage Service Providers	Average charges of water connection in Kenya shillings
Tililbury water company	3,500
Iten Tambach water company	2500
Embu water and sewerage company	4,000
Runyenjes water company	4000
Homabay water and sewerage company	1,900
Kajiado water and sewerage company	8,633
Kakamega water and sewerage company	520
Kericho water and sewerage comp.	200
Kiambu water and sewerage comp.	2,126
Kilifi water company	4,000
Kwale water company	1,500
Kirinyaga water and sewerage company	3,500
South Nyanza water & sanitation Comp	5,000
Tanathi water service company.	3,500
Kitui water and sewerage company	3,500
Lamu water company	8,250
Machakos water and sewerage comp.	8,000
Mavoko water and sewerage company	3,500
Meru water and sewerage services	6,500
Mwala water and sanitation comp.	4100
Kisumu water and sanitation comp.	1,800
Gulf water services company	5,000
Ruiru water company	5,500
Lake Victoria North Water Company	1,000
Gusii water company	7,000
Nyandarua water and sanitation company	1,250
Nyeri water and sewerage company	2,300
Imenti Tharaka Nithi water company	3,000
Kapenguria water company	1,800

Survey data shows that water companies do not discriminate clients from informal settlements in provision of water services as presented in Table 7.5. They have equal rights as those in formal settlements. This goes a long way to enhance housing infrastructures in the informal settlements.

Table 7.5: Number of Water service providers in a county providing informal settlements with water

	Total	No
Total Number of water Providers	58	51
Baringo	3	2
Bomet	1	1
Busia	1	1
Elgeyo Marakwet	1	1
Embu	1	1
Homabay	2	2
Kajiado	4	3
Kakamega	1	1
Kericho	1	1
Kiambu	8	6
Kilifi	2	1
Kirinyaga	1	0
Kisii	2	2
Kisumu	1	1
Kitui	2	2
Kwale	1	1
Lamu	2	2
Machakos	1	1
Makueni	2	1
Meru	1	1
Migori	2	2
Muranga	2	2
Nairobi	1	1
Nandi	1	1
Narok	1	1
Nyamira	1	1
Nyandarua	2	2
Nyeri	3	3
Siaya	1	1
Tharaka nithi	1	1
Trans Nzoia	2	2
Uasin Gishu	1	1
Vihiga	1	1
West Pokot	1	1

As presented in Table 7.6, between 2010 and 2011, there was a general increase in the total cubic meters of water supplied to the residential areas. Leading in increment in supply was Trans Nzoia County with an increment of 27,737 cubic meters of water supplied. However, there was a general decrease in the water supplied in Kwale, Uasin Gishu, Nyeri and Kajiado where more was supplied in 2010 than in 2011.

Table 7.6: Total cubic meters of water dispensed to residential areas from water companies, 2010-2011

County	Cubic meters of water to residential, 2010	Cubic meters of water to residential, 2011
Baringo	43,935	44,408
Bomet	216,000	252,000
Elgeyo marakwet	249,549	264,955
Embu	1,300,000	1,400,000
Homabay	774,406	777,552
Kajiado	2,706,774	2,070,228
Kericho	934,882	1,064,186
Kiambu	4,099,078	4,445,765
Kilifi	9,465,625	10,688,850
Kisii	1,425,202	1,476,005
Kitui	2,118,752	2,551,466
Kwale	1,031,232	917,604
Lamu	537,960	574,240
Machakos	463,943	557,386
Meru	1,214,229	1,285,509
Migori	204,240	243,180
Muranga	709,908	871,664
Nairobi	174,408,915	171,403,716
Narok	18,170,090	21,473,145
Nyamira	125,791	200,115
Nyandarua	183,360	196,560
Nyeri	45,700,667	44,025,691
Siaya	450,000	480,000
Tharaka Nithi	423,503	445,256
Uasin Gishu	6,004,914	5,814,307
Vihiga	300,510	311,520
West Pokot	387,448	419,359

