2019

Factors affecting housing affordability in Kenya - case study of Mombasa County

Ahmed Badawy
Strathmore Business School (SBS)
Strathmore University

FACTORS AFFECTING HOUSING AFFORDABILITY IN KENYA

CASE STUDY OF MOMBASA COUNTY

AHMED BADAWY

MBA/88840

Submitted in partial fulfillment of the requirements for the Degree of

Master of Business Adminstration at Strathmore University

Strathmore Business School

Strathmore University

Nairobi, Kenya

May, 2019

DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the proposal contains no material previously published or written by another person except where due reference is made in the proposal itself.

Ahmed Badawy

May, 2019

Approval

The proposal of Ahmed Badawy was reviewed and approved by:

Dr. Simon WaguraNdiritu (Supervisor)

Strathmore Business School

Dr. George Njenga

Dean, Strathmore Business School

Prof. Ruth Kiraka

Dean, School of Graduate Studies

Strathmore University

ACKNOWLEDGEMENTS

I acknowledge, with gratitude, my debt of thanks to Allah (SWT) and Strathmore University for an opportunity to undertake my master's degree in their program. Special acknowledgements to Dr. Simon Wagura Ndiritu for infecting me with the art of questioning everything and for the supervisory role played towards structuring this research proposal. I am truly grateful for the guidance offered throughout the preparation stages. I would also like to thank my mentor Mr. Suleiman Shahbal who has supported me throughout my MBA journey including guiding me to come up with my research topic. I would also like to thank my friend and former colleague Martin Kariuki for motivating me throughout my MBA journey. I would also like to thank my friend and former colleague Geofrey Ouma for his advise along the way.

DEDICATION

This project is dedicated to my wife, family and friends for the support rendered towards the structuring and completion of this research proposal. To all those who paved the path I tread on; whose giant shoulders I stand upon, this project also goes to you for your continued support.

ABSTRACT

This study seeks to investigate factors affecting housing affordability in Kenya. Empirical aspects of the factors affecting housing affordability was looked into to inform on the problem of housing affordability in Kenya, specifically Mombasa County. The study objectives are: to examine the impact of government policies, or lack thereof, and how it affects buyers' housing affordability prospects, to examine how cost of financing affects housing affordability, to investigate how housing input costs affects its affordability, and lastly, how the cost of land affects the value of houses to the buyers, hence affecting housing affordability to clients in Mombasa County and the Country at large. The research focused on affordability in the mortgage housing sector in Mombasa County by analyzing home-owners who acquired their homes through mortgage as well as those who are self/privately sponsored to own houses. Study methodology was based on stratified random sampling. Random sampling was utilized to administer questionnaires to households with mortgage loans from Housing Finance Institutions and Banks, as well as private home owners who did finance the housing costs on their own. A total target population 8000 households was targeted for the study with sample size of 381. Information relating to social-economic characteristics of the households, loan and property data as well as macroeconomic data were analyzed in order to address the objectives of the study. The analyses was done using qualitative and quantitative approaches with the aid of the Statistical Package for Social Sciences (SPSS) software and excel. Descriptive statistics and regression analysis were performed with the aim of identifying factors which are significant influencers of housing affordability in the country. Majority of the respondents indicated that all the variables (government policies, cost of financing, housing input costs, and cost of land) affect housing affordability to the buyer in Mombasa. The study further recommends that county government ministry of planning should implement housing policies that boost the affordability of housing facilities

Table of Contents

DEFINITION OF TERMS

Subsidy: Subsidy is a form of financial aid extended to individuals or corporate with the aim of promoting the social and economic policy.

Mortgage: Mortgage is a form of a secured loan by real property through use of a mortgage note. Purchasing a real estate instrument through borrowed financing.

Affordable Housing: Affordable housing is defined as ability of average income earners to be able to afford homes.

Mixed Use Development: Projects that combine different types of development such as residential, commercial, office, industrial and institutional into one project.

ACRONYMS

CAHF	Centre for Affordable Housing Finance in Africa
CBK	Central Bank of Kenya
GDP	Gross Domestic Product
HIDTF	Housing Infrastructure Development Trust Fund
HFCK	Housing Finance Company of Kenya
HFIs	Housing Finance Institutions
KIPPRA	Kenya Institute for Public Policy Research and Analysis
KNBS	Kenya National Bureau of Statistics
SACCO	Savings and Credit Cooperative Organization
IMF	International Monetary Fund
REITs	Real Estate Investment Trusts
SPSS	Statistical Package for Social Sciences
UN-HABITAT	United Nations Human Settlement Programme
UNCHS	United Nations Centre for Human Settlement

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

In his case study on factors influencing housing finance in developing countries, Atati (2014) assents to the fact that housing is a major asset that represents not only a long-term and permanent investment but a store of wealth to any human being. Generally, housing is termed as a system consisting of shelter and auxiliary basic infrastructure needed by man. According to Akinwunmi (2009), housing is an elementary human need in each and every society. Moreover, housing is regarded as an essential right of every single individual. As Chirchir (2006) stipulates, housing has social, economic and political roles hence is a gauge for welfare and development of a country. Various international platforms such as the United Nations Human Rights Declaration of 1948, International Covenant on Economic, Social and Cultural Rights of 1966, Istanbul Declaration & habitat Agenda of 1996, and Declaration on Cities & other Human Settlements of 2001 embed on the rights to housing (Republic of Kenya, 2004). This is further embedded in the Constitution of Kenya, 2010 where Article 43 (1b) states that "every person has right to accessible and adequate housing and to reasonable standards of sanitation". Housing, as a key investment, requires long-term financing. As such, the factors that are linked to the well-functioning finance systems are those that facilitate the provision of long-term housing finance. According to Warnock & Warnock (2008), countries that have well-informed credit information systems, robust legal rights for both lenders and borrowers through bankruptcy laws and collaterals, and stable macroeconomic environment have more developed and established housing finance systems.

1.1.1 Housing Affordability

In regards to housing affordability, Affordable Housing is housing which is deemed affordable to those with a median household income or below as rated by the national government or a local government by a recognized housing affordability index. In Kenya, the Vision 2030 aims at having an adequately and decently-housed nation in a sustainable environment. Strategies placed to achieve this include better development and accessibility to affordable housing and improved access to sufficient financing for buyers and developers. However, the majority of households

especially from the low and middle-income levels find it a challenge to own a decent home, resorting them into informal housing.

KNBS (2015) describes middle-income households as those persons whose monthly income range between KES 23,671 (USD 240) and KES 112,717 (USD 1130). This, according to Kieti (2015) is attributed to increasing urbanization coupled with high poverty levels in the country. According to Eggers &Moumen (2011), to determine housing affordability one must consider how much a family earns; the portion of income the household is committed to housing or monthly loan repayment. According to KIPPRA (2013), 22% of Kenyans live in cities, and the population is rising at a rate of 4.2% each year. With the increasing urbanization, Mombasa County, for instance, has a housing deficit of 380,000 housing units (Wachira, 2018). However, only 32,000 hospices are proposed to be built in the next two years, hence still leaving a huge deficit in housing supply. Housing prices have eventually increased by more than 100% in 2015 from 2004 (Hass Consult, 2015). This makes housing unaffordable to low and middle-level income households. For instance, according to Hass Consult (2015), the average property value has gone up from KES 7.1 million in December 2000 to KES 26.7 million in June 2015, while the average value for a 4 to 6 bedroom property is currently KES 40.2 million in comparison with KES 12.9 million for a 1 to 3 bedroom property. Moreover, the average property rental went up from KES 38,516 in December 2000 to KES 137,311 in June 2015, while average rent for 4 to 6 bedroom property is currently KES 222,685 in comparison with KES 75,531 for a 1 to 3 bedroom property in Mombasa County(Hass Consult, 2015).

According to the Institute of Economic Affairs (2015), majority of the waged employees are low income earners. As shown on figure 1 below

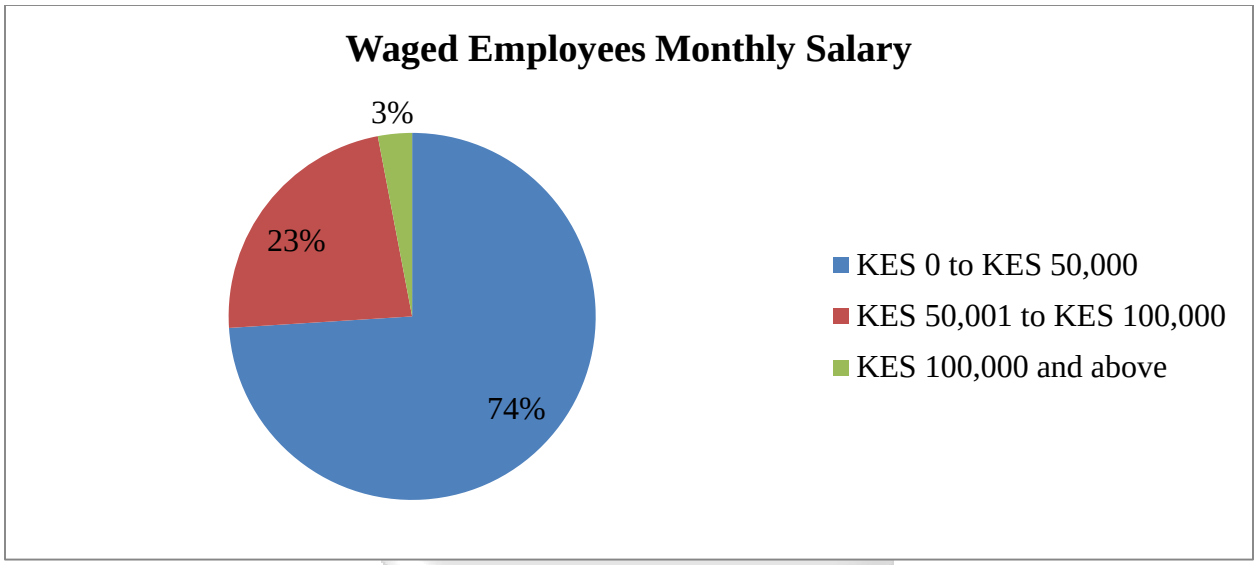


Figure 1: Waged Employees Monthly Salary in Kenya (IEA, 2015)

Figure 1 above indicate that Waged Employees Monthly Salary between KES 0 to KES 50,000 are 74%, those with monthly salary between KES 50,000 to KES 100,000 is 23% while those abover KES 100,000 is 3%. Based on the above information, it is clear that majority of households cannot afford an average mortgage that is essential in purchasing an entry-level house. According to Cyton Real Estate survey of 2018, cost of buying a house is very high as shown in table 1.1 below.

