DETERMINANTS OF ACCESS TO AFFORDABLE HOUSING IN NAIROBI COUNTY

NDUNG'U FELISTA WANGUI

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DECLARATION

Student Declaration

This research project report is my original work and has not been presented for an award in any other university.

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Ndung'u Felista Wangui Date

D63/64430/2013

Supervisor Declaration

This research project report has been submitted for examination with my approval as the University Supervisor.

______________________ ______________________

Dr. Josiah O. Aduda Date

Dean School of Business

University of Nairobi

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God bless you all.

Felista Ndung'u

DEDICATION

To my dearest husband Antony, My lovely children Daniel, Rity and Shiro and My mum for her constant words of encouragement.

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ABBREVIATIONS

AFDB	-	African Development Bank
CBK	-	Central Bank of Kenya
GDP	-	Gross Domestic Product
HDF	-	Housing Development Fund
NGOs	-	Non-Governmental Organizations
NHC	-	National Housing Corporation
PPPs	-	Public Private Partnerships
SACCOs	-	Savings and Credit Cooperatives
UNICEF	-	United Nations Children’s Fund

ABSTRACT

Despite its obvious overlook housing can be defined as a physiological need in almost the same class as the basic needs. In most urban areas let houses are characterized by high rent costs, rented house inconveniences and creation of debilitating comfort zones giving rise to elevated desires and wants to own a home. However, these desires are often met by constraints such as high building expenses, high land costs, lofty building materials costs, water supply access, electricity access, poor regulatory frameworks, conditionality, high interest rates for shelter finance, limited access to house finance among others.This study focuses on the determinants of affordable housing from the demand perspective i.e. the home owners. It seeks to understand the significance of selected determinants namely Interest rates, loan repayment period, access to finance, and land prices on individual home affordability. The four study variables have been given the coefficients a, b, c, d, in the study model used; $Y = ß + ax_1 + bx_2 + cx_3 + dx_4 + έ$, where the level of significance was 95%. The nature of the relationship between the four variables and home affordability will determine whether the coefficients a, b, c and d are either negative or positive. Additionally, the extent of the variables relationship to housing affordability will determine the values the coefficients adopt.The study adopts a mixed research approach where both quantitative and qualitative data was gathered and analyzed. The study used interviewing through the use of questionnaires as the technique to gather data. The target population was the middle class in Nairobi County. Purposive sampling was used to select the sample respondents. A sample size of 60 respondents was selected and primary data collected through use of Questionnaires.The research utilized descriptive analysis in presenting the findings in the form of tables, graphs, charts and pie charts. Additionally, the analysis of the data findings was done through the use of a multiple regression model indicated above. Analysis of the results shows that a unit increase in access to finance and loan repayment period would increase housing affordability by 1.07 and 1.30 respectively. Increase in interest rates and land prices would lead to -1.38 and 0.30 decreases on housing affordability respectively.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Most countries in the African continent have high population growths and high rates of urbanization. UNICEF asserts that as at the year 2012, 24.4% of the Kenyan population was urbanised. Further, it predicts that these urban populations will grow at a rate of over 4% between the years 2012-2030 (UNICEF, 2014). Consequently, these high rates of urbanization lead to pressures on many limited urban resources such as water supply, transport systems, health needs, sanitation, and most importantly the housing sector (The World Bank, 2014).

One area that is highly affected by these population demographics is housing. Housing in Kenya like in most developing countries especially in urban areas has been stretched beyond the yield point. Subsequently, this has led to negative outcomes and overflows that are characterised by decreased productivity, congestion, ill health, low rates of wealth, negative social and economic progress amongst other vulnerabilities (UNICEF, 2014).

Despite its obvious overlook, housing can be defined as a physiological need in the same category as the most basic of needs such as food and clothing. In most urban areas, houses to let are characterized by high rent costs, congestion, rented house inconveniences, and creation of debilitating comfort zones. This gives rise to the elevated desires and wants to own a decent home by most of the populace. This is however a challenge for the middle and the low-income earners in the country due to various limitations.

Access to affordable housing is limited by various factors. This research seeks to understand the relationship of affordability will selected key factors namely Interest rates, length of Loan repayment ,Land prices and access to finance in Nairobi County in an effort to unravel more comprehensive innovations and solutions to these housing problems mostly felt by the low income and middle class Kenyans. This is an important study given that home ownership is depicted as a factor of wealth, an engine of social and economic progress, a sense of national progress and priority, an opportunity for viable and connected housing markets and an opportunity for more collaboration amongst the government, civil society, private sector, and prospective homeowners.

1.1. 1 Affordable Housing

Housing Affordability can be defined as being capable to bear the housing cost or costs without acquiring severe consequences (Noppen, 2014). Housing affordability is subjective implying that what is affordable to one person may not be affordable to another. In previous research, various metrics have been used to measure home affordability key among them being the prices of homes, individuals' disposable income, mortgage loan interest rates, housing price index amongst others.

Demand of housing by prospective homeowners and supply of housing by real estate developers and other institutions plays a critical role in determining the actual pricing of homes. If demand exceeds supply, home prices will be higher and vice versa. Increases in prices of homes that are not in tandem with increases in income will negatively affect home affordability in a significant way (Trimbath & Montoya, 2002). In this study, access to affordable housing is being defined as the capacity to own a dwelling place at the prevailing market price that is easily affordable.

1.1. 2 Factors That Affect Affordable Housing

Home ownership is influenced by various determinants such as prices of homes, household or individual income, and disposable income. Others include building expenses, status of an individual, land ownership policies, building materials costs, water supply access, electricity connection access, water connection access, policy or regulatory frameworks, interest rates for shelter finance by financing institutions, access to house finance and other infrastructural restraints (Nabutola, 2004; Arvanitis, 2013).

Home ownership is thus dictated by the above-mentioned determinants amongst many others. Although it can be argued that housing affordability should be an easy endeavour in cities this is not the case as information by actual prospective homeowners reveals otherwise (Njathi, 2011).

1.1. 3 Relationship Between Affordable Housing and Determining Factors

Some of the empirical and extant ways of managing these determinants in Kenya and the larger Africa employ innovative housing finance mechanisms that target the middle and lower income class population. Currently, feasible sources of house finance in Nairobi County include personal savings, Sacco loans, financial institution loans and housing mortgages (Trimbath and Montoya, 2002).

Current empirical innovations aimed at addressing the house owning determinants in Nairobi County include the reduction of mortgage borrowing challenges, PPPs, using integrated systems such one used by Jamii Bora, adopting cheaper building technologies, addressing formal housing cost components, government subsides, tax initiatives in owning homes and formulating home friendly regulatory frameworks amongst others (Noppen, 2014).

1.1. 4 Price of Homes in Relation to Housing Affordability

When the prices of homes grow faster than individual income less people will be able to afford homes due to the pricing limitation. Several factors determine the pricing of homes key among them being the cost of financing for developers and prospective homeowners. High financing and other costs means that the overall cost of building a dwelling house increases and developers have to charge higher amounts for these homes.

Other factors influencing the pricing of homes include but are not limited to land costs, facilitation costs, transportation costs, inflation rates and building material costs. Overall an increase in the pricing of homes reduces home affordability and vice versa.

1.1. 5 Disposable Income in Relation to Housing Affordability

Housing affordability is directly related to income levels for individuals and combined households who desire to own a home. Higher income levels mean that individuals or households can afford to purchase bigger and better quality houses compared to low income earners who have to struggle to obtain at least decent housing.

However, the household expenditure patterns and an individual's perspective to home ownership also determine whether an individual will own a house or not and how fast home ownership will take place. Disposable income is thus a key determinant on home affordability and determines the type and size of home that can be bought or built.

1.1. 6 Land Prices as a Determinant of Housing Affordability

Land represents a major problem in home ownership in urban areas. According to research, unavailability of fairly priced and well located serviced land with proper documentation is a major inhibitor to rapid growth in Nairobi County. There are various reasons that include the government as a major holder of vast pieces of land, control of large tracts of land by private entities, poor environmental conditions, and the absence of the essential infrastructure including water and sewer systems are a major challenge to the developers (Ngugi and Njori, 2013; Njathi, 2011).

High land prices, poor systems of land records and a slow registration process discourage potential homeowners from mortgage and financing due to lack of timely verification of the prospective developmental properties and in ability to service the huge amounts demanded. In addition bureaucratic red tapes in the ministry of lands and other related government stakeholders are also a key hindrance among the Nairobi County potential homeowners (Ngugi and Njori, 2013).

1.1. 7 Interest Rates as a Determinants of Housing Affordability

Amount of financing available both to potential middle income home owners and real estate developers and interest rates charged determines the equilibrium of demand and supply of housing in the economy. Higher interest rates means higher loan repayments and vice versa making interest rates a determinant of home affordability.

1.1. 8 Loan Repayment Period as a Determinant of Housing Affordability

The duration of repayment, interest rates and flexibility of monthly repayments can also not be overemphasised as they determine whether the borrowers will have the capacity to repay the loan within the stipulated period (Ngugi and Njori, 2013).