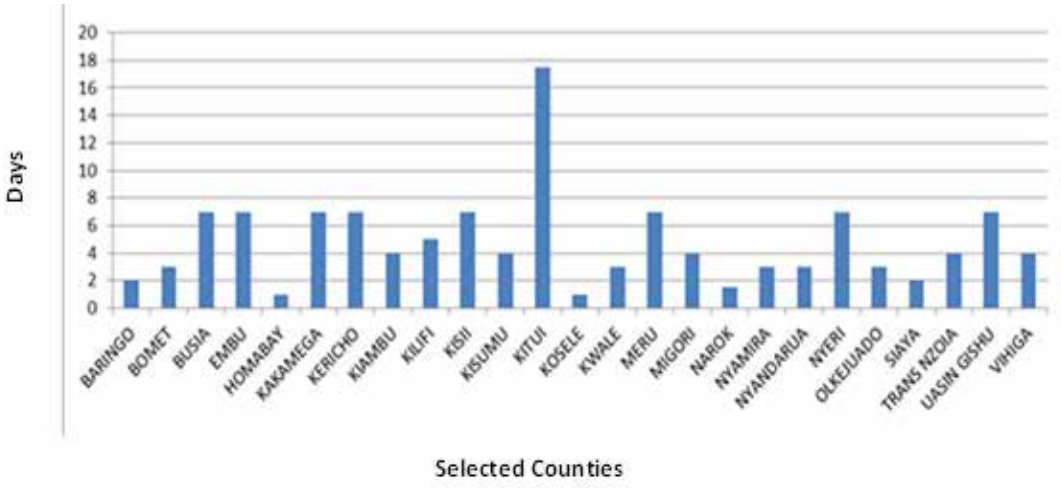
7.4 Land Administration

7.4.1 Land Transfer

Land transfer requirements depend on the land tenure system under which the particular land is registered. Land under leasehold belongs to the government but leased to a developer for use for a specified period. The lessee makes annual payments in form of land rent to the government. Land under freehold title is under absolute ownership where the owner may pay land rate on demand by the local authority.

The survey results revealed that once transfer of documents are lodged with the land registrar of the district the land is located, processing of the new title or lease takes on average 1 to 14 days. While it takes a maximum of 14 days in Kitui, it takes only 1 day in Kosele. Most of the district land registrars finalize property transfer within one week when all the documents are in order as shown in Fig 7.17.

Figure 7.17: Days taken to transfer property in selected counties



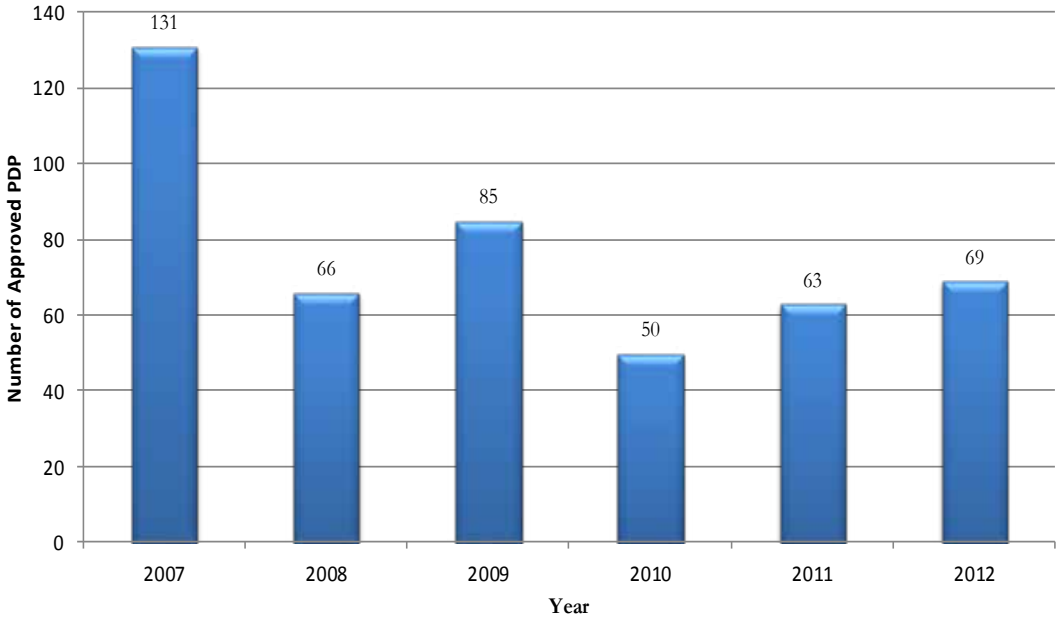
7.4.2 Physical Planning

Physical Planning Department is mandated to prepare local physical development plan, regional physical and part development plans. The department also plays an important role in advising local authorities on matters relating to development control.