Typology	Size (SQM)	Price (2018)	Average Price Per SQM
Studio	**42**	**2.4mn**	**57,416**
1 Bedroom	**68**	**3.6 mn**	**54,313**
2 Bedroom	**88**	**7.1 mn**	**89,220**
3 Bedroom	**114**	**9.7 mn**	**90,348**

Table: 1.1: Lower Mid-End Residential house cost in Mombasa County (Cyton, 2018)

1.1.2 Mombasa County

Mombasa county which is one of the 47 counties created by 2010 Kenyan constitution. It is the second major city in Kenya and serves as the major logistical hub for East and Central Africa due to the Port of Mombasa. It is situated in the coastal part of Kenya. Mombasa's coastline stretches to Somalia with nearby towns of Lamu and Malindi. Mombasa is also known as one of the top tourist destinations whenever people visit Kenya as tourists. Mombasa is the oldest city in Kenya and has continued to have new housing coming up. Affordability of houses remains a challenge to most residents in Mombasa who do not have means to owning houses.

1.2 Problem Statement

Housing unaffordability in Kenya has been attributed to low-income levels of households as well as the rapid increase in urbanization (Kieti, 2015). According to HFCK (2012), the average property value grew from KES 7.1 million in 2000 to KES 22.3 million in 2012. In a separate survey by Hass Consult (2015), the average price of an apartment in Nairobi is currently KES 11.58 million, up from KES 5.2 million in December 2000. This implies that there is no housing unit on the formal market costing less than KES 2 million, a level that is still unaffordable to low and middle-income populations (Noppen, 2013). Moreover, real estate experts from Hass Consult stipulate that the prices of housing properties will continue to rise at a rapid rate. It is on the basis of such projections that this research seeks to investigate how house input costs affect total value of houses the market.

The main urban housing constraint affecting the urban population in Kenya is affordability. As Kieti (2015) argues, while efforts by the state and the private sector are being done to mitigate this problem, affordability hitch has continued and it is more intense among the lower income and middle-income groups in the country. In addition, according to CAHF (2012), only about eleven percent of Kenyans can earn ample salaries and wages to support a mortgage, translating that majority of households cannot afford an average mortgage that is essential in purchasing an entry-level house. Cost of financing, housing input costs and the cost of land upon which the homestead rests are viewed as deterrent factors in this aspect of housing affordability.

Various studies have been carried out in Kenya on housing affordability. However, none has been done in Mombasa County. Additionally, current studies do not comprehensively tackle the question of what is considered to be an affordable house, taking into consideration that what might be affordable to one that may not be affordable to the other. This study will focus on shedding light on various factors affecting housing affordability in Mombasa County and what affordability really means.

1.3 Research Objectives

1.3.1 General Objective

To determine how various factors affect housing affordability in Kenya, with case study of Mombasa County

1.3.2 Specific Objectives

i) To determine how government policies affects housing affordability in Mombasa County
ii) To examine how cost of financing affects housing affordability in Mombasa County
iii) To find out how cost of land affects housing affordability in Mombasa County
iv) To investigate how housing input costs affect its affordability in Mombasa County

1.4 Research Questions

i) How do government policies affect housing affordability to the buyer in Mombasa County?
ii) In what ways does cost of financing affect housing affordability to the buyer in Mombasa County?
iii) How does cost of land affect housing affordability to buyer in Mombasa County?
iv) How does housing input cost affect the affordability to the buyer in Mombasa County?

1.5 Scope of Study

The study focused on the urban housing sector, particularly in Mombasa County. Considering housing affordability factors and challenges in the urban households, the majority of households are in the lower and medium-income groups. In Mombasa, there is increasing urban population growth rates as well as increase in population density. Consequently, there is overpopulation, increase in house prices as well as an increase in informal settlements.

With regards to geographical coverage, this study covered the urban areas of Mombasa County, particularly Kisauni Sub-county, Changamwe Sub-county, Nyali Sub-county, Likoni Sub-county, Mvita Sub-county, and Jomvu Sub-county. The research takes into consideration how and why owning a home or having mortgages are unaffordable to many Kenyans especially from the low and middle-income groups. The parts considered The factors affecting housing affordability in Kenya include lack of housing policies, housing financing costs, housing input costs, low investment in affordable housing by developers and the cost of land.

1.6 Significance of the Study

This research augmented data to the body of knowledge in existence with regards to housing affordability in Kenya, which was of advantage to Real Estate Developers, policymakers, potential homeowners, housing financiers, academicians and other relevant stakeholders in the housing sector.

1.6.1 Real Estate Developers

The study will help broaden the target market for real estate developers and benefit them to capture the whole market as well as the consumers so as to be able to afford decent housing. The outcome of the research highlighted key areas where private developers require reform, change or incentives in order to enter the low-income market. With this knowledge can lobby for change and policy reforms as well as harness the collective strength of their developers to tap into the lower income market.

1.6.2 Policymakers

Knowledge of the fundamental housing affordability factors guided policy makers in policy formulation for housing so as to gain immediate and sustainable housing affordability to low and middle-income groups which is needful towards the realization of Vision 2030.

1.6.3 Potential Homeowners and Housing Financiers

The study will help potential investors and developers to be able to afford and build decent housing without stretching their financial capability. The study on low income housing market is a very vast one and the research gave rise to key areas of weakness where there is significant opportunity for further research in an effort to enhance investments in provision of low income housing.

1.6.4 Academicians

It offered a basis for further research on aspects of housing affordability in Mombasa County and Kenya to a larger extent. Moreover, this paper adds to the existing literature on aspects that affect housing affordability in Kenya.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This section deals with an elaborate theoretical background on factors affecting housing affordability in Mombasa County It also focuses on review of variables and outlines the conceptual framework for the study.

2.2 Theoretical Framework

There are various theories that have been used to clarify various phenomena with regards to housing and housing affordability. This proposal looks into two theories i.e. the residual income theory to housing affordability and Public Interest Economic Regulation Theory.

2.2.1 Residual Income Theory to Housing Affordability

The residual income model, according to Valdez (2009), generally focuses on how much money is left over after paying for housing and takes into consideration the basic necessities' costs. This translates that a household, as per remarks of Stone (2006), has housing affordability constraints if its non-housing needs are not met at some level of adequacy after paying for housing. Therefore, the suitable indicator of the link between incomes and housing costs is the difference between them – residual income – rather than the ratio. The residual income theory of housing affordability distinguishes that, due to housing's characteristic physical features compared to other needs, its cost enables the least flexible and largest claim on after-tax household income, meaning that non-housing expenses are limited by the remainder of income after paying for housing (Stone et al., 2011). According to Pelletiere (2008), housing affordability difficulties arise when a household cannot cater for its non-housing basic needs at some minimum level of sufficiency after compensating for housing. As Yang & Shen (2008) argue, smaller households can reasonably dedicate a higher percentage of income to housing than can larger households with the same income. Stone et al. (2010) support this by adding that, since low income and high-income households of same type and size need about the same amount of money to achieve their non-housing needs at equivalent basic living standards, the ones with lower incomes can afford to dedicate smaller fraction of income than similar higher income households can afford. This, as Hulse et al. (2010) stipulates, the residual income average comes out as a housing

affordability sliding scale – with utmost affordable fiscal amount and percentage of income depending on the household type, size, and income.

According to Burke, Stone & Ralston (2010), residual income standard being operationalized includes the use of socially-defined sufficiency standard for non-housing elements. Therefore, while residual income rationality has broad cogency, it is not universal but socially grounded in space and time (Stone et al., 2011). Matters involved in choosing such standard for non-housing requirements will be taken up as part of a review on housing affordability standards in Mombasa County. Heylen and Haffner (2010) have explicitly formulated a budget standards residual income approach to affordability. Drawing upon the UK, US and Australian literature, they restate the logic and issues in the ratio and residual income approaches, and then present an operational residual standard based on the non-housing components of recently-developed low cost and modest cost budget standards for the Netherlands and Flanders. They have applied the affordability standards to households of various tenures and household characteristics in the two regions, in comparison with the conventional 30 per cent of income standard. They find that the results on the residual income and ratio standards are not dramatically different in the aggregate, but by tenure they are. Most notably, they find that: (a) the situation of public renters is considerably worse than suggested by the ratio approach; and (b) both private and public renters appear relatively worse off under the residual income approach, and owner-occupiers relatively better off, than suggested by the conventional standard. They note that these findings certainly have 'quite some policy consequences', but do not draw out this conclusion (Stone, 2011).

2.2.2 Public Interest Economic Regulation Theory

The normative theory of market failure, also known as the Public Interest Economic Regulation Theory (PIERT) is based on typical welfare economics dealing with the protection and promotion of people's welfare and utility (Christensen, 2010). It provides a solution to housing affordability problems through advocating for the intervention of government in the housing market so as to ensure ideal and efficient housing resource allocation (Kieti, 2015). The first group of regulation theories proceeds from the assumptions of full information, perfect enforcement and benevolent regulators. According to these theories, the regulation of firms or other economic actors contributes to the promotion of the public interest. This public interest can

further be described as the best possible allocation of scarce resources for individual and collective goods and services in society. PIERT is based on the notion of existing public interest of which government is most suited to protect and provide through regulation in the housing and real estate industry (Hertog, 2010). Regulation in this regard, according to Okechukwu (2009), refers to administrative and legislative actions and controls that governments adopt to effect the production, market entry and prices inclusive of intercessions in form of taxes, tariffs, quotas, and subsidies.

As Adeleke (2014) stipulates, public interest theory justifies that interventions of government through regulation in markets are a response to public demands for government to rectify the inequitable and inefficient market prices, with regulation based on notion that markets are integrally inefficient and only the government can fix the market failure so that maximum efficiency outcome is realized. This theory applied to housing implies that governments ought to remodel housing market failures and balance such markets through suitable interventions that provide adequate housing to the common man (Christensen, 2010). According to Dudley & Brito (2012), the theory calls for more feasible and better means of market intervention in a bid to develop the national housing sectors. It also assures that the housing interest of low and middle-income groups within the urban context is catered for. Moreover, Shleifer (2005) suggests fundamental areas where government intervention is needed which constitute infrastructure, housing finance, land market and accessibility to cheap and affordable building materials. This eventually enhances access to adequate housing and the cost of housing per person is reduced hence housing is more accessible and affordable to all socio-economic groups. This theory gives a foundation to determining whether government policies affects housing affordability in Mombasa County.