In Europe, increased competition among the financial institutions led to more diversified loan instruments with increased maturity period facilitating the profound growth of the housing industry (Norris and Winston, 2012). Short maturity periods, and inflexible monthly payments all discourage potential homeowners from seeking financing alternatives for their housing projects. The reverse applies in Kenya and especially Nairobi County (Ngugi and Njori, 2013).

1.1. 9 Access to Finance as a Determinant of Housing Affordability

Accessing house finance in most of the developing countries is an uphill task. In Kenya and particularly Nairobi County that is no exception. Stringent requirements by financial institutions like constant flow of income, requirements for one to be salaried to minimize risk of default from their end and failure by the government to come up with ways of registering and assisting informal groups access affordable housing has made access to home financing a preserve of the rich. Access to finance enables people to access home financing thus increasing home affordability and vice versa.

1.1. 10 Housing in Nairobi County

Kenya is currently faced with the challenge of affordable housing. The average price for an average apartment in the capital city Nairobi currently stands at KES 11.58M (USD 136,000), up from KES 5.2M (USD 61,000) in December 2000. There is no home on the formal market that is below KES 2M. Additionally, according to a report by the Hass Property Index, "The average price for an apartment in Nairobi is Sh12.7 million, a semi-detached house Sh20.4 million and a detached one Sh35.2 million . . . "(Mwaniki, 2014). This amount is still completely unaffordable to low-income populations given the current gross per capital income of KES 5,848 per month (Noppen, 2014). Home property prices have continued to increase at a high rate.

Affordability is a key factor yet a major challenge facing the potential homeowners as well as potential developers. The current market is positioned in a way that the bulk of the available units are overly expensive for the middle class. Delivering a new house does not necessarily dictate an end product, but the means of delivery and capacity of the market to easily and comfortably absorb the product. The use of microfinance loans provides a part possible solution for these problems (Centre for Affordable Housing Finance in Africa , 2011).

A key area of innovation as per the Centre for Affordable Growth (2011) involves finding a balance and the link between the housing finance, finance access and the housing construction. The link promotes incremental value adding processes that are affordable to all including the lower income earners. The potential of housing sector growth is great as investment in innovative approaches translates into exponential growth in the future.

According to Hass consult, a leading property developer access to affordable housing for prospective homeowners is a challenge. Currently only 20% of the urban population lived in their own homes as at September 2013 while only 8 percent of urban Kenyans had access to housing finance. There were only 22,000 active mortgages in the whole country in a market of more than 40 million people. Among the 40 million people, only 3.9 million of the population were deemed to be in the middle-income market representing just 0.5 per cent of the potential market.

The slow uptake of home loans in the country is not because Kenyans lack the desire to own a home rather it is because of the many constraints placed by financing firms. The financial market has not been spared either as they also suffer from a lack of long-term capital to on-lend as mortgages and home ownership loans. Therefore, there is need to increase the accessibility and eligibility for home loans in the country as kenya lags far behind other global and regional property markets in financing. High mortgage interest rates and high housing pricess has been putting a profound brake on home ownership in the country. Therefore, urgent attention needs to be focused in making housing more affordable by all stakeholders.

Provision of affordable homes is likely to have rapid uptake from the market as long as the homes are in an easily accessible location. Complication however arises from the unwillingness of developers to lower their prices owing to the skyrocketing cost of land and materials, the high cost of construction finance, low government funding, lack of serviced land, high cost of building and construction materials; inappropriate building and construction technologies, limited research on low cost building materials and construction technologies and stringent planning regulations and standards.

In summary there has been increased demand for affordable housing in Kenya, which is yet to be realised due to various and varied housing determinants involved both directly and indirectly. Much more needs to done in the country to address these determinants in a holistic way. As such, this study will go a long way in filling the gaps left by previous research that has concentrated on home pricing and financing from the supply perspective.

1.2 Research Problem

As identified earlier there are various determinants of home affordability however for purposes of this research we will look at the extent of the effects of access to finance, interest rates, land prices and loan repayment period. This is in order to determine whether a positive or negative relationship exists, the extent of the relationship on home affordability and the direction of the relationship. The degree of impact on each of these determinants on housing affordability varies from one income bracket to another depending with the residential location in Nairobi County. The increase of quality housing levels in Nairobi County will lead to reduced slums, slum dwellers, better livelihoods, increased productivity, prolonged lifespan, increased sanitation and ultimately the achievement of the 2030 visions of social, economic and political pillars.

Most research on housing affordability in Kenya has concentrated on the relationship of housing prices and housing mortgage implications only. However, that kind of empirical inclination has not looked at a number of variables that have been mentioned in the background of the study. However these variables play a very key role in determining the affordability of housing in Nairobi County and Kenya as a whole.

Other global studies on the problem of housing affordability have focussed on income inequalities and housing affordability. This has been particularly the case in the United States, Europe and other developing countries (Norris and Winston, 2012). Other worldwide studies such as by Trimbath and Montaya (2002) have looked on housing affordability from price, income and mortgage dynamics.

Consequently, this study looks at the determinants of home affordability from the demand perspective in particular to the prospective home owners. The research seeks to find out what other determinants they encounter income and home prices not withstanding in their quest for affordable housing and what key challenges get in their way as they strive to access decent and affordable homes they can call their own.It looks at the different determinants as mentioned in the background of the study hindering home ownership from this perspective.

It is important to analyse and evaluate these determinants to determine the severity of each in limiting as well as facilitating access to home ownership, the views of the actual consumers of housing and ways in which these determinants can be managed or addressed. Thus, this research seeks to establish the effect of selected determinants on home affordability in Nairobi County and how their relationship influences the quest for affordable housing.

1.3 Research Objective

Establish the effect of selected factors on access to affordable housing in Nairobi County.

1.4 Value of the Study

This study will add to the body of knowledge in existence on home affordability, which will be beneficial to prospective homeowners, academicians, policy makers, house financiers, learning institution instructors and other stakeholders.It also provides a basis for further research on home affordability in Nairobi County and the larger of Kenya. Thus, contributes to the literature on determinants of access to home affordability. In addition it will be of value to:

1.4.1 Prospective Home Owners

This research will help prospective homeowners in the process of determining a choice to own a decent home. In understanding the determinants that affect house affordability, potential homeowners will become aware of what stands in their way to affordable housing making it easier for them to device ways of overcoming and minimising these challenges.Additionally, other stakeholders such as banks, the government and micro finance institutions in the housing industry will be advised of how to deliberate and help in making housing affordability in Nairobi County more accessible to their prospective home owners.

1.4.2 Financiers

Financiers will better understand the financial and housing needs of their many and willing clients. Determinants of affordable housing that affect the demand side of the market will be studied in this research to a considerable extent.

Increase in loan repayment periods to enable prospective home owners afford monthly repayments and other innovative and integrated products to suit the needs of their clients will be looked into. These financial institutions will also appreciate their role in facilitating development of affordable house ownership in Kenya.

1.4.3 The Government

The government has a major role in facilitating and developing affordable housing for its people through encouraging construction of affordable housing by offering incentives to developer and builders who include low cost housing in their projects.
In a tight money market, housing is not bound to suffer as the borrower nor can the developer obtain finance for house development.

This research will add insight by outlining the government's critical role in developing policies that regulate and promote provision of loans by financial institutions. Such an assertion is founded on the fact that the government is the main overseer of the housing sector to maintain sanity and ultimately affordability.

1.4.4 Real Estate Developers

In their quest for quick and high returns, the real estate developers have concentrated on the high-end income bracket. However, given the massive numbers of prospective homeowners that fall in the middle income bracket the potential cannot be overstated. This research will pursue the housing needs of the middle-income earners people and will thus help the real estate developers in meeting these needs.

It can however be noted that the Real Estate Developers also face their greater share of troubles in providing housing to the middle income and lower income brackets. However, all is not lost as studies and deliberations on some of these issues can help make the troubles less sour. Studies such as this one can help make such a transition quicker, all encompassing and shock proof.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

While discussing affordable house ownership for the middle class in urban Kenya with special focus on the determinants, the literature review paid sufficient focus on the theories guiding the sector. Several theories have been advanced to guide the housing phenomena by the middle class across the globe. As the studies on the Kenyan perspective are meagre, these global theories are applied to this study, which has a focus on urban Kenya and in particular Nairobi County. The literature also reviews extant empirical studies that have a focus on the local scenario as regards affordable house ownership.

This section provides a review of various housing concepts and previous housing studies, which have focused on the access to financial services and the solution to other determinant challenges that facilitate the affordable house ownership phenomenon.

2.2 Affordable Home Ownership Theories and Approaches

According to Mittullah (2003), there have been several hypotheses regarding access to affordable housing for the middle class that have been postulated. These have been posited throughout the twentieth and twenty first century within the laissez-faire economy or the capitalistic environment.

2.2.1 Economic Theory of Housing

The core of economic theory is based on supply and demand. House demand is the number of houses potential homeowners are willing to buy at a given price. House supply on the other hand is what house developers are willing to sell at a given price. Factors affecting demand for housing include house pricing, rental costs, income levels, and cost of financing among others. Factors influencing supply include cost of building materials, cost of land, and return among others. These factors can then either increase of decrease demand and supply of housing (Gibb, 2009).