Fig 7.18 presents the number of part development plans for housing development approved between 2007 and 2012. The data shows that there

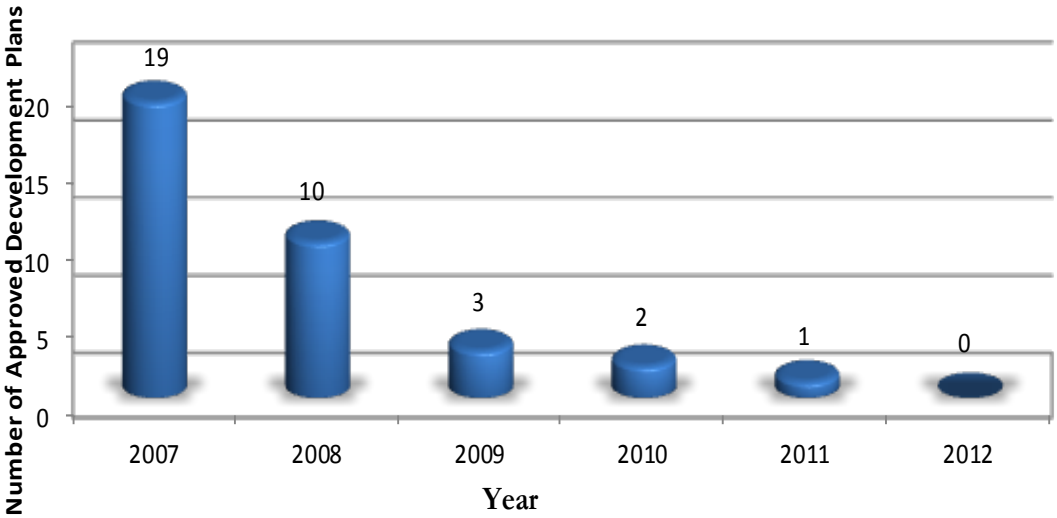
has been a declining trend for the part development plans in the urban areas during the review period. This is partially attributed to the stoppage of allocation of land to private developers. The slight increases in 2010 could be attributed to processing of ownership documents by government ministries, departments and institutions.

Figure 7.18: Development plans approved, 2007-2012



Development plans once approved achieve legal powers to guide all types of development within the planned area. A key component of any physical development plan is setting aside land for various uses among them, housing. However, as indicated in Fig 7.19, the number of development plans approved has been on a declining trend over time.

Figure 7.19: Development plans approved, 2007-2012



7.5 National Environment Management Authority (NEMA)

NEMA is a state authority mandated to deal with handling environmental. At the time of Survey, licensing of development projects was done at 8 regional offices. These were Nairobi, Kakamega, Embu, Mombasa, Nyeri Nakuru and Kisumu. The offices could not avail data on how many applications had been received and licensed in the years 2010 and 2011.

7.5.1 Housing Development Licensing Process by NEMA

- Proponent engages a lead expert licensed by NEMA to write the environmental impact assessment report
- Ten (10) copies of the report are submitted to NEMA for review.
- NEMA after proponent pays the fees circulates the reports to the lead agencies that are expected to make comments within 21 days.
- Upon receiving/not receiving comments after 21 days, NEMA starts process of reviewing the reports and makes decision based on the comments received from lead experts.
- License is issued with or without conditions. The license to develop may also not be issued depending on the report appraised.

Its takes approximately 45 days to license a housing development proposal once a report is submitted to NEMA.

7.5.2 Factors Considered in Assessing Cost of a License for Housing Development

The cost of a license is heavily influenced by the design of the building. The total floor area is computed from architectural drawings multiplied by cost per square meter prevailing in the market based on location of the development. The Institute of Quantity Surveyors periodically advises on costs.

7.5.3 Factors Considered on Whether to/not to License Housing Development

- Whether the proposed project is ideal on the proposed site. This is determined after receiving inputs from the lead agencies corroborating with NEMA. Among these are department of housing, physical planning department and departments of roads.
- Identification of negative environmental impacts
- Consideration of alternative site, technologies and materials
- Evidence of public participation
- Adequacy of environmental management plan.