2.3 Empirical Literature Review

2.3.1 Housing Affordability

The term ‘housing affordability’ began to be used from the 1980s and may be defined as the capacity of households to meet housing costs, while maintaining the ability to meet other basic costs of living; a rent is affordable when it leaves the consumer with a socially acceptable standard of both housing and non-housing consumption after rent is paid; a household is said to

have a housing affordability problem when it pays more than a certain percentage of its income to obtain adequate and appropriate housing (Napoli, 2017).

2.3.1.1 Housing Policies affecting Affordability

A combination of mass urbanization and relatively low wages means there simply aren't enough available homes at an affordable price. This is despite significant construction projects in countries around the world. A programme in Venezuela to build three million homes by 2019 has done little to alleviate the country's housing crisis. While in China demand continues to far outweigh supply, despite limited success in the cities of Shenzhen and Guangzhou. Although seven of the top 10 most-affordable cities for housing are in North America, it would be wrong to suggest the developed world does not have a problem with unaffordable urban housing. In London, for example, the average monthly rent and mortgage payments equate to roughly 135% of monthly net income (Brodie, 2019).

In Kenya, housing policy is governed under the Ministry of Lands, Housing and Urban Development. The housing policy still being adopted is the Sessional Paper No. 3 on National Housing Policy for Kenya, 2004 and the policy seeks to enable the facilitation of adequate shelter and healthy living environs at areasonably affordable cost to all socio-economic groups in Kenya (Matindi, 2008). As far as the housing industry is concerned, Kieti (2015) notes that the housing sector in the Kenya is more advanced than its neighboring countries. However, as Noppen (2013) argues, the country is experiencing a housing thrive, with a highly projected property market fueled by high unfulfilled demand. This thus propels the 'residential property price inflation' in Kenya, further impacting on the ability to offer affordable homes which are commercially viable. Housing is a major component of a country's economic growth plan (Walley, 2011), given the multiplier effects of investments in housing. According to Noppen (2013), every Kenya shilling invested in housing yields nine more shillings.

Despite growth in the housing sector, (Walley, 2011) argues that the government is a relatively passive participant in the sector. Avital role of the state is to formulate and appraise housing policies and legislation, and also ensure execution of the same (Matindi, 2008), but it seems many people believe that the private sector is playing a major role in supplying affordable

housing despite the government being a fundamental enabler. According to Noppen (2013), incentives from the Ministry of Housing were intended to encourage developers to move down-market, but the fact that they have rarely been utilized implies that these alone are not enough to incentivize the developers, hence consequently the developers won't bring down the costs. There is a need for the current National Housing Policy to be reviewed and passed through Parliament, especially on policies regarding housing affordability to all socio-economic groups. Article 22 of the Constitution of Kenya of 2010 stresses the Right to Adequate Housing. According to Noppen (2013), the year 2009 was supposedly to see the implementation of a new Housing Act that has never been approved. Moreover, the current housing codes are outdated and new legislation on building maintenance and building codes ought to be approved, but it doesn't serve the purpose of a broad Housing Act. In addition, there is a mismatch in growth in household income as compared to growth in housing prices. That is why there is a need for a new proper government policy that enables housing affordability to low and middle-income groups.

2.3.1.2 Housing Financing Costs affecting Affordability

With regards to housing affordability, World Bank (2014) estimates that only 11% of Kenyans can make enough money per month to support a mortgage. This interprets that majority of lower and middle-income citizens cannot afford a typical mortgage required to purchase an 'entry-level house'. KNBS (2015) describes middle-income earners as those whose monthly salaries fall between KES 23,671 and KES 112,717. Even if we use the higher middle-income range, it's still little for the average loan size of KES 6.4 million as indicated by CBK. The financial sector in Kenya is advanced, consisting of a solid commercial finance sector, non-banking financial organizations, and microfinance organizations all delimited by CBK. SACCOs are regulated by the Commissioner of Cooperatives. According to CAHF (2013) and CBK (2014), there are forty three private and government owned commercial banks and only 1 mortgage finance company that are registered with CBK of which 13 are foreign owned and 31 are Kenyan owned.

Approximately 71% of mortgage is offered by five financial institutions namely: Housing Finance, CFC Stanbic Ltd, Cooperative Bank of Kenya, Standard Chartered Bank and Kenya Commercial Bank (CAHF, 2013). The CBK (2014) report indicated that the challenges faced by mortgage lenders include: constraints in accessing long-term funds, high-interest rates set by

CBK, credit risk, and lower borrower incomes, financial illiteracy regarding mortgage lending, financial regulatory burdens and lack of new housing supply. The Central Bank of Kenya advocates for a 16% loan over 20 years that would necessitate a monthly payment of about KES 100,600 and hence a monthly salary of KES 320,000. Residential property price inflation has been increasing for the past 15 years, driven by the high demand for housing, more so in the rental market (CAHF, 2013). According to Hass Consult (2015), prices of property have increased by 3.72 times since the year 2000, and have gone up by 7.5% in the past year, while rentals have risen more than ten times the rate of the last four years, as landlords are seeking to manage increasing demand and rising costs. Poverty statistics indicate 22% of the population consists of people living in urban areas that earn less than KES 2,913 per month (CAHF, 2013).

A study carried out by Kieti & K'Akumu (2017), investigated factors affecting affordability in the mortgage housing sector in Kenya. Their finding indicate that affordability of mortgage housing in Kenya is significantly driven by clusters of factors related to the households' social-economic factors, property attributes, loan characteristics and the macroeconomic environment. Specifically, the interest on mortgage, number of households' dependents, loan-to-value ratio, type of mortgage instrument, number of income earners in a household, real gross domestic product per capita and size of household are the critical factors affecting affordability with the greatest contribution to the affordability problems of households in the mortgage housing sector in Kenya. 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

2.3.1.3 Housing Input Costs affecting Affordability

Homes can be built in various configurations, from detached houses to high-rising apartments, each with special requirements with regards to exceptional planning and implications on the cost of a building. From the developers perspective, choice of building solutions depends on the target market e.g. high-end homes tend to be built on more expensive land (Arvanitis, 2013).

According to Shelter Afrique (2013), the distinctive cost structure for a single unit across housing categories in Kenya is roughly constituted of: 60% of unit's cost in building construction (from which 30% labour and 70% in materials); infrastructure 10%; professional fees 10% (engineers, architects, needed public permits,); financing 5% and contingency 5%. These, according to Shelter Afrique (2013), are based on predominant market preferences from buyers: the number of bedrooms, size, and cement built. Concerning the construction materials, basic hard supplies e.g. cement, cement, sand or plaster are produced locally, although according to Institute of Quantity Surveyors of Kenya (2011), local production does not always meet local demand, hence enabling locally-produced materials to be unaffordable to the developer. Moreover, fittings such as kitchenware, tiles, lighting, ceramics, etc. are usually imported. However, Matindi (2008) highlights that building materials form the single largest input in construction and account for approximately 70% of the cost of housing. According to the Institute of Quantity Surveyors of Kenya (2011), a low-cost low rise flat of 50m² in Mombasa County amounts to roughly USD 18,000 just in building costs which represent 60% of total building costs, and (excluding the developer's margin) adding 40% to that amount accounting for other development costs bring the price up to USD 26,000 for a low-cost high-rise flat in Mombasa County. This implies that it is a challenge from a cost perspective for the private sector to deliver housing units at a price that would match incomes of the majority of the population who are from the low and middle-income levels (Arvanitis, 2013).

Due to expensive local materials, developers opt to import more materials such as steel, ceramics, tiles, furniture, lighting, etc. hence the overreliance on imports brings about a weaker shilling pushing up the rate of inflation (Vuluku&Gachanja, 2014). Considering all market factors, a weaker shilling would increase inflationary pressure and eventually result in higher housing costs (Oude, 2013). Moreover, weaker currency has a greater influence on the economy, whereby if inflation goes up above CBK's target margins, CBK will be forced to increase the lending rate and this in turn increases the credit cost to the private sector or developer which eventually increases the housing cost to the buyer (Vuluku & Gachanja, 2014).

Several empirical studies have incorporated construction costs into the housing supply equation (Somerville, 1999; Mayer & Somerville, 2000; Hwang & Quigley, 2006). Somerville (1999)

looks at the effect of residential construction costs on supply of new housing and concludes that higher construction costs reduce residential construction. Mayer and Somerville (2000) developed an empirical model linking new housing supply to changes in prices and costs and concluded that new construction is a function of changes in housing price, as well as changes in other variables such as construction costs. Hwang and Quigley estimate housing supply as a function of housing prices and input prices, including the costs of labor, materials, financing and regulations inhibiting new construction (Hwang & Quigley, 2006). Hwang and Quigley look at construction costs in terms of labor costs and material costs and find that both labor costs and material costs variables have negative effects on housing supply and the variables are highly significant.

2.3.1.4 Cost of Land affecting Housing Affordability

Land is very expensive in urban Kenya such that it is an independent factor affecting housing availability and affordability. The cost or value of land is a fundamental component in the overall price of housing providing about 20% of the price of a dwelling unit (Kieti, 2015). Cost of land is a function of its locational, physical and neighborhood characteristics of the property (Ndungu, 2014), and the variable "land cost" is measured quantitatively in Kenya Shillings within the context of Kenya. Land is factored as a key component of production. Its accessibility is a fundamental element in the provision of affordable housing (Chepsiror, 2013). Land supply is very limited, coupled with the prerequisite for it as a civic utility for low-cost housing, making it a scarce resource (Ondola, 2014). Consequently, there is a growing class of "landless" from the low and middle-income level groups whose access and ownership to land and shelter is becoming more difficult as time progresses (Kieti, 2015).