2.2.2 Home Ownership Model Theory

This theory looks at the costs and benefits associated with acquisition of the house and compare them with the selling price (equity) at the end of the ownership life. Original costs involved in house ownership would include down payment, mortgage, or principle repayments, insurance and legal costs amongst others. The benefits would be rental savings and pride of home ownership amongst others.

At the end of the ownership period, the individual will have a worthy asset. The theory assumes that the total investment in the purchase of the house less benefits incurred over the ownership life and equity received at end of ownership life represents additional benefits that the homeowner will get compared to a person who was renting (Norris and Winston, 2012).

2.2.3 Human Motivation Theory

Abraham Maslow is universally accredited as the pioneer of the motivation theory and the cornerstone of humanistic psychology. The theory posits that human beings are driven by a burning desire to fulfil their own needs and wants to the best of their knowledge, abilities, and skills. However, the achievement of these needs follows a certain pyramidal criterion that is dictated by different levels of need. As such, the hierarchical flow of needs begins with the most basic or physiological needs at the base and ends with self-fulfilment needs at the apex. Other needs in between include safety, security, sense of belonging and self-esteem or identity respectively (Deci and Ryan, 2008).

Therefore, one has to fulfil the lower or base needs before going up the pyramid to other less basic needs. This theory can therefore be applied to this study as the middle class urban Kenyan seeks to fulfil dwelling needs that can be considered to be almost physiological. However, such housing needs are characterized with many disparities amongst the urban middle class due to a host of factors. Consequently, the different levels of income, finance costs and other challenges can be used to evaluate the fulfilment a family or and an individual gains from affordably owning a home. These challenges and enablers are thus the motivating and de-motivating factors that the middle class urban Kenyan encounters in a bid to own a dwelling place (Lerner, 2013).

2.2.4 Efficient Market Hypothesis

Under the efficient market hypothesis Fama (1991) asserted that financial markets are informational efficient in the long run and it was therefore not possible to achieve excess returns. In an efficient market, information was said to be quickly reflected in market prices. In the housing context, this means that prices of houses are a perfect reflection of all available information.

2.3 Review of Empirical Studies

Related studies have been done on determinants of housing affordability but from different perspectives. Denysyuk (2011) did a study on housing affordability for Danish owner occupiers and looked at house affordability and its measurement in the Danish setting. Trimbath and Montoya (2002) conducted a survey and looked affordability from three dimensions namely home prices, household income and mortgage interest rates.

Njathi (2011) carried out a study on the challenges facing house developers in Kenya in their provision of affordable housing to the low-income earners. Karoki (2013) did a study on determinants of residential estate prices in Kenya while Jumbale (2012) looked at the relationship between house prices and real estate financing in Kenya.

According to Omwenga (2011) a majority of the population living in cities characterizes the world today and approximately one billion of the population is living in slums, these figures are expected to double in the next few decades. The population's middle class in urban areas is also growing at a rate faster than can be absorbed and managed by the available housing units.

The increase in population has led to an increased demand on the services and available infrastructure within the urban areas. The supply of such services and infrastructure is not able to meet the demand. The law of economics states that when demand exceeds supply, there is increased competition of the available resources making them rather expensive (Gibb, 2009).

A study by Ngugi and Njori (2013) seeking to find out the determinants of mortgage finance in Kenya on 400 respondents and which had 90% response rate showed that only 3% of Kenyans have access to housing mortgages in the country yet the economy has witnessed continued growth. Their inferential regression analysis model showed that factors such tax incentives, loan maturation, and costs of capital amongst other factors determined mortgage accessibility. On the other hand, the demand side (end-user financiers) were yet to achieve their full potential as they were currently underdeveloped. Only a mere 8% of the middle class had access to housing finance and there were only 22,000 active mortgages nationally at the time.

This was the case in Kenya because of a nascent mortgage market that amounted to only 2.5% of the GDP and a financial market suffering from lack of long-term capital to on-lend as mortgages. They concluded that cost of capital made credit cheaper and increased the borrowers capacity to acquire a mortgage while higher cost of capital led to reduced borrowing capacity due to the high costs involved (Ngugi & Njori, 2013).

Karoki (2013) in her study on determinants of residential estate prices in Kenya analysed housing prices from 2005 to 2012. She collected data from various publishers and published reports from trusted market sources. Through use of multivariate regression and correlation analysis she concluded that the factors affecting housing prices included interest rates, GDP and level of money supply and that a rise in property prices was well explained by macro-economic variables.

Jumbale (2012) looked at the relationship between housing prices and real estate financing in Kenya. He applied causal design and used purposive sampling to select a sample of 20 respondents. Quantitative data was analysed through use of SPSS. He found out that changes in housing prices were significantly related to the long-term evolution of real estate financing. Changes in housing prices did affect the amount of real estate financing.

Njathi (2011) posits that affordability is a key factor yet a major challenge facing the potential homeowners as well as potential developers. Additionally, Noppen (2014) posits that the current market is positioned in a way that the bulk of the available units are overly expensive for the middle class. Delivering a new house does not necessarily dictate an end product, but the means of delivery and capacity of the market to easily and comfortably absorb the product. The use of microfinance loans provides a part possible solution for these problems.

Njathi (2011) carried out a study on the challenges facing house developers in Kenya among the low-income earners. He established that housing is a major problem in Kenya due to high land costs, complicated land acquisition processes, outdated planning, and building regulations, lack of adequate infrastructure among others. After analysis of data collected through use of questionnaires to the relevant target group his conclusions on the major challenges encountered in pursuit of affordable housing was high cost of land, increasing cost of financing and poverty leading to low purchasing power by prospective homebuyers. From his research, the views collected from respondents on ways to make ownership of homes more accessible and affordable included a reduction in financing costs and cost of raw materials, tax rebates, provision of low cost loans by the government and tax rebates.

Trimbath and Montoya (2002) conducted a survey and looked affordability from three dimensions namely home prices, household income and mortgage interest rates. From the information obtained from the research the researcher observed that homebuilders rapidly responded to rising home sales by increasing supply. However, without increase in home prices there was slow response from builders, which often led to increased demand for housing pushing the prices up (Trimbath & Montoya, 2002).

Home supply in certain geographical areas had also been affected by limitations of developing home units in certain areas. In this study, they also found out that home prices were growing at a higher rate than growth in family income making it less affordable to own homes. They emphasised that most policies on affordability were centered on stimulating demand or providing mechanisms. They were of the of the opinion that as buyers increased the economic laws of demand and supply would push prices up hence the need to control factors affecting both demand and supply in order to make housing more affordable (Norris and Winston, 2012).

Surveys in 2011 by the AFDB and the CAHF in Africa indicate a growth among the middle class earners in Africa. They further assert that the Kenyan middle class population is a new market with unexplored opportunities to exploit. This is because an increase in the middle class means there are increased opportunities for increased housing consumption. A view shared by Ngugi and Njori (2013). Despite this profound growth, the housing industry must be given its due attention because it is a disappointment to many aspiring middle class. The developers face a variety of challenges which include the complexity characterizing the growth and development process, difficulties towards finance access, and the poor infrastructure.

Denysyuk (2011) in his study on housing affordability for Danish owner occupiers looked at house affordability and its measurement in the Danish setting. He derived a model to measure housing prices based on the assumption that average housing price should be in balance with affordability. Through theoretical and practical analysis one of his conclusions was that house related costs was one of the determinants of home affordability.

The Government of Kenya (2007) asserts that the current and probable housing units leave a deficit of 85,000 units annually. This is courtesy of shortage of supply in housing units and the inflation of prices per housing unit by 100% since 2004 (Noppen, 2014). This pushes the most middle-income earners out of the expensive housing market into rented spaces and other informal structures. The remaining lower middle class live in areas with deplorable conditions, the remaining section of the middle class pay heavily to live in adorable areas (Noppen, 2014).

According to Ondong (2013), there are few mortgage owners in the country yet the economy has witnessed continued growth. On the other hand, the demand side (end-user financiers) are yet to achieve their full potential, as they are currently underdeveloped. Only a mere 8% of the middle class have access to a housing finance and there are currently only 22,000 active mortgages nationally. This the case in Kenya because of a nascent mortgage market that amounts to only 2.5% of the GDP and a financial market suffering from lack of long-term capital to on-lend as mortgages (Government of Kenya , 2008).

The Centre for Affordable Housing Finance in Africa (2011) report indicates a growth among the middle class earners. The Kenyan middle class population is a new market with unexplored opportunity to exploit. This is because an increase in the middle class means there are increased opportunities for increased housing consumption. Despite this profound growth, the housing industry must be given its due attention because it is a disappointment to many aspiring middle class. The developers face a variety of challenges which include the complexity characterizing the growth and development process, difficulties towards finance access, and the poor infrastructure (Centre for Affordable Housing Finance in Africa , 2011).

2.4 Summary of Literature Review

Studies on housing affordability in Urban Kenya have revolved primarily around mortgages, macroeconomic policy, slums upgrade and housing policy. Explaining housing development and production merely by reference to only these aspects may not be conclusive as there are broader operational factors that need to be transposed into the housing context, for example; Government housing, building technologies, facilitated housing finance, land and planning policies pursued in any country will determine the most appropriate models of housing productions involving price and cost variables.