7.5.4 The Main Challenges Affecting the Licensing of Housing Development Project (From the Most Common)

- Conflict between NEMA and other development control agencies
- Lack of cooperation from other institutions
- Political patronage
- Failure of lead agencies in feedback in time.
- Inadequacy of lead experts in articulating environmental concerns in housing development.

Chapter 8

CONCLUSION AND RECOMMENDATIONS

8.1 Key Findings

The 2012/2013 Kenya National Housing Survey was necessitated by the need to improve the scope of housing statistics and knowledge. This would form a base for evidence based policy and programmatic intervention by the State and other actors in the sector as well as for future periodic monitoring of the developments in the housing sector. Some of the key findings were:

(a) Household characteristics

- The average household size was higher for owner occupier as compared to renters in both the urban and rural set-ups. However in terms of adequate space, owner occupiers had adequate space unlike the renters.
- Renting households spend more than 30% of their income on rent monthly. This percentage increases to 47% when housing related utilities are included.
- Nationally, corrugated iron sheets were the main roof material at 73.7 per cent.
- Mud/wood was the main floor materials in the rural areas

(b) Built Environment Professionals (BEPs):

- Public agencies employ most of the BEPs.
- 66 per cent of the interviewed BEPs reported to have been advocating for use of alternative building materials and appropriate technologies.
- The highest number of BEPs across all the professions advocated for Stabilized soil blocks.

(c) Housing financiers:

- Over 90% of the financial institutions interviewed indicated that they did not have specific products geared towards savings for mortgage.
- Average banks mortgage interest rates in December 2010 and December 2011 stood at 14.36 per cent and 16.36 per cent respectively

(d) Housing developers

- Housing developers quoted, access to affordable land (45.9%), high returns on investment (43.7%), and prospective future returns on investment (41.4%) emerged as the key factors in determining where to develop.
- The main reasons for occupation of houses before completion was the high demand for housing (74%) followed by developers experiencing constraints with flow of funds before full completion at 46.6 per cent
- The main reason cited by individual developers for not using ABMT (50.8%) was the perception that they were expensive/ unaffordable. There was also a big number (37.7%) who claimed they do not use ABMT because of lack of understanding.
- Green energy intake was very low in individual developers (solar 3.9 per cent and wind 0.6 per cent), and none of the institutional developers interviewed were using any of the green energy technology.
- Cost of inputs and high cost of land were perceived to be the two biggest challenges facing the housing sector.

8.2 Conclusion

This was the first comprehensive survey in twenty years. Although vital information and data was generated from the survey, the survey process faced a major challenge of insufficient information in some modules during the data collection. Despite this challenge, the following conclusions can be drawn:-

- Adequate housing especially for the low income in both urban and rural areas is lacking.
- There is minimal awareness on alternative building solutions and appropriate technologies including green energy.
- There is inadequate funding system to facilitate mortgage provision, and interest rate on the available mortgages is very high. .
- High cost of land and building materials has hindered development of housing in the country.
- Renters are spending more than the internationally accepted percentage of household income on rents due to housing shortage.
- The concerns and challenges related to affordable quality housing are real for many Kenyans. It is challenging to find affordable quality housing. Whether renting or buying many respondents overwhelmingly agree that it is challenging for families that live at or below the poverty level to find affordable quality housing

8.3 Recommendations

Stemming from the above findings and conclusions, the following recommendations are made:-

- There is need to prioritize planning, management and development control of the peri-urban land which remains a great challenge.
- There is need to have, a one shop system where development applications will be received, fees paid and approval done within a reasonable time.
- Counties should ensure adherence to zoning regulations and also set aside land for development of social and public housing.
- There is need for equitable utilization of residential lands in urban and rural areas with particular attention to the needs and requirements of the underprivileged and homeless citizens are necessary. Urban housing delivery should go beyond focusing on market forces, if we have to address the issue of slums and informal settlements.
- We suggested that high-resolution remotely sensed data and Geo Information systems be used to provide cost-effective and up-to-date information on housing development.
- It's recommended that the government prepares an analytical report of the housing survey. This will provide useful information to both public and private sectors players in the housing sector.

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