Land represents a major drawback in homeownership in urban areas of Kenya (Ndungu, 2014). According to research, the unavailability of fairly valued and well situated, serviced land with proper documentation is a major inhibitor to rapid growth in Mombasa County (Ngugi and Njori, 2013). There are various reasons that include the government as a major holder of vast pieces of land, control of huge tracts of land by private entities, poor ecological conditions, and the absence of the crucial infrastructure including sewer and water systems are a major challenge to the developers (Njathi, 2011). An extremely skeptical property market and the great demand for

accommodation have propelled Kenya's land property value inflation increasingly over the last ten years (CAHF, 2013). High land prices, poor systems of land records and a slow registration process discourage potential homeowners from mortgage and financing due to lack of apt verification of the prospective developmental properties and inability to service the huge amounts demanded. Moreover, bureaucratic red tapes in the Lands ministry and other related government stakeholders are also a key hindrance among the Mombasa County potential homeowners (Ngugi&Njori, 2013).

2.4 Research Gap

Studies on factors affecting housing affordability have revolved mortgages, macroeconomic policy, slums upgradeand housing policy. Explaining housing affordability 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 policies, cost of financing, housing input costs and cost of land pursued will determine housing afforability. Government policies are mostlikely 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. Under housing microfinance, it mainly focuses on end user financing available for the home buyers (Ndung'u, 2014). The above highlighted factors show that a new perspective on home ownership is needed. This research is therefore informed by these factors in an effort to determine their effects on housing affortdability. This research aims to fill the gaps in the available literature and provide relevant information to interested key stakeholders on areas of unexplored opportunity

2.5 Conceptual Framework

This concept paper illustrates 4 dimensions to be gathered by the researcher in regards to housing affordability dimensions. Although some concepts have been reiterated in previous literature works, these conceptions have varied definitions in different studies. In this study, housing affordability is the constant (dependent) variable for this concept paper, and the four (4) variables are the independent variables.

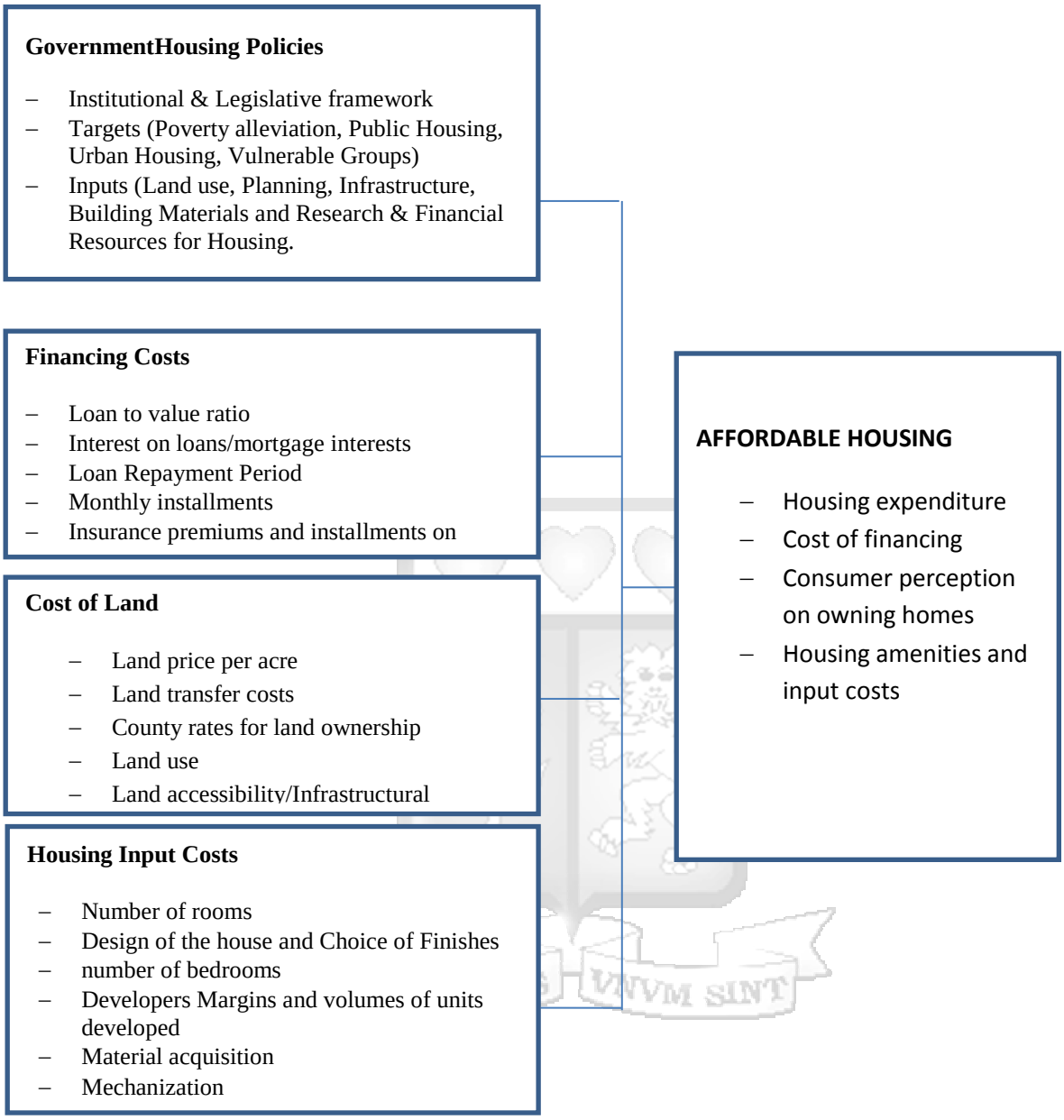


Figure 1: Conceptual Framework, Source: Researcher (2018)

2.6 Chapter Summary

This chapter provided the discussion of the literature review, theories and conceptual framework. Under theoretical review, two theories identified that the study was anchored on include residual income theory to housing affordability and Public Interest Economic Regulation Theory. Previous studies analysed under empirical review revealed that previous scholars have reported varying results on the relationship between government policies, cost of financing, housing input costs and cost of land on housing affordability in different contexts.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter defines the research design and procedures that was followed in conducting this research. Moreover, this section explicitly and implicitly stipulate the approaches that were used to gather, categorize, analyze, interpret and communicate data, information and the findings respectively. As much, it defines the underlying target population, sample size, types of data, data collection methods and the data analysis approaches.

3.2 Research Design

This project used descriptive research design. This framework was adopted to gather data pertaining to the study by using the survey method to get primary data. According to Mugenda & Mugenda (2012), descriptive research determines the way things are and/or reports answers to research questions with regards to current status of knowledge of the subjects in the study. Kothari (2013) defines descriptive research as including fact-finding enquiries and surveys, adding that the key purpose is the explanation of state of affairs that exist as present. Descriptive research design links both quantitative and qualitative data as a mode to reconstruct the "what is" of a subject hence find solution to the study. This research design was chosen because it aligns well with the specific nature of research problem defined in Chapter One, and is most effective in answering the research questions posited in this undertaking.

3.3 Target Population

A population, according to Sekaran (2010), is as an all-inclusive group of people or items that the researcher intends to investigate. According to KBA (2015) home ownership survey there is an estimate of 354,816 households in Mombasa. Of these households, only 9% of them acquired their house through buying. In addition, only 25% of the 9% of the households bought their home through a form of home financing from the bank. This translates to an estimate population of 8,000 households that are of relevance to the study objectives under review in this research study.

3.4 Sampling Technique and Sample Size

As the population of study is widely spread across Mombasa County, the researcher is not able to get to each and every one of the study population to participate in this project. Therefore, a sample of the population was selected for the study.

Simple random sampling was exercised on households who bought houses through bank financing in Mombasa County. According to Sekaran (2010), Simple Random Sampling is the best sampling technique when each member has to be given an equal opportunity to be included in the research. Yamane formula was used to determine the sample size (Singh, 2014). Assuming that you use 95% confidence interval, the error level is 0.05. The minimum sample size is calculated by using the Yamane method as follows;

$$\mathbf{n = N / (1 + Ne^2)}$$

N- Total Population= 8000

e- Level of error= 0.05

n- Sample size

$n=8000/ (1+8000x0.05^2)$

n=381

Table 3.1 Sample Population

Respondents	No. of targeted respondents
Home owners through financing	381
Total	**381**

Source: Researcher, (2019)

3.5 Data Collection Instruments

Primary data was sourced and gathered using questionnaires administered to the target respondents. Primary data collection 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).

3.6 Data Collection Procedure

The responses to the questionnaires were interviewer-completed for some of the groups (where expediency demands so) or hand-delivered to every respondent and collected later for the corporate organizations or consulting firms. Research assistants were used to collect data from the sample groups. They visited the identified organizations/groups, fully equipped with the questionnaires and an authorization letter from Strathmore Business School, allowing them to carry out the data collection.

3.7 Research Quality

A pilot study was done to test the validity and reliability of the instrument. According to Mugenda (2008), piloting involves conducting preliminary trials of data collection tools and procedures to be used in the study. This is done to identify and eliminate problems, allowing researchers to make corrective adjustments to instruments and data collection methodologies to ensure that the data to be collected was reliable and valid. The researcher alludes that piloting will be of value to the research by enabling the researcher to familiarize with the research and its

administration procedure. Moreover, the pilot study enabled the researcher identify items that have need of modification. The results helped the researcher to remedy inconsistencies emanating from the research instruments to ensure the instruments measure what they are intended to measure.

3.7.1 Validity of Instruments

Bryman (2017) defines validity as the extent to which the results obtained from the analysis of the data essentially represent the elements under study. In this research, validity was ensured by having objective inquiries included in the questionnaire. Expert opinion was sought from the supervisor to note on the representativeness and appropriateness of questions posed to the sample population, and to give suggestions of corrections that should be made to the structure of the research methodology. This was aimed at helping improve the content of the data that was collected.

3.7.2 Reliability of Instruments

Reliability refers to the degree to which research tools yield consistent results (Babbie, 2013). Reliability was achieved in this research by including many related items on a measure, and by analyzing a diverse mockup of individuals using identical testing procedures. In this research, piloting was conducted on 100 households from the target population to assess the reliability of the research instruments. Cronbach's Alpha statistics was also applied in order to test for the consistency of the research instruments. According to Mugenda (2008), a co-efficient of 0.7 is normally accepted as a good indicator of reliability, and in this research the research strived to achieve a reliability score within the range proposed as shown in the table 3.2 below.