Government policies are most likely to impact the relationship between private sector housing provision and the macro-economy. Therefore, what motivates private housing production is a mixture of demographic, economic, financial, social and political factors (Golland, 1996). Under housing microfinance, it mainly focuses on end user financing available for the home buyers (Arvanitis, 2013).

The above highlighted challenges and barriers amongst many more clearly show that a new perspective on home ownership is needed. This research is therefore informed by these challenges in an effort to unravel more comprehensive innovations and solutions to these problems. This research aims to fill the gaps in the available literature and provide relevant information to interested key stakeholders on areas of unexplored opportunity.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter highlights the research methodology and the research design that was employed in the entire study. Thus, the section explicitly and implicitly stipulates the approaches that were used to gather, categorize, analyze, interpret, and communicate data, information, and the findings respectively. As such, it spells out the underlying research design, target population, target representative sample, types of data, data collection methods and the data analysis approaches.

3.2 Research Design

The research espoused an exploratory mixed method research design with more orientation towards quantitative data. Therefore, the study made use of both qualitative and quantitative research techniques. The research design was preferred because it allowed unlimited collection of data and enhanced a comprehensive and in-depth scrutiny of the phenomena under research. Additionally, the design also coalesced the benefits and advantages of both the qualitative and quantitative designs.

3.3 Population

The target population was approximately 1.2 million people constituting the middle class populace in Nairobi County intending to own homes or had recently acquired homes (Omwenga, 2011). However, this population was reduced further due to the study area as dictated by the regions settled by the middle class. Secondary data also included the entire set of units for which survey data was used to make inferences.

The assertion was supported by the facts on the ground and the disposable income available to the target population to enable house access and affordability. This is because in Kenya as is in most other countries the disposable income available to a household or an individual dictates the nature, type, and context of housing access and affordability.

3.4 Sample

The research also utilised purposive sampling due to the inherent target population characteristics and knowledge. Additionally, the approach and the sample size were recommended because of the study's purpose and the time available for the completion of the study.

The sample size was composed of approximately 60 study subjects in various middle income earning sectors in Nairobi. 45 of the subjects were prospective homeowners and 15 were recent homeowners. This was in order to better understand the determinants from their view and compare with actual relationship of the variables in theory from secondary data.

3.5 Data Collection

Primary data was collected using questionnaires administered to the target respondents. Primary data collections involved both open and close-ended questions in the questionnaire. The questionnaires were administered electronically via email and physically through actual administration. This approach was chosen because it is affordable, time saving and allows for in-depth data collection as it fosters high rates of personal responses (Kumar, 2011).

On the other hand, secondary data was collected from extant publications and researches. Thus, such data was gathered from white papers, government releases, editorial in newspapers, editorials in journals, newsletters, non-published dissertations, published dissertations, conference papers, institution of higher learning publications, peer reviewed, non-peer reviewed journals, professional bodies' journals, international journals, regional journals, published books, online books, and book reviews amongst others.

3.6 Data Analysis

Data analysis in this study was a continuous process throughout the different phases of the study. Data analysis entailed the use of mixed analysis methods due to the orientation of the study. Thus, the study employed the use of text analysis, tabulation and frequency tables for qualitative data. However, coding of the data was done first as this data is non-numerical. Thereafter, the data was arranged in homogenous categories for ease in interpreting it. Nevertheless, the data gathered was checked for errors and authenticity first before its analysis (Creswell, 2012).

Data that lacked the required credibility and reliability was discarded because it was not useful to this study. Text analysis was favoured because it helped in obtaining high quality information from the qualitative data gathered. On the other hand, tabulation and frequency graphs were preferred because assisted in the easy presentation of data. Conversely, quantitative data was analysed using computerised aided techniques such as Microsoft Excel and SPSS, which allowed for inferential statistics (Leedy and Ormrod, 2012; Czischke, 2009).

The model used to conduct a regression analysis is borrowed from Stone (2006), Ngugi and Njori (2013) and Karoki (2013). The basis of the model according to the literature review is that it will help us to determine the nature and extent of relationship between the interdependent and the dependent variables. This is has been successfully applied to other housing affordability factors as done by Ngugi and Njori (2013) and Karoki (2013). However, most studies have adopted a qualitative analysis approach. The regression used model or equation is as shown below:

$Y = ß + ax_1 + bx_2 + cx_3 + dx_4 + έ$

Confidence level will be 95%.

Dependent Variable:

Y = Affordable Housing

Independent Variables:

X_1 = Bank interest rates

X_2 = Access to finance

X_3 = Land Prices

X_4 = Loan repayment Period

ß = Constant

έ = error term

a, b, c and d = Beta coefficients(Beta coefficient b was hypothesised to have a positive value indicating a positive relationship between variables. On the other hand a, c and d were hypothesized to have negative values indicating a negative relationship between the dependent variable and the independent variables)

Measure:

Affordable Housing: This is usually measured using the housing affordability index which evaluates the extent to which housing is affordable. In Kenya the housing affordability index is set at 44% by Numbeo (2014).Measure of the extent to which housing is affordable in Nairobi County will be through use of question 6(2) in the questionnaire.

Interest rates, access to finance, Land prices and loan repayment effects on affordability will also be measured using Richter scale questionnaire responses. This is based on the scores given by respondents and then cumulated from the collective questionnaires on the four specific variables mentioned above.

Overall Measure: The value of a, b, c, d, is the degree of the effect of each on access to affordable housing. The hypothesised signs of the four coefficients are positive for accessibility to loans and loan repayment period and they give us the nature of the effects. Contrary, they are negative to land prices and interest rates. The nature and higher the value of a, b, c, and d the higher will be the effect on affordability.

3.7 Data Validity and Reliability

Data validity and reliability was first be enhanced by the use of a mixed study approach or design. However, data validity was highlighted by the stipulation and effectuation of clear and straightforward research goals and objectives. On the other hand, research reliability is highlighted by the elaborate theoretical framework of the study as guided by the purpose of the study (Creswell, 2012).

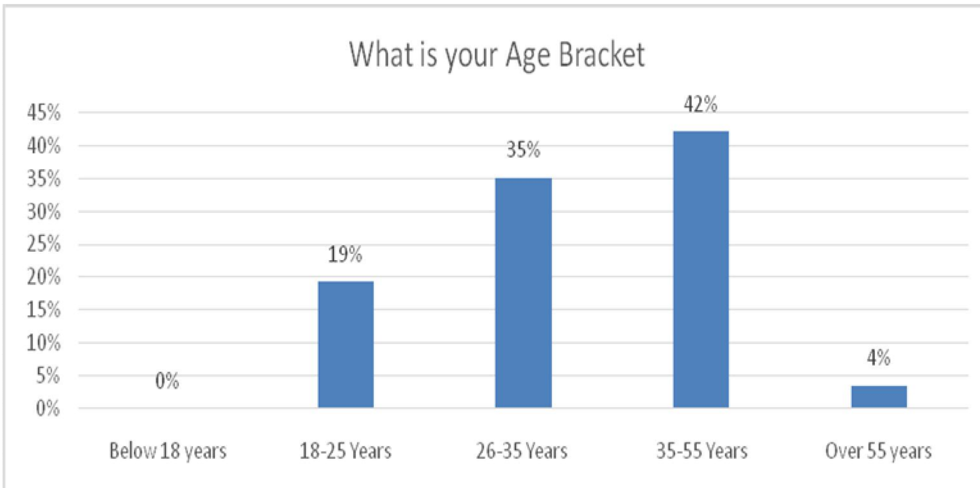
CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Descriptive Statistics

4.1.1 Personal Data, Income, Loan Acess and Loan Repayment Period

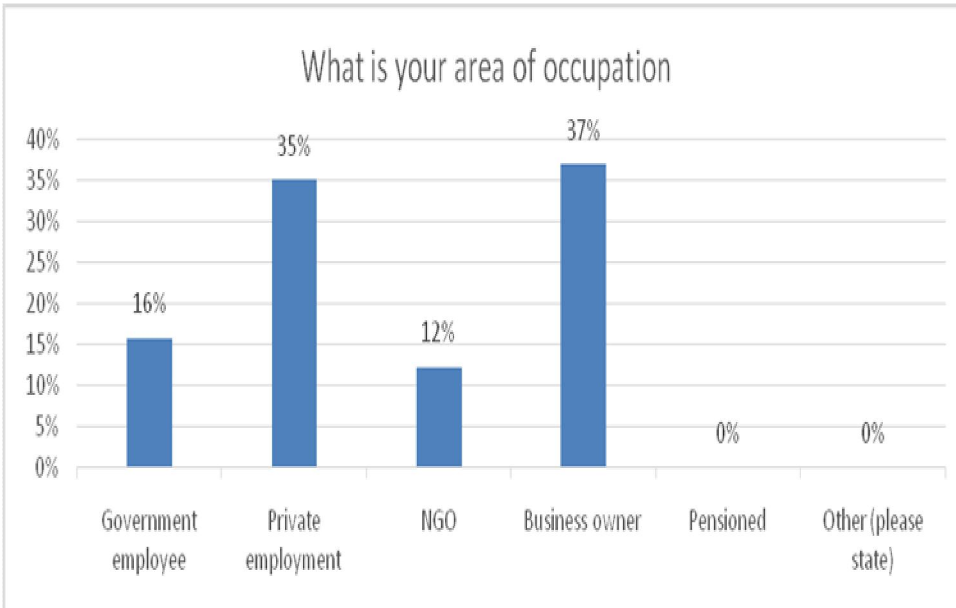
Figure 1 - Age Bracket of Respondents



This study targeted respondents who are eighteen and over and who were from all genders and occupations. The response rate was good as almost 100% of the respondents answered all the questions. A closer look at the data collected from the interview process however shows that the majority (42%) of the respondents were aged between 36 -55 years, followed by those aged 26-35 years (35%), then by 18-25 years (19%) and lastly by those over 55 years of age (2%). This is as shown in figure 1 above. Therefore, it can be adduced that a majority of the interviewees were middle aged.