Table 3.2 Reliability

Variables	Cronbach's Alpha
Government Housing Policies	0.759
Financing Costs	0.834
Cost of Land	0.721
Housing Input Costs	0.744
Affordable Housing	0.733

Source: Field data (2019)

3.8 Data Analysis

For easy understanding of the collected data, data analysis was done to summarize the important features and relations of the data in order to generalize the findings. Collected data was analyzed to define patterns of behavior and particular outcomes as observed throughout the research process. The researcher used qualitative and quantitative techniques in analyzing the data. The completed questionnaires was edited and classified for comprehensiveness and consistency they are processed to make meaningful inferences. Data was then be coded and tabularized to enable the responses to be clustered into various categories using the Statistical Package for Social Science (SPSS version 17). The data was then be analyzed into frequency distribution chart to indicate variable values and number of occurrences in terms of frequency. Descriptive statistics such as means, standard deviation, and frequency distribution were used to analyze the data.

Frequency distribution tables was then be summarized. At this stage, diagrams such as, grouped frequency distributions, bar charts and pie charts was used for analysis. Content and descriptive analyses will be employed. The former analysis was used to analyze the interviewees' views on the challenges that affect the provision of low-cost housing solutions. Inferential statistics and regressions analysis were done to establish the extent to which factors affect the provision of low-cost housing solutions in Mombasa. A multiple regression model was developed to establish the relationship between the dependent and independent variables (Sekaran, 2003). The relationship equation was represented by the linear equation below:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mu$$

Y= Provision of low cost housing

α = Constant

μ= Error

β= Coefficient of the independent variables

X_1= Cost of land

X_2= Availability of land

X_3= infrastructure development and housing

X_4=Availability of Building materials

3.9 Research Ethics

In the due course of undertaking this research, there was due contemplation ascertained to ethical issues that emerged. The objectives were addressed with concern to the issue of enabling low-income earners have a pie in the real estate industry, investment and ownership of houses; and to collect, analyze and report on data collected. High standards of behavior that directed conduct in relation to the rights of those whom, through purposive sampling, become the subject of the study will be upheld. High levels of objectivity and integrity was also observed by acting openly, being truthful and promoting accuracy when dealing with respondents and in analysis and reporting of results.

CHAPTER FOUR
PRESENTATION OF RESEARCH FINDINGS

4.0 Introduction

This section presents the research findings and the discussions. The findings on research response rate, demographics characteristics, descriptive results and inferential results which include correlation and regression analysis are presented. All the findings in this section were presented using tables and charts.

4.1 Response Rate

The study administered a total of 381 questionnaires to the selected respondents, a total of 315 questionnaires were dully filled and returned which represented a response rate of 82.7%. The remaining was either not completely filled or was never returned. The high response rate was attributed to follow ups made by the researcher and research assistants. The study response rate concurs with the propositions of Mugenda and Mugenda (2003) who argued that 50% response rate is adequate for a descriptive study.

Table 4.1: Response Rate

Response rate	Number of respondents	Percentage
Yes	315	82.7
No	66	17.3

Source: Author (2018)

4.2 Scale Reliability Summary Results

The study conducted pilot study on 10% of the population in line with Mugenda and Mugenda (2003) prior to conducting actual survey. The findings of scale reliability analysis revealed that all the variables had a Cronbach's Alpha of above 0.70 which indicated that scale used to measure the variables was reliable and all the items were maintained in the questionnaires.

Validity on the other hand was achieved through incorporation of reviews from supervisors and research experts.

Table 4.2 Scale Reliability Summary Results

Variables	N of Items	Conclusion
Government Housing Policies	35	Scale was reliable
Financing Costs	30	Scale was reliable
Cost of Land	39	Scale was reliable
Housing Input Costs	30	Scale was reliable
Affordable Housing	30	Scale was reliable

Source: Field data (2019)

4.3 Background Information

The study sought information about respondents' background on aspects that were considered to be descriptive with respect to the subject of the study. The completed questionnaires were usable, although few lacked some information.

4.3.1 Type of Household

This part of the questionnaire sought to find out the Type of Household

Table: 4.3 Type of Household

		Frequency	Percent
Valid	Borrower	101	32.2
	Loanee	186	59.2
	Other	27	8.6
	Total	314	100.0

Source: Field data (2019)

Result indicates that house type which is the most respondents was the Loanee which was represented by 186 frequency. The second most house type was Borrower represented by 32.2%, and finally ther Other which was represented by 8.6% of the respondents.

4.3.2 Age of your Household

Table: 4.4 Age of your Household

		Frequency	Percent
Valid	1	15	4.8
	2	52	16.6
	3	61	19.4
	4	39	12.4
	5	42	13.4
	6	23	7.3
	7	34	10.8
	8	18	5.7
	9	20	6.4
	10	6	1.9
	12	2	.6
	15	2	.6
	Total	314	100.0

Source: Field data (2019)

From that above findings, it is indicated that most of the respondents have less than 5 years with their household, which was represented by 309, this indicates that most of the respondents are new home-owners. Those who have attained more than five years in their household were found to be 105. This could be explained by the fact that one must have good percentage of money to own a house. This is a clear indication that money is important for housing affordability in Mombasa.

4.3.3 Number of family members with income

Table 4.5: Number of family members with income

		Frequency	Percent
Valid	One Member	3	1.0
	Two Members	7	2.2
	Three Members	6	1.9
	More than 3 Members	298	94.9
	Total	314	100.0

Source: Field data (2019)

From that above findings, More than 3 Members was fond to be the highest number of family members with income with 94.9%. This could be explained by the fact that income is required when owning a house so as to pay loan and still meet other needs. The findings agree with the residual income model which according to Valdez (2009), generally focuses on how much money is left over after paying for housing and takes into consideration the basic necessities' costs. This translates that a household, as per remarks of Stone (2006), has housing affordability constraints if its non-housing needs are not met at some level of adequacy after paying for housing.

4.3.4 Years of Schooling

The study showed that the years of schooling of respondents were comprised of the following: years between 0-10 as 93.7% and more as 0.6%, respectively as shown in the table 3.4.3

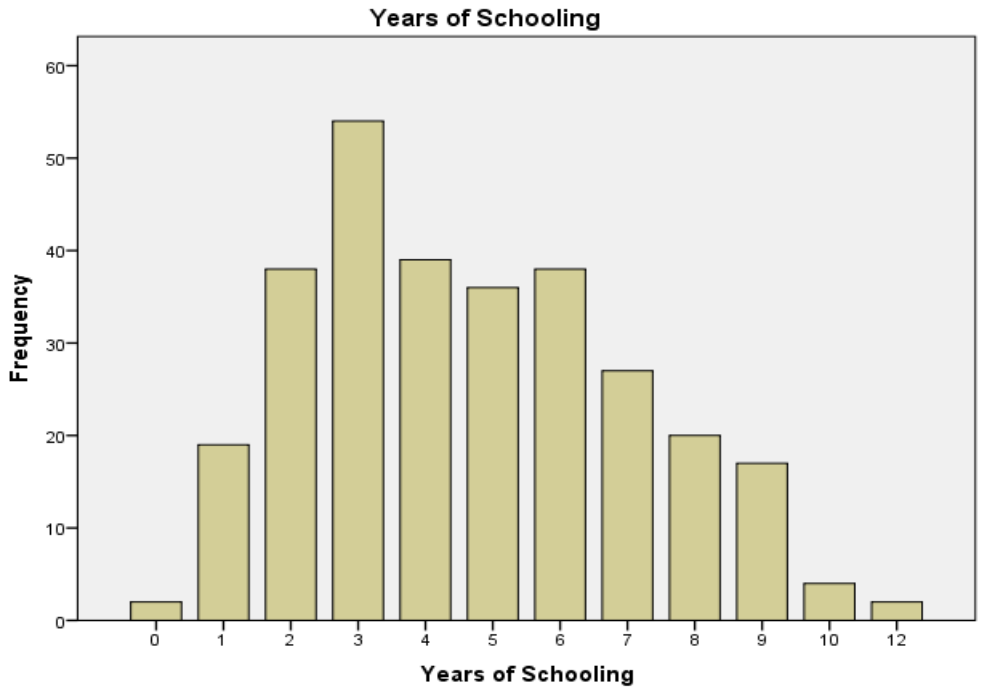


Figure 4.1: Years of Schooling

Source: Field data (2019)

4.3.5 Bedrooms should a house for an Ideal Family have

Table 4.6: Bedrooms should a house for an Ideal Family have

		Frequency	Percent
Valid	One Bedroom	14	4.5
	Two Bedrooms	79	25.2
	Three Bedrooms	119	37.9
	More than 3 Bedrooms	102	32.5
	Total	314	100.0

Source: Field data (2019)

The above findings are in line with the observation earlier that indicates that majority of respondents have more than two family members. This is also indicates the nature of Kenyan culture of having bigger houses in general even if family sizes are small. In Western cultures an

ideal house would be dependent on the number of members in a family but generally houses are small.

4.3.6 cost of the house selected

Table 4.7: cost of the house selected

		Frequency	Percent
Valid	1000000.00	2	.6
	1500000.00	4	1.3
	2000000.00	7	2.2
	2400000.00	1	.3
	2500000.00	5	1.6
	3000000.00	118	37.6
	3500000.00	3	1.0
	4000000.00	22	7.0
	4500000.00	1	.3
	5000000.00	20	6.4
	6000000.00	26	8.3
	7000000.00	18	5.7
	8000000.00	45	14.3
	9000000.00	32	10.2
	10000000.00	7	2.2
	13000000.00	1	.3
	14000000.00	1	.3
	45000000.00	1	.3
	Total	314	100.0

This part of the questionnaire sought to find out the cost of the house selected on part 4.3.5 above (bedrooms should a house for an ideal family have). The results indicate that most cost of the house selected is between Ksh 3,000,000 - 9,000,000. This indicated that More than 3

Bedrooms house, which had the highest frequency (102) has different cost depending on many other factors. This is line with the objectives of the study that an ideal house can have varying costs due to inputs, the land it is built on and the financing mechanism.

4.4 Government Policies

To achieve the study objective, the respondents were asked to tick appropriately the number that best describes the how government policies affect housing affordability to the buyer in Mombasa. They were asked to use a scale of 1-5 where 1= Strongly Disagree; 2= Disagree; 3= Neither Agree nor Disagree; 4= Agree, and 5=Strongly Agree

Table 4.8: Government Policies

	N	Mean	Std. Deviation	Variance
Government's tax deductibility for housing loans up to Ksh. 150k/yr had advantage towards housing affordability	315	4.0317	.82107	.674
Government participation with the private sector had facilitated affordable housing	315	4.3397	.73288	.537
Government's housing allowance had benefited you in terms of housing affordability.	313	4.0831	.54255	.294
Government had promoted end-user finance to access affordable housing	315	4.5079	.63026	.397
Government had provided conducive infrastructure to facilitate investment in affordable housing	315	4.5079	.59384	.353
Government had intervened in the market to aid access to affordable housing	315	4.2603	.52533	.276
Political environment in the country have affected affordable housing	313	4.3387	.78875	.622
VAT exemption on low income housing project have benefited you	315	4.2952	.75195	.565
Valid N (listwise)	311			

Source: Field data (2019)

In determining government policies, mean, variance and standard deviation were calculated as shown in the table 4.3 above. Each factor was rated independently to enable the researcher to identify how government policies affect housing affordability to the buyer in Mombasa. Therefore the mean, variance and standard deviation for each factor was concluded, The mean of Government's tax deductibility for housing loans up to Ksh. 150k/yr had advantage towards housing affordability is 4.03, Government participation with the private sector had facilitated affordable housing is 4.34, Government's housing allowance had benefited you in terms of housing affordability is 4.08, Government had promoted end-user finance to access affordable housing is 4.51, Government had intervened in the market to aid access to affordable housing is 4.26, Political environment in the country have affected affordable housing is 4.34, while VAT exemption on low income housing project have benefited you has a mean value of 4.30. It can therefore be interpreted that government policies affect housing affordability in mombasa and their effect should be taken into account.

4.5 Cost of Financing

The assessment of cost of financing on housing affordability in Mombasa was the second objective of the research. This part gives a summary of the level of agreement or disagreement to which cost of financing affect housing affordability to the buyer in Mombasa. The respondents were asked to rank four variables under of financing. They were asked to use a scale of 1 to 5 to rank in which 1-5 where 1= Strongly Disagree; 2= Disagree; 3= Neither Agree nor Disagree; 4= Agree, and 5=Strongly Agree. The same approach as was for government policies was adopted with the mean, variance and standard deviation indicated as shown in the table 4.4 on the next page

Table 4.9 Cost of Financing

	N	Mean	Std. Deviation	Variance
The loan-to-value ratio greatly affects housing affordability	315	4.0254	.85174	.725
Housing affordability is affected by the mortgage interest charged by the bank	315	4.2762	.71599	.513
The period of mortgage repayment highly affect housing affordability	315	4.1048	.62216	.387
The insurance premiums on home loans greatly affect housing affordability	315	4.4540	.62862	.395
The mount of deposit/down payment charged by the bank highly affect affordable housing	315	4.5365	.50579	.256
The availability of finances highly affect the final cost of housing	315	4.1492	.54710	.299
Stringent rules by financial institutions to access to finance highly affect the cost of financing	313	4.2428	.83502	.697
The minimum monthly payment on mortgage highly affect the final cost of housing	315	4.2063	.62737	.394
Accessibly to mortgages affect housing affordability e.g. government employees access mortgage facilities easier than private entities employees	315	4.3460	.58994	.348
Valid N (listwise)	313			

Source: Field data (2019)

A mean score of below 4.0 signify that a specific variable was found to be Neither Agreed nor Disagreed, or disagreed as affecting housing affordability to the buyer in Mombasa while the one with a mean of score of above 4.00 show that it was found to be agree or strongly agree to affect

housing affordability to the buyer in Mombasa. The findings as shown in the table 4.5 above shows that a mean score of all variables under of financing ranged between 4.00 and 4.50. This agrees to the measure defined above. Accessibly to mortgages affect housing affordability e.g. government employees access mortgage facilities easier than private entities employees was indicated by 4.35. Its interesting to note that loan to value ratio has the lowest mean indicating that respondents are not affected as much compared to down payment charged by the bank which is usually an upfront cost hence affecting affordability.

4.6 Cost of Land

The third objective of the study was to investigate how cost of land affect housing affordability in Mombasa. This study was conceived with the expectation that people who have the urge to build a house would focus on cost of land. To achieve the study objective, the respondents were asked to indicate the level to which they agree or diagree that cost of land affect housing affordability. They were asked to use a scale of 1 to 5 to rank in which 1-5 where 1= Strongly Disagree; 2= Disagree; 3= Neither Agree nor Disagree; 4= Agree, and 5=Strongly Agree. In determining cost of land, same approach as was for government policies and cost of financing were adopted with the mean, variance and standard deviation indicated as shown in the table 4.5 below

Table: 4.10 Cost of Land

	N	Mean	Std. Deviation	Variance
Affordable constructions such as accessibility to land greatly affect access to homeownership	315	4.1079	.78263	.613
The minimum land price per acre will highly affect the affordability to own house	315	4.3302	.76062	.579
Present land use will highly affect the cost of land when purchasing for construction of affordable houses	313	4.1182	.58459	.342
Property transfer costs hinders housing affordability in most cases	315	4.5302	.59847	.358
The developer's profit margins highly affect housing affordability	315	4.5810	.57740	.333
The availability of title deed greatly affect the cost of land	315	4.3460	.58994	.348
The minimum monthly payment on mortgage highly effect the final cost of the land	314	4.3949	.75206	.566
The minimum monthly payment on County ground rate will highly effect the purchase of land	315	4.2857	.76609	.587
Valid N (listwise)	312			

Source: Field data (2019)

The findings in table 4.12 above show that majority of the varaibles presented to the respondents were, to agreably perceived to affect housing affordability. It is observed from the findings that three of the focus varaibles have mean scores of about 4.00 (Affordable constructions such as accessibility to land greatly affect access to homeownership, The minimum land price per acre will highly affect the affordability to own house, Present land use will highly affect the cost of land when purchasing for construction of affordable houses, The availability of title deed greatly affect the cost of land, The minimum monthly payment on mortgage highly effect the final cost of the land and The minimum monthly payment on County ground rate will highly effect the

purchase of land) while two had mean scores of above 4.50 (Property transfer costs hinders housing affordability in most cases and The developer's profit margins highly affect housing affordability). The strategy that was found to have least agreable was Affordable constructions such as accessibility to land greatly affect access to homeownership. The results also agree with the common sentiments that stamp duty on transfer of land and developers margins tend to be unreasonably high.

4.7 Housing Input Costs

In the last research question, respondents were asked to tick appropriately to their level of agreement or disagreement of each of the following statements apply to how housing input costs affect its affordability in Mombasa. They used a scale of 1-5 where 1= Strongly Disagree; 2= Disagree; 3= Neither Agree nor Disagree; 4= Agree, and 5=Strongly Agree. Mean, variance and standard deviation were calculated as shown in the table 4.6 below

Table 4.11 Housing Input Costs

	N	Mean	Std. Deviation	Variance
The desired number of rooms will greatly affect the affordability of housing	315	4.1206	.76428	.584
The number of people expected to live in the house will highly affect the affordability of housing	315	4.3143	.76109	.579
The desired housing facilities/amenities will affect the affordability of housing	313	4.0895	.59779	.357
The preferred locality of desired house will greatly affect the affordability of housing	315	4.5429	.58149	.338
The preferred housing design will highly affect its affordability	315	4.5714	.58414	.341
The size of the house and number of bed rooms will greatly affect its affordability	315	4.3524	.59157	.350
The availability of local materials for construction will highly reduce housing development	314	4.3949	.75206	.566
The availability of local personnel for construction will highly reduce housing development	315	4.2476	.77518	.601
Valid N (listwise)	312			

Source: Field data (2019)

The findings in table 4.14 above show that majority of the variables presented to the respondents were, were perceived to affect housing affordability in Mombasa. It is observed from the findings that six of the variables (The desired number of rooms will greatly affect the affordability of housing, The number of people expected to live in the house will highly affect the affordability of housing, The desired housing facilities/amenities will affect the affordability of housing, The size of the house and number of bed rooms will greatly affect its affordability,

The size of the house and number of bed rooms will greatly affect its affordability, The availability of local materials for construction will highly reduce housing development and The availability of local personnel for construction will highly reduce housing development) have mean scores of above 4.00, while two (The preferred locality of desired house will greatly affect the affordability of housing and The preferred housing design will highly affect its affordability) about 4.50. These finds are in line with the notion that high-end homes tend to be built on more expensive land (Arvanitis, 2013).

4.8 Affordable Housing

This section presents the findings of descriptive statistics aimed at obtaining information about the affordable housing that will affect housing affordability in Mombasa Kenya. Respondents were asked used a scale of 1-5 where 1= Strongly Disagree; 2= Disagree; 3= Neither Agree nor Disagree; 4= Agree, and 5=Strongly Agree. Mean, variance and standard deviation were calculated as shown in the table 4.7 below

Table: 4.12 Affordable Housing

	N	Mean	Std. Deviation	Variance
Income distribution affects housing affordability in Mombasa County	315	4.0349	.74144	.550
Low confidence in the economy affects housing affordability	315	4.2730	.75401	.569
Concentration/Density of housing units of in an area affects housing affordability	313	4.0831	.57691	.333
Reduced profitability from other forms of investment affects housing affordability	315	4.6000	.57440	.330
Psychological desire for home owners affects housing affordability	315	4.5937	.57547	.331
Housing affordability is a household income problem made worse by government restrictions on housing supplies	315	4.3111	.59593	.355
More housing in established Greenfield areas will reduce housing costs hence increase housing affordability	314	4.3408	1.28712	1.657
Housing policy is factored with regards to supply side costs rather than demand side affordability of households	301	4.1728	.74614	.557
Valid N (listwise)	298			

Source: Field data (2019)

The study sought to determine whether Income distribution affects housing affordability in Mombasa County. The study results showed a mean of 4.03 which confirmed that majority of the respondents indicated agreed to the statement. The findings also showed that majority of the respondents indicated agreed that Low confidence in the economy affects housing affordability with a mean of 4.27. The study also sought to determine whether Concentration/Density of housing units of in an area affects housing affordability. The results showed that majority of the

respondents agreed with a mean of 4.08. On whether Reduced profitability from other forms of investment affects housing affordability, the findings showed that majority of the respondents most agreed with a mean of 4.60. whether Psychological desire for home owners affects housing affordability, the findings indicate that the respondents most agree with the statement with a mean of 4.59. Respondents also agree that housing affordability is a household income problem made worse by government restrictions on housing supplies with a mean of 4.31. The study sought to establish whether more housing in established Greenfield areas will reduce housing costs hence increase housing affordability, the findings indicated that most of the respondents agree with the statement with a mean of 4.34. On whether housing policy is factored with regards to supply side costs rather than demand side affordability of households, the finding shows that mean of 4.17 meaning respondents agree with the statement. The findings depict a natural trend that reduced profitability in other investments leave more to invest in housing hence making it much more affordable. The psychological desire also implied the human bias in that desire affects our perception of what is affordable.