The distribution of respondents from various sectors of occupation was well balanced as shown in figure 2 below. However, the bulk of the respondents was drawn from the entrepreneurial sector (37%), followed by 35% from the private sector, 16% from the government's side and lastly by 12% from the NGO's assemblage. This shows that the sampling and gathering of respondents was geared towards a purposive objective. As such, it was done so as to get the real picture of potential house owners from diverse and well representative samples of all employment sectors.

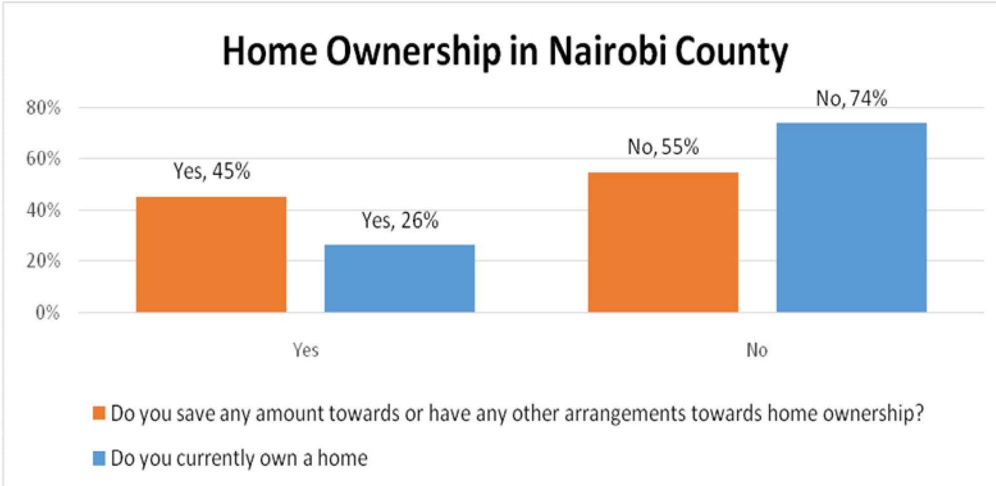
Figure 2 - Occupations of the Interviewees



A further analysis of the interviewees shows that only a mere 26% own house in the areas of the study. Conversely, a significant number of 74% do not own a house. It can therefore be attested that affordability of houses in Nairobi is not easy due to the limited number of subjects who own a house. This is despite majority of the respondents being in their middle age.

A large number of the subjects did not save towards home ownership in the future despite not owning a home. Nevertheless, a notable percentage of 45% did have arrangements towards home ownership in the future. This is as shown in figure 3 below. Thus, it is clear that more needs to be done towards home ownership in Nairobi County so that more people are motivated towards that goal.

Figure 3 - Home Ownership and Home Savings for the Respondents



An analysis of the mode of home ownership across the study subjects shows diverse means of home ownership. 64% of the study subjects who own home did so through building, 29% of the respondents attested to have bought their homes while 7% inherited as shown in table 1 below. Additionally, out of the 64% who built their own homes 24% got financing from their relevant SACCOs while 15% took mortgages, 10% obtained a bank loan and the remaining 15% either got a loan from their employers or financed from their own personal and family savings. Thus, it can be said the respondents who own a home preferred tailor made, owning the land the house is built on, budget constrained and flexible houses.

The second most preferred way of owning a home at 29% was through buying already built houses from various real estate companies. These purchases were financed mainly and from SACCO loans (11%) as well, mortgages (7%), Bank loans (4%), while employer loans and individual and personal savings accounted for the remaining 6%. Therefore, it can be affirmed that these mode of home ownership is not favourable due to reasons such as most people do not like already built houses, the mode is expensive, location of the houses is at times not ideal, lengthy processes of owning a home and land ownership is not guaranteed amongst others.

Lastly, 7% of the respondents asserted that they inherited their homes from their kin such as parents and grandparents. Thus, the sources of finance for these inherited houses were difficult to truly ascertain. However, most of the inherited houses were personally built rather than bought from real estate agents. Thus, of all those who owned home 38% did so through the financial facilitation of SACCO loans, 23% through mortgages, 15% through bank loans, 8% through employer loans and 16% through personal savings, household savings and other personally arranged means.

Table 1 - Forms and Means of Home Ownership in Nairobi County

	Home Source						
Home Form	Mortgage	Bank Loan	SACCO Loan	Loan from employer	Savings	Other	**Total**
Bought	7%	4%	11%	2%	2%	2%	**29%**
Built	15%	10%	24%	5%	5%	5%	**64%**
Inherited	2%	1%	3%	1%	1%	1%	**7%**
Other (Please Specify)………	0%	0%	0%	0%	0%	0%	**0%**
Total	**23%**	**15%**	**38%**	**8%**	**8%**	**8%**	**100%**

A further evaluation of respondents who owned homes shows that those who obtained SACCO loans had to repay the same within 5 years. Conversely, those who obtained a mortgage from lending institutions such as banks had to repay the same within a period of 5-20 years. This is as shown in chart 1 below. However, the repayment period was determined by the agreement between the borrower and the lender. Consequently, 42% of the respondents had to repay the home finance within 5-10 years, 25% within 10-15 years, 25% within 15-20 years and 8% within 5 years of borrowing. It is to be noted that none of the home finances was to be repaid within a period of more than 25 years.

Thus, it is clear that mortgages and bank loans take a longer time period to repay than SACCO loans which are mostly short term. Additionally, the respondents attested that the repayment periods are major determinants of affordable housing in Nairobi County. This is because 81% of the respondents affirmed that the repayment period is a major determinant of affordable housing. This is contrary to 19% who responded with a negative answer to the same issue as shown in chart 2 below.