4.9 Regression Analysis Results

The study employed a multivariate regression analysis to test the joint effect of all the independent variables on the dependent variables. The findings of the multivariate regression are presented in table 4.17 and 4.18

Table 4.13: Multivariate Regression Model Summary

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
Model Summary	0.771	0.600	0.578	0.40029

a. Predictors: (Constant), government policies, cost of financing, housing input costs, cost of land

The findings further showed an R^2=0.600 which also implied that government policies, cost of financing, housing input costs and cost of land accounted for 60% of the variation in housing affordability when other factors held constant.

Table 4.14: Multivariate Regression ANOVA Results

Model		Sum of Squares	Df	Mean Square	F	Sig.
ANOVA[a]	Regression	18.415	5	4.604	27.482	.000[b]
	Residual	11.726	315	.168		
	Total	30.141	220			

a. Dependent Variable: housing affordability

b. Predictors: (Constant), government policies, cost of financing, housing input costs, cost of land

Analysis of variance (ANOVA) was employed to test the goodness of fit of the model used to fit the independent variables and dependent variable. The results presented in Table 4.18 revealed F-statistic = 27.482, with p=0.000 which was less 0.05. These findings implied that model had a good fit which further confirmed that the four factors (government policies, cost of financing, housing input costs, cost of land) were a good predictor of housing affordability in Mombasa county.

Table 4.15: Multivariate Regression ANOVA Results

		B	Std. Error	t	Sig.
Coefficients	(Constant)	0.554	0.23	2.411	0.012
	government policies	0.213	0.086	2.49	0.015
	cost of financing	0.229	0.088	2.603	0.011
	housing input costs	0.275	0.092	2.969	0.004
	cost of land	0.232	0.090	2.794	0.008

a Dependent Variable: housing affordability

In the multivariate analysis, the study established that all the independent variables (government policies, cost of financing, housing input costs, cost of land) significantly influenced housing affordability. It interesting to note that Housing Input costs affects the most as it has the highest beta coefficient. The implication of these findings is that these variables will be among the main factors affecting housing affordability in Mombasa county. The findings of this study supports Shleifer (2005) suggestions that the fundamental areas where government intervention is needed constitute of infrastructure, housing finance, land market and accessibility to cheap and affordable building materials.

CHAPTER FIVE
DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter gives a brief summary of the research, major findings followed by the conclusion and recommendations drawn from the study. The findings that have been obtained from the data collected have been used to verify the research questions. The summary of the findings were done based on the specific objectives of the study and relied on the results of inferential statistics.

5.2 Discussion

The current study sought to determine how various factors affect housing affordability in Kenya, with case study of Mombasa. The study specifically sought to determine how government policies, how cost of financing, how cost of land and how housing input costs affect its affordability in Mombasa. The study was based on residual income theory to housing affordability and Public Interest Economic Regulation Theory. A descriptive research design was adopted for this study while the population of interest consisted of 8,000 households that are of relevance to the study objectives under review in this research study. The population included engage government representatives in the county particularly from the Ministry of Land, National Housing Corporation and the State Department of Housing and Urban Development. Professionals in the housing sector. Both descriptive and inferential techniques were used to analyse the relationship between study variables. Specifically the study used percentages, frequencies, mean and standard deviation. Correlation and regression analysis were the inferential statistics conducted to test the relationship between independent and dependent variables.

The findings agree with R^2 (0.600) which implied that government policies, cost of financing, housing input costs and cost of land accounted for 60% of the variation in housing affordability when other factors held constant. In ferences to Type of Household, findings indicates that most of the respondents are of the preferred Loan type of the house. It can be deduced that majority of

the respondents were on Loan for their houses. This could have impact on the housing affordability in Mombasa.

5.2.1 Government Policies

In determining government policies, mean, variance and standard deviation were calculated as shown in the table 4.4 above. Each factor was rated independently to enable the researcher to identify how government policies affect housing affordability to the buyer in Mombasa. Therefore the mean, variance and standard deviation for each factor was concluded.

Majority of the respondents indicated that government policies affect housing affordability to the buyer in Mombasa from agree to most agree as the findings show that most mean score were between 4.00 and 5.00. It is therefore vital that all government policies related to housing be considered and their effect on housing affordability should be taken into account. Researcher's adhoc discussions with industry practitioners also indicated that the buck stops with government. Recent government initiatives on affordable have been welcomed both locally and internationally as the Government is seen to be the key enabler in affordable housing.

5.2.2 Cost of Financing

The second objective of the study was to examine how cost of financing affects housing affordability in Mombasa. The findings as shown in the table 4.5 above shows that a mean score of all variables under of financing ranged between 4.00 and 4.50. This agrees to the measure defined above.

Thus, the findings revealed that respondents who participated in the research agreed to the mentioned variables of cost of financing affect housing affordability in Mombasa, since most had a mean score ranging between 4.00 and 4.50. These findings therefore agree with the CBK report as explained in the empirical review, which indicated that the challenges faced by mortgage lenders include: constraints in accessing long-term funds, high-interest rates set by CBK, credit risk, and lower borrower incomes, financial illiteracy regarding mortgage lending, financial regulatory burdens and lack of new housing supply (CBK, 2014). The recent setting up of Kenya

Mortgage Refinace Company (KMRC) which aims to advance mortgages at concessional rates (below 10%) and also increase penetration of Mortgages to Kenyans earning KES 150,000 and below will go along way into boosting affordability.

5.2.3 Cost of Land

The third objective of the study was to find out how cost of land affects housing affordability in Mombasa. The findings in table 4.6 above show that majority of the varaibles presented to the respondents were, to agreably perceived to affect housing affordability.

In general the findings depicts that the cost of land is significant factor for housing affordability in Mombasa County. While land prices are generally higher in town centres and established neighbourhoods, the government should regulate cost of the land and ensure that it is affordable to common Kenyans and developers participating in affordable housing. There is need to ensure that land cost does advance the notion of segregating the have and the have nots. The findings concurs with Chepsiror, (2013) argument that land is factored as a key component of production. Its accessibility is a fundamental element in the provision of affordable housing (Chepsiror, 2013).

5.2.4 Housing Input Cost

The last objective of the study was to investigate how housing input costs affect its affordability in Mombasa managed by county governments in Kenya. The findings in table 4.7 above show that majority of the variables presented to the respondents were, were perceived to affect housing affordability in Mombasa. It is interesting to note that housing input cost has the highest beta coefficient making the most critical factor out of the four analyzed in this research. This has been supported by respondents findings that an ideal house (3 bed rooms) has vaying costs.

This illustrates that the housing input costs variables affected housing affordability in Mombasa therefore the variables should be considered to affordability of housing in Kenya, the government and revelant agencies should deal with such factors like housing facilities/amenities, availability of local materials for construction, and availability of local personnel for

construction. The findings support Arvanitis (2013) claim that from the developers perspective, choice of building solutions depends on the target market e.g. high-end homes tend to be built on more expensive land. Recent guidilines by the Government on design of the buildings are aimed at ensuring minimal costs of inputs. Deployment of new construction methodologies will greatly lower input cost as done in countries like Malaysia, China e.t.c

5.2.5 Affordable Housing

The study also sought the information about the notion of affordability by examining different aspects on what affects affordability. It even goes further to look into the psychological and perceptual aspects of affordability. The study sought to determine whether Income distribution affects housing affordability in Mombasa County.

Affordability is a relative measure. People with different income brackets have varying perspectives on affordability. A traditional trend in Kenya has been to invest excess income in housing. New generation Kenyans had started moving away from this trends but the Real Estate bubble experienced in the last few years has seen massive investment due to reduced profitabilities in other forms of investment.

5.2.6 Regression Analysis

The study results indicated that all the independent variables were significant predictor of housing affordability in Mombasa. For the analysis of variance (ANOVA), the findings implied that model had a good fit which further confirmed that independent variables were a good predictor of housing affordability.

In the multivariate analysis, the study established that all the independent variables significantly influenced the housing affordability. The findings of this study supports Shleifer (2005) suggestions that the fundamental areas where government intervention is needed constitute of infrastructure, housing finance, land market and accessibility to cheap and affordable building materials. Housing Input costs has the most effect on housing affordability.

5.3 Conclusion

This study is a step towards understanding how various factors affect housing affordability in Kenya, with case study of Mombasa County. Majority of the respondents indicated that government policies affect housing affordability to the buyer in Mombasa from agree to most agree as the findings show that most mean score were between 4.00 and 5.00. The findings revealed that respondents who participated in the research agreed to the mentioned variables of cost of financing affect housing affordability in Mombasa, since most had a mean score ranging between 4.00 and 4.50. Findings depicts that the cost of land is significant factor in housing affordability in Mombasa. Findings illustrates that the housing input costs variables affected housing affordability in Mombasa therefore the variables should be considered to affordability of housing in Kenya. This study concluded that with proper considerations of government policies, cost of financing, cost of land and housing input costs, would affect housing affordability in Mombasa. The study further concluded that housing input costs affects affordability the most hence Goveornment should take the lead in ensuring that it lowers housing input costs.