Chart 1 – Home Owners Loan Repayments Period by Percentage

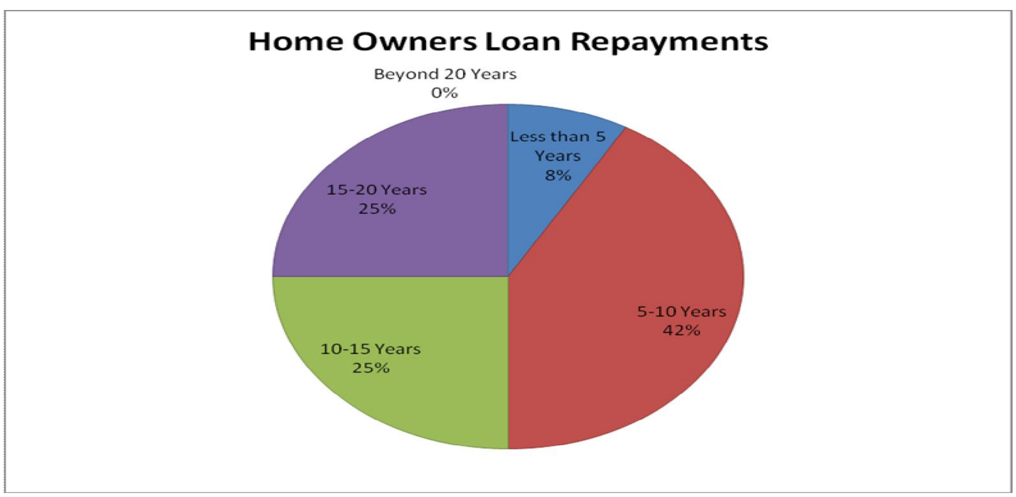


Chart 2 - Loan Repayment Period as a Determinant of Affordable Housing

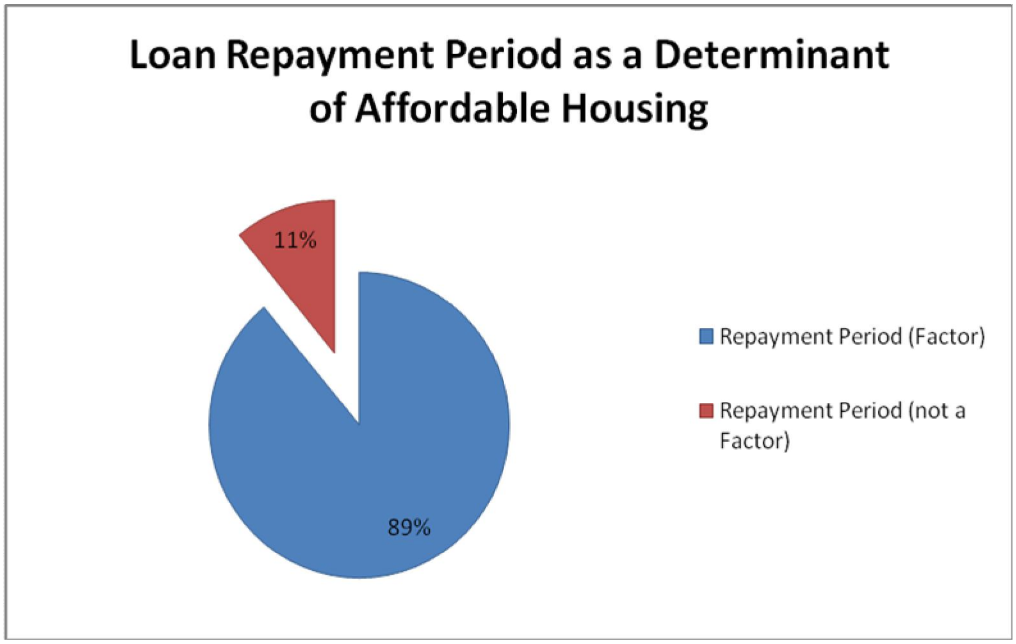
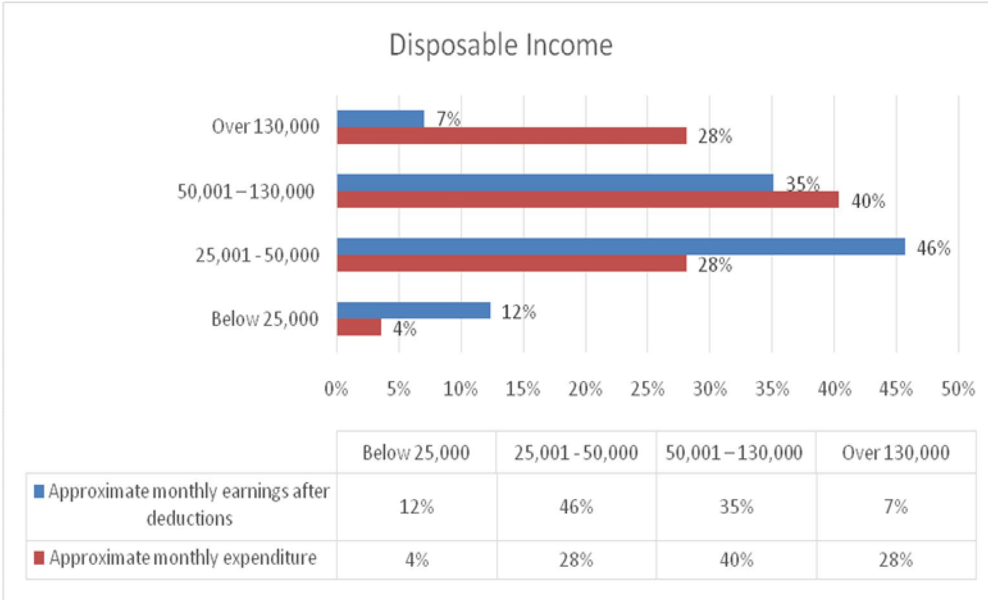


Chart 3 below indicates that a majority (46%) of the study subjects earn between KES. 25,001 and KES. 50,000 after statutory deductions. On the same note their expenditures seem to be less than the net earnings amount. This category of respondents is followed by those who earn between KES. 50,001 and KES. 130,000 at a distant 35%. In the third place are those who earn less KES. 25,000 at 12%. In the last place are those who earn over KES. 130,000 at 7%. Thus, it can be attested that except for those who earn less than KES. 50,000 other categories of owners have expenditures more than their net earnings. As such it becomes very difficult to own a home or save towards home ownership in the future.

Chart 3 – Income and Expenditure Patterns



	Below 25,000	25,001 - 50,000	50,001 – 130,000	Over 130,000
Approximate monthly earnings after deductions	12%	46%	35%	7%
Approximate monthly expenditure	4%	28%	40%	28%

4.1.2 Interest Rates

An analysis of responses to interest rate questions indicates that the most prevalent rates are between 10-15% which account for 67% of the responses. Interest rates of less than 10% but more than 5% had responses of 8% while interest rates over 15% but less than 20% accounted for 25%. This is an indication that most lending institutions are banks that have harmonized lending policies. However, the smaller lending interest rates can be attached to SACCOs which are like self help groups.

Conversely, 53% of prospective home owners attested that they can be able to afford home financing if interest rates were 10-15% as shown in figure 4 below. The other 39% said they can afford a home if interest rates were more than 15% but less than 20%. Lastly, 8% will be able to afford a home if interest rates are less than 10%. Thus, it is a clear indication that interest rates play a significant role in determinant the affordability of home financing. Consequently, they have an impact on the affordability of housing in Nairobi County and its environs.

Figure 4 - Current and Prospective Interest Rates

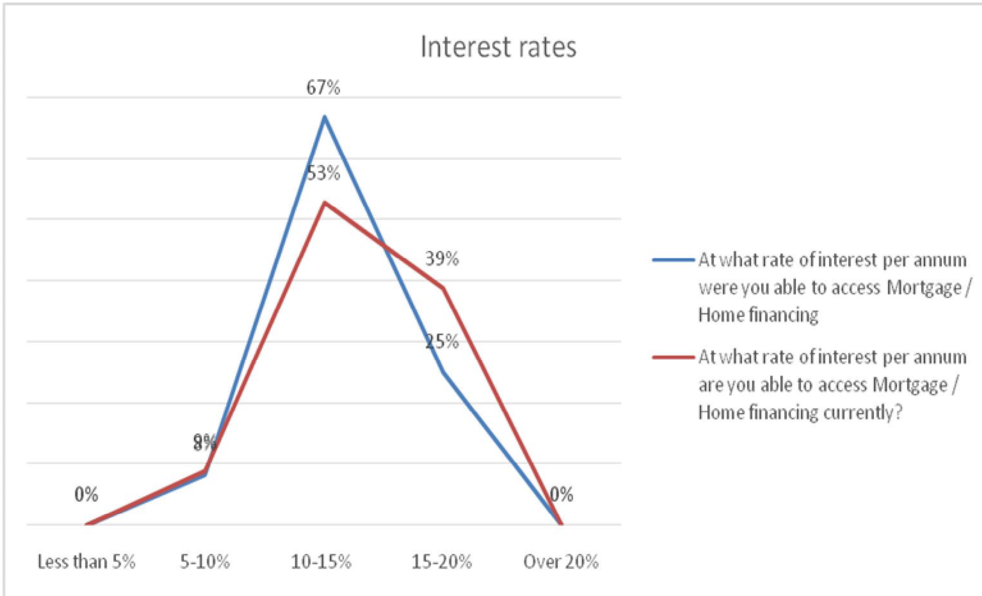


Chart 4 below summarises how the interviewees responded to evaluate the seven key determinants of affordable housing in the study area. Their responses were based on a scale of 1 to 7 with 1 being the lowest affected rating and 7 as the most affected rating. It is thus indicative that the loan repayment period is the main determinant of housing affordability. 30% of the respondents attested that the determinant is crucial in defining affordability of housing.

This determinant is closely followed by interest rates and access to finance which were rated at 29%. Thus, it is evident that monetary issues are the main determinants of housing affordability in Nairobi. On the other hand, land prices were rated at only a mere 12% due to its subjective nature on different individuals.

Therefore, to address the problem of housing affordability monetary issues such as access to finance, interest rates and loan repayment periods must be given significant attention. Other determinants of housing affordability such as land registration policies and constructions were rated at 9% and 7% respectively. As such it is also evident that these determinants also have a significant relationship with affordability of housing in Nairobi County.

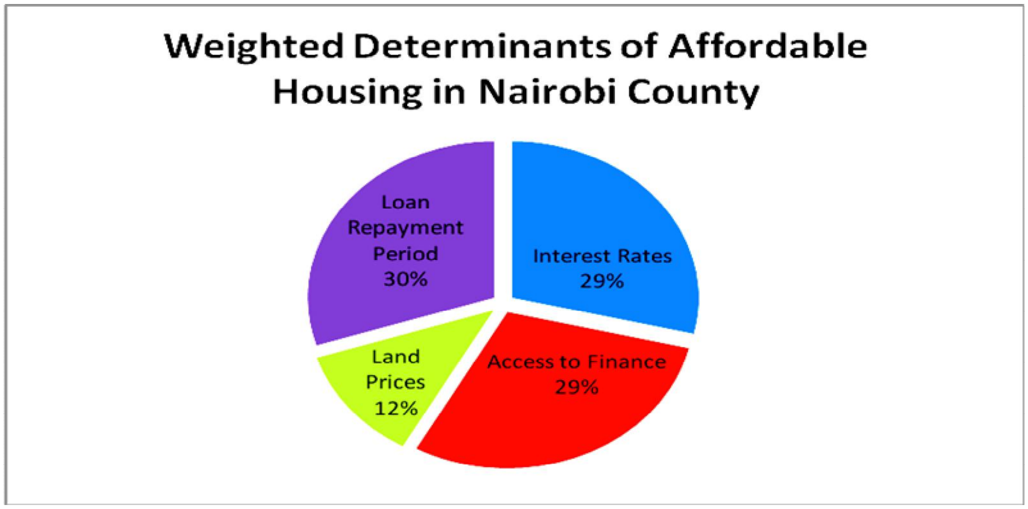
Table 2 - Rating of Determinants to Affordable Housing

Determinants of Affordable Housing in Kenya	1	2	3	4	5	6	7	
Interest Rates	0	0	2	9	11	14	21	**57**
Access to Finance	0	0	1	7	11	16	22	**57**
Land Prices	20	14	11	7	3	2	0	**57**
Loan Repayment Period	0	0	2	5	9	16	25	**57**
	20	**14**	**16**	**29**	**43**	**67**	**96**	

Table 3 - Weighted Determinants of Affordable Housing in Nairobi County

	(Response × Scale Weight)								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**Weight = ∑ (Response × Scale Weight)**	**Percentage**
Interest Rates	0	0	6	36	55	84	147	328	29%
Access to Finance	0	0	3	28	55	96	154	336	29%
Land Prices	20	28	33	28	15	12	0	136	12%
Loan Repayment Period	0	0	6	20	45	96	175	342	30%
								1,142	

Chart 4 – Weighted Determinants of Affordable Housing in Nairobi County



4.1.3 Inferential Statistics

In this research inferential statistics are utilised to highlight any relationships that exists between housing affordability and the identified determinants. Additionally, it is also used to measure the extent or degree of the relationship if any. In order to achieve these two goals multiple regressions is applied to both the independent and the dependent variables.

Table 4 - Correlation Analysis from the Data Collected

	Interest Rates	*Access to Finance*	*Land Prices*	*Loan Repayment Period*	*Affordability*
Interest Rates	1				
Access to Finance	0.9962913	1			
Land Prices	-0.8962380	-0.912399533	1		
Loan Repayment Period	0.9877477	0.992583862	-0.906445	1	
Affordability	0.9724176	0.98516934	-0.919738	0.995408	1

Correlation coefficients explains how strongly two variables are related to each other. A correlation coefficient of +1 describes a perfect positive relationship while correlation coefficient of -1 indicates a perfect negative relationship. From table 4 above we can deduce that Interest rates, access to finance and loan repayment periods are strongly positively correlated to home affordability by coefficients of 0.97, 0.99 and 0.99 respectively while land prices are strongly negatively correlated by a coefficient of -0.92.

Table 5 - Multiple Regression Analysis from the Data Collected

Responses x Weight				
Affordability	**Interest Rates**	**Access to Finance**	**Land Prices**	**Loan Repayment Period**
0	0	0	20	0
0	0	0	28	0
0	6	3	33	6
4	36	28	28	20
45	55	55	15	45
114	84	96	12	96
196	147	154	0	175

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9999
R Square	0.9998
Adjusted R Square	0.9995
Standard Error	1.6642
Observations	7

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	35035.89	8758.97	3162.55	0.0003
Residual	2	5.54	2.77		
Total	6	35041.43			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	7.044	4.332	1.626	0.245	-11.595	25.682
Interest Rates	-1.380	0.157	-8.775	0.013	-2.056	-0.703
Access to Finance	1.069	0.193	5.547	0.031	0.240	1.898
Land Prices	-0.298	0.156	-1.909	0.196	-0.969	0.373
Loan Repayment Period	1.297	0.086	15.057	0.004	0.926	1.667

RESIDUAL OUTPUT		
Observation	*Predicted Affordability*	*Residuals*
1	1.090	-1.090
2	-1.292	1.292
3	-0.070	0.070
4	4.911	-0.911
5	43.850	1.150
6	114.701	-0.701
7	195.809	0.191

4.3.1 Multiple Regression Analysis

Table 5 above indicates the relationship between housing affordability measured through income and the four determinants of housing. The answers obtained from the 57 respondents were homogenously grouped amongst the four determinants depending on the scale rating chosen. The scale had a range of 1-7 with 1 being the lowest score or least affected and 7 as the most affected or the biggest rating. The results from the multiple regression show that only 7% of the respondents viewed housing as being affordable if all the other variables are held constant. However, upon incorporating other variables the model assumes the following dimension:

$$Y = 7.04 - 1.38x_1 + 1.07x_2 - 0.30\,x_3 + 1.30x_4 + \acute{\varepsilon}$$

With:

X_1 = Interest rates

X_2 = Access to finance

X_3 = Land Prices

X_4 = Loan repayment Period

Coefficients in a regression indicate the extent and the nature of relationship between the independent variables and the dependent variable. Thus, the results indicated in table 5 above show that loan repayment period and access to finance, interest rates and land prices all have an effect on housing affordability.

This can be interpreted to mean that a unit increase in access to finance and loan repayment period would increase housing affordability by 1.07 and 1.30 respectively. On the other hand, a unit increase in interest rates and land prices would lead to -1.38 and 0.30 decreases on housing affordability respectively. Thus, it is evident that that all the selected determinants do affect housing affordability in the area of study. However, the nature of influence is highly dependent on whether the relationship is inverse or positive and is well explained from the correlation results above.

Due to the reason that the lower and upper limits show the short term impacts of the determinants to housing affordability; interest rates and land prices would have a negative effect on housing affordability in the short term as shown in table 4 above. Additionally, the p-values show the significance of the independent variables. Conventionally, P-values are expected to be below 0.10. However, P-values of less than 0.05 show greater significance of the variables. This is because they indicate that at least 95% of the variable is significance to the study.

Thus, the P- values in this study indicate that all the independent variables are significant except the land prices. Nevertheless, such a finding can be explained by the fact that land prices are dependent on several other factors that are subjective. The R square of 0.99 shows that housing affordability can be determined by the determinants studied. This is because it indicates the coefficient of determination which stands at over 99%.

4.4 Major Findings in Comparison with Previous Studies

Njathi (2011) in his empirical study found out that housing affordability is major challenge encountered by probable home owners. The study concluded that the major challenges encountered in pursuit of affordable housing were high costs of land, increasing costs of financing and poverty leading to low purchasing power by prospective homebuyers. As such, the findings of this study are congruent with the findings of this research. This is because the same factors identified by Njathi (2011) are the same ones indentified here. For instance, increased costs of finance in his study are influenced by interest rates, loan repayment periods and access to finance.

The major findings from the data analysis, correlation and multiple regressions assert that affordability is significantly affected by the four study determinants. Specifically, Interest rates have a significant negative relationship with housing affordability as attested by their coefficient and P-value. Secondly, access to finance and loan repayment period have a significant positive relationship with housing affordability. This is ascertained by the corresponding coefficients, P-values and the significance F. despite land being a major determinant of housing its relationship with affordability is not conclusive in this study as it had a p value greater than 0.1..

A study by Ngugi and Njori (2013) on mortgage finance determinants ascertained that mortgage is a positive factor of loan maturation and tax incentives amongst others. On the other hand, it is a negative factor of cost of capital and interest rates amongst others. Conclusively, the study found out that mortgage finance is only accessible to around 8% of the population. Hence, affordability to housing in the study can be construed to stand at the mere 8% of the population if other factors are held constant. This study therefore confirms the findings of this study. Thus, it is imperative that access to finance, loan repayment and interest rates impact housing affordability in both studies.

Another study Karoki (2013) on the determinants of residential estate prices found out that housing prices are determined by interest rates inversely, GDP positively and other macro-economic variables. Definitely, the pricing of house prices affects housing affordability. Therefore, the findings of Karoki (2013) are in line with this study. This is because the same factors such as interest rates affecting house pricing are the same ones affecting housing affordability in this study.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

This study's purpose and broad objective was to establish the key determinants of affordable housing in Nairobi County. The study hypothesised that affordable housing is subject or dependent to a host of factors. However, each of these factors was meant to carry different weights and hence affect housing affordability differently. It is these different weights and factors that this study was set to unearth. In doing so, a sample of the population from the area of the study was purposively selected in order to realise the broad and specific objectives of this research.

The sample consisted of 57 respondents who were drawn from all occupations, genders and who had varied earnings as dictated by nature of employment. The process involved interviews whereby questionnaires were administered to gather pertinent information. An analysis of the data and information collected confirmed that indeed the selected factors do affect affordability in a significant way.

Given the number of respondents (26%) who own homes it is safe to presuppose that housing is not that affordable in Nairobi County. However, as inferred from the study their is a strong relationship of home affordability with the selected factors namely access to finance, interest rates, land prices and loan repayment period.

5.2 Conclusions

Despite their being other determinants the study found out that income, loan repayment period, interest rates and land prices have a significant effect on home affordability.

From the regression analysis it was noted that a unit increase in access to finance and loan repayment period would increase housing affordability by 1.07 and 1.30 respectively. Increase in interest rates and land prices would lead to -1.38 and 0.30 decreases on housing affordability respectively. Thus, it is evident that that all the selected determinants do affect housing affordability in the area of study.

However from the correlation analysis above we were able to deduce that Interest rates, access to finance and loan repayment periods are strongly positively correlated to home affordability by coefficients of 0.97, 0.99 and 0.99 respectively while land prices are strongly negatively correlated by a coefficient of -0.92.

From the study however it was not clear why bi-variate regression showed a positive correlation between interest rates and home affordability while multiple regressions showed a negative correlation. More research on this area should be done to determine both short term and long term effects of interest rates on home affordability.

However the relationships between the selected determinants and affordable housing was evident and significant both from bi-variate and multivariate analysis.It is the conclusion of this study therefore that there is a strong relationships between affordable housing and access to finance, interest rates, land prices and loan repayment period.

5.3 Recommendations to Policy and Practice

Due to the widespread of low disposable incomes the government should come up with a modern housing policy. The housing policy should cover issues such as monitoring and evaluation of the housing sphere, carry out research on housing, address Guaranteed Mortgage Schemes and tackle social housing.

Ultimately, the government will invest more on infrastructure, utilities and housing hence making costs towards housing less expensive. Additionally, Guaranteed Mortgage Scheme will make mortgage cheaper and affordable to most people. Lastly, the housing policy should be able to carry out research on alternative building technologies which are cheaper and affordable to most middle and low income earners.

The government should also lower interest rates and taxes on mortgages to make them affordable to most people. Thirdly, the policy makers should streamline and harmonize the land registration to make the process simpler, time efficient, accurate and legitimate. Such a move will make the costs associated with land registration less expensive. Fourthly, housing plans should be formulated both at the national and county levels. On the national level the NHC should come up with such plans while at the same time constructing low cost houses that are affordable.

Fifth, other lending institutions such as micro finance institutions and SACCOs should be registered and empowered to increase their housing finance lending capacity. Such a move will cover the middle and lower classes who are the majority. Sixth, mortgage lending institutions should try and improve their long term lending capacity. This is necessary so that they can be able to lend for periods more than twenty years, additionally, they should also try and give more people access to finance at low interest rates, lastly, alternative and cheaper building technologies should be espoused by the prospective home owners and real estate agents.

5.4 Limitations of the Study

First and foremost this study was limited by time, material and financial resources as the researcher holds a fulltime job while being a part time student at the same time. Thus, the scope and the profundity of the study were limited to the available time and financial resources. However, the researcher ensured that accuracy, validity and reliability of the study were adhered to.

Secondly, this study was limited by access to more specific and helpful information. This is because some respondents were not willing to fully disclose some details about their finances and financial dealings. It is common for individuals to feel apprehensive when confronted with issues about their finances. Thus, some of the data and information used in this study are the nearest approximations.

Thirdly, this study was limited to only a sample of sixty respondents out of the thousands in the area of the study. The inability to include more respondents to the study was therefore a limiting factor. That inability to include more respondents was fostered by time constraints and financial constraints amongst others. However, the respondents in this study were deemed to be fully representative of the population. This is because they comprised people of all ages, occupations, income levels and genders.

5.5 Suggestions for Further Research

This study focused on the effects of selected independent variables namely interest rates, access to finance, land prices and loan repayment period on housing affordability. There are other variables having equal important contribution towards enhancing home affordability. Other studies should look into the factors not considered in this study and how these factors can enhance access to affordable housing in Nairobi County.

Second, more research should be carried out to find out how housing microfinance can be fostered in order to promote housing finance. Such, research is necessary due to the fact that most lower and middle income earners have access to these institutions. Thus, empowering them to offer housing finance will go a long way in fostering affordability of housing in Nairobi County and its environs.

Thirdly, further research needs to be carried out on each of the four selected determinants of affordable housing in order to determine the existing relationship. Such studies will be important in ascertaining the extent and nature of relationships between each of the determinants and affordability of housing. This is because each is assumed to have a unique relationship with affordability of housing.

Lastly, as mentioned earlier it was not clear why bi-variate regression showed a positive correlation between interest rates and home affordability while multiple regressions showed a negative correlation. More research therefore should be undertaken in this area to determine both short term and long term effects of interest rates on home affordability.

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APPENDICES

Dear Participant

I am a student at University of Nairobi currently undertaking my research project on determinants of affordable housing in Nairobi County. I am gathering data to enable me undertake the research. Kindly spare your time to fill the questionnaire below. I guarantee that all information obtained will be used solely for the purpose of the research.

Appendix 1: Questionnaire

Kindly check the box next to the question or fill in the blank with the appropriate scale for all the items below.

1.0 PERSONAL DATA

1) What is your area of occupation?

- ☐ Government Employee
- ☐ Private Employment
- ☐ NGO
- ☐ Business owner
- ☐ Pensioned
- ☐ Other.. (Please State)

2) What is your Age Bracket

- ☐ Below 18 years
- ☐ 18-25 Years
- ☐ 26-35 Years
- ☐ 35-55 Years

☐ Over 55 years

3) Do you currently own a home?

☐ Yes

☐ No

If Yes, answer questions 5 – 7, ignore question 4 and then answer the other questions, if No answer question 4 below, ignore questions 5-7 and then answer the other questions

4) Do you save any amount towards or have any other arrangements towards home ownership?

☐ Yes

☐ No

5) What was or is the form of ownership?

☐ Bought

☐ Built

☐ Inherited

☐ Other (Please Specify)..

6) What was the source of the home funds or finance?

☐ Mortgage

☐ Bank Loan

☐ SACCO Loan

☐ Loan from employer

☐ Savings

☐ Other (Please Specify)...

7) What was the repayment period?

☐ Less than 5 Years

☐ 5-10 Years

☐ 10-15 Years

☐ 15-20 Years

☐ Beyond 20 years

8) Are repayment periods a determining factor on whether homes are affordable or not?

☐ Yes

☐ No

9) How much do you approximately own per month in Kenya Shillings after statutory deductions?

☐ Below 25,000

☐ 25,001 – 50,000

☐ 50,001 – 130,000

☐ Over 130,000

10) What is your approximate total monthly expenditure in Kenya Shillings?

☐ Below 15,000

☐ 15,001 – 35,000

☐ 35,001 – 70,000

☐ Over 70,001

2.0 INTEREST RATES

Home owners please answer Question 11 and skip question 12

Prospective owners please skip question 11 and answer question 12

11) At what rate of interest per annum were you able to access Mortgage / Home financing

- ☐ Less than 5%
- ☐ 5-10%
- ☐ 10-15%
- ☐ 15-20%
- ☐ Over 20%

12) At what rate of interest per annum are you able to access Mortgage / Home financing currently

- ☐ Less than 5%
- ☐ 5-10%
- ☐ 10-15%
- ☐ 15-20%
- ☐ Over 20%

13) What factors influenced/would influence the rate of interest in 12 and 13 above

- ☐ Employer and employee collaborations
- ☐ Employer and mortgage institutions collaborations
- ☐ Prevailing Market Rate
- ☐ Sacco & Group discounts
- ☐ Other..................... (Please Specify)

14) Are rates of interest a determining factor on whether homes are affordable or not?

- ☐ Yes
- ☐ No

3.0 ACCESS TO FINANCE

1) Overall, how would you rate access to financing homes in Kenya?

- ☐ Very difficult
- ☐ Difficult
- ☐ Fair
- ☐ Easily Accessible
- ☐ Very Accessible

2) Given a choice, which option would you choose to finance your home. Please give reason

- ☐ Registered home financing institutions
- ☐ Banks
- ☐ SACCOs
- ☐ Savings
- ☐ Other (Please specify)..

Reason(s)..

....

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....

....

4.0 LAND PRICES

1) How would you rate land prices in Nairobi County?

- ☐ Extremely High
- ☐ High

☐ Reasonable

☐ Affordable

2) To what extent have land prices been a hindrance to your access to home ownership?

☐ Low Extent

☐ Reasonable Extent

☐ High Extent

5.0 LOAN REPAYMENT PERIOD

1) To what extent does loan repayment period affect home affordability?

☐ Low Extent

☐ Reasonable Extent

☐ High Extent

☐ Unsure

2) If you were able to obtain a home loan what would be the optimal repayment period that would not put unnecessary pressure on your income?

☐ Less than 5 Years

☐ 5-10 Years

☐ 10-15 Years

☐ 15-20 Years

☐ Beyond 20 years……………………………………………...

(Please Specify)

6.0 SUMMARY

1) Please rate the following factors depending on the extent they are limiting /limited your access to an affordable house in Nairobi County- 1 least affected to 7-Most affected*(please tick each number once)*

Determinants of Affordable Housing in Nairobi County	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Interest Rates	☐	☐	☐	☐	☐	☐	☐
Access to Finance	☐	☐	☐	☐	☐	☐	☐
Land Prices	☐	☐	☐	☐	☐	☐	☐
Loan Repayment Period	☐	☐	☐	☐	☐	☐	☐

2) To what extent is home affordability affected by the above variables.***1-Least Extent 7-Great Extent***

Affordable Housing in Nairobi County	**1**	**2**	**3**	**4**	**5**	**6**	**7**
	☐	☐	☐	☐	☐	☐	☐

7.0 OTHERS

i. What other challenges do people face in their quest to access affordable housing?

………………………………………………………………………………………..

………………………………………………………………………………………

ii. What other strategies in your opinion can be used to make home ownership more accessible and affordable?

....

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THANK YOU!