5.4 Recommendations

It vital that all government policies related to housing be considered and their effect on housing affordability should be taken into account. The study further recommends that county government ministry of planning should implement housing policies that can to boost the affordability of housing facilities. These include Institutional & Legislative framework, Tax breaks, Targets (Poverty alleviation, Public Housing, Urban Housing, Vulnerable Groups) and Inputs (Land use, Planning, Infrastructure, Building Materials and Research & Financial Resources for Housing. The recommendation are also in line with the study carried out by Kieti & K'Akumu (2017), investigated factors affecting affordability in the mortgage housing sector in Kenya. Their finding indicate that affordability of mortgage housing in Kenya is significantly driven by clusters of factors related to the households' social-economic factors, property attributes, loan characteristics and the macroeconomic environment. Specifically, the interest on mortgage, number of households' dependents, loan-to-value ratio, type of mortgage instrument, number of income earners in a household, real gross domestic product per capita and size of

household are the critical factors affecting affordability with the greatest contribution to the affordability problems of households in the mortgage housing sector in Kenya.

5.4.1 Recommendation for Further Research

The study focused on the investigation of various factors affect housing affordability in Kenya, with case study of Mombasa. The study will provide a useful basis upon which further studies in the sector could be conducted. There is need to undertake similar studies in different higher learning institutions to ascertain how other factors affect housing affordability. The study also contributes to the existing literature in the area of planning and development that academicians could use as a basis of further research.

References

Acolin, Arthur, Jesse Bricker, Paul Calem, and Susan Wachter."Borrowing constraints and homeownership."*American Economic Review* 106, no. 5 (2016): 625-29.

Adeleke, F. (2014). Investor-State Arbitration and the Public Interest Regulation Theory. *Social Science Research Network*, 12(1), 1-52.

Akinwunmi, A. (2009). *An Investigation into Factors Affecting Housing Finance Supply in Emerging Economies: A Case Study of Nigeria*. Unpublished PhD Thesis. UK: School of Business, University of Wolver Hampton.

Armstrong, C. (2012). *Global Distributive Justice: An Introduction*. Cambridge, UK: Cambridge University Press.

Arvanitis, Y. (2013). African Housing Dynamics: Lessons from the Kenyan Market. *Africa Economic Brief*, 4(3), 1-12.

Atati, F. O. (2014). *An Investigation into the Factors that Influence Housing Finance in Developing Countries: A Case Study of Kenya*. Bachelor Thesis. Nairobi: School of Built Environment, University of Nairobi.

Brusco, M. J. (2012). Emergent clustering for empirical OM research. *Journal of Operations Management*, 48(1), 3-23.

Bryman, A. (2017). Quantitative and qualitative research: further reflections on their integration. In *Mixing methods: Qualitative and quantitative research* (pp. 57-78). Routledge.

Burke, T., Stone, M. E. & Ralston, L. (2010). *Residual Incomes in Australia: Methodology and Exemplification*. Positioning Paper. Melbourne: Australian Housing and Urban Research Institute (AHURI).

CAHF (2013). *Housing Finance in Africa Year Book 2013*. South Africa: Centre for Affordable Housing Finance (CAHF).

CAHF (2011). *Housing Finance in Africa Year Book 2011*. South Africa: Centre for Affordable Housing Finance (CAHF).

CAHF (2012). *Housing Finance in Africa Year Book 2012*. South Africa: Centre for Affordable Housing Finance (CAHF).

CBK (2014). *Central Bank of Kenya 2014 Annual Report*. [Electronic version]. Retrieved October 24, 2015, from:

Center for Research on Financial Markets and Policy (Jan, 2015) The Home Ownership Survey. Retrieved online(1st Oct, 2018) from: https://www.kba.co.ke/downloads/Home%20ownership%20survey.pdf

Chepsiror, E. (2013). *The Challenges of Housing Development for the Low Income Population inKenya: A Case of Eldoret Town*. PhD Thesis. Nairobi: University of Nairobi.

Chirchir, J. S. (2006). *Promoting Home Ownership using Retirement Benefits*. Research Paper Series 01/2006. Nairobi: Retirement Benefits Authority.

Choi, T. Y., Jun, J. H., Lee, J. A., Park, B., You, S., Jung, J., & Lee, M. S. (2016). Expert opinions on the concept of blood stasis in China: an interview study. Chinese journal of integrative medicine, 22(11), 823-831.

Christensen, J. G. (2010). *Public Interest Regulation Reconsidered: From Capture to Credible Commitment*. Conference Paper presented at the 3rdBiennal Conference. Dublin: Dublin University College.

Davy, B. (2016). *Land policy: Planning and the spatial consequences of property*. Routledge.

De Janvry, A., Emerick, K., Gonzalez-Navarro, M., &Sadoulet, E. (2015). Delinking land rights from land use: Certification and migration in Mexico. *American Economic Review*, *105*(10), 3125-49.

Dieleman, F. (2017).*Households and housing: Choice and outcomes in the housing market*. Routledge.

Dudley, S. E. & Brito, J. (2012).*Regulation: A Primer*. (2nd ed.). Washington DC: Mercatus Centre, George Mason University.

Eggers, F. J. &Moumen, F. (2011). Analysis of Trends in Household Composition using American Housing Survey Data. *Econometrica*, 4(1), 1-24.

Hass Consult (2015). *The Hass Property Index Quarter Two Report 2015*. Nairobi: Hass Consult Limited. [Electronic version].

Hertog, J. (2010). *Review of Economic and Theories of Regulation*. Discussion paper series no. 10-18. Utrecht: Koopmans Institute.

HFCK (2012). *Housing Finance: Information Memorandum Supplement*. Nairobi: Housing Finance Company of Kenya Limited.*Housing Policy Debate*, 17(1), 151-184.

Hulse, K., Burke, T., Ralston, L. &Stome, M. (2010). *Benefits and Risks of Home Ownership for Low-Moderate Income Households*. Final Report. Melbourne: Australian Housing and Urban Research Institute.

Infranca, J. (2015). Housing Resource Bundles: Distributive Justice and Federal Low-Income Housing Policy. *University of Richmond Review*, 49(1), 1-65.

Institute of Quantity Surveyors of Kenya (2011). *The Quantity Surveyor: Current Construction Costs in Kenya, October – December 2011*. [Electronic version].

Jeong, J. H. (2015). *Mayoral Political Ideology and Affordable Housing: A Comparative Analysisof the Koch and Bloomberg Administrations in the City of New York*. Master thesis. NewYork: Columbia University.

Kieti, R. M. (2015). *Urban Housing Affordability in Kenya: A Case Study of the Mortgage HousingSector in Nairobi*. PhD Thesis. Nairobi: School of Built Environment, University ofNairobi.

Kieti R. M. & K'Akumu, O. A. (2017). Housing affordability Critical factors Mortgage housing sector Kenya Journal of Housing and the Built Environment Vol1. pp 1–21.

KIPPRA (2013). *Kenya Economic Report 2013*. Nairobi: Kenya Institute for Public Policy Research and Analysis.

KNBS (2015).*Kenya Facts and Figures 2014*. Retrieved October 30, 2015, from: http://www.knbs.or.ke/index.php?option=com_phocadownload&view=category&id=20&Itemid=595

Kothari, C. R. (2013). *Research Methodology: Methods and Techniques*. (3rd Ed.). New Delhi:

Kumar, R. (2011). *Research Methodology: A Step-by-Step Guide for Beginners*. (3rd Ed.). London: SAGE.

Matindi, N. (2008). *Affordable Housing for Low and Middle Income Earners in Nairobi–Kenya*. Nairobi: Ministry of Housing.

Moser, A., &Korstjens, I. (2018). Series: Practical guidance to qualitative research. Part 3: Sampling, data collection and analysis. *European Journal of General Practice*, *24*(1), 9-18.

Mugenda, O. M. & Mugenda, A. G. (2012). *Research Methods Dictionary*. [Electronic version]. Nairobi: Kenya ARTS Press.

Napoli, G. (2017). Housing Affordability in Metropolitan Areas. The Application of a Combination of the Ratio Income and Residual Income Approaches to Two Case Studies in Sicily, Italy. Buildings, 7, 95

Ndungu, F. W. (2014). *Determinants of Access to Affordable Housing in Nairobi County*. Master thesis. Nairobi: School of Business, University of Nairobi.

Ngugi, P., &Njori, &. S. (2013). Factors Affecting Access to Mortgage Finance in Nairobi, Kenya.*International Journal of Economics and Finance*, 5(2), 608-630.

Njathi, M. (2011). The Challenges of Developing Housing for the Low Income Market.

Noppen, A. V. (2013). *The ABC's of Affordable Housing in Kenya*. Nairobi: Acumen Fund.

Okechukwu, J. (2009). *Urban Housing Affordability and Housing Policy Dilemmas in Nigeria*. Unpublished PhD thesis. Birmingham, UK: School of Public Policy, University of Birmingham.

Omwenga, M. (2011). Integrated Transport System for Livable City Environment: A Case Study of Kenya. Conference paper: *47thISOCARP Congress*.

Ondola, S. O. (2014). Constraints in Housing Policy towards Provision of Low-Cost Housing to the Urban Poor in Kisumu City, Kenya. *International Journal of Humanities and Social Science Invention*, 3(1), 31.42.

Oude, K. M. (2013). *The Effect of Exchange Rate Fluctuations on Gross Domestic Product in Kenya*. Master thesis. Nairobi: University of Nairobi.

Oxley, M. (2009) Financing Affordable Social Housing in Europe. Nairobi: UN Habitat.

Pelletiere, D. (2008*). Getting to the Heart of Housing's Fundamental Question: How Much can aFamily Afford?* Washington DC: National Low Income Housing Coalition.

Republic of Kenya (2004). *Sessional Paper No. 3 on National Housing Policy for Kenya*. Nairobi: Government Printer.

Sekaran, U. (2010). *Research Methods for Business: A Skill Building Approach*. (5th Ed.). USA:

Shaheen, M., & Pradhan, S. (2018). Sampling in Qualitative Research. In *Qualitative Techniques for Workplace Data Analysis* (pp. 25-51). IGI Global.

Shelter Afrique, (2013) Annual Feasibility Report 2013. [Electronic Version]. Retrieved 2015, November, 7., from:

http://www.shelterafrique.org/wpcontent/uploads/2015/06/ENGLISH-SHELTER-AR-2013.pdf

Shiller, R. J. (2007).*Understanding recent trends in house prices and home ownership* (No. w13553). National Bureau of Economic Research.

Shleifer, A. (2005). Understanding Regulation. *European Financial Management*, 11(4), 439-451.

Singh, A. S., & Masuku, M. B. (2014). Sampling techniques & determination of sample size in applied statistics research: An overview. International Journal of Economics, Commerce and Management, 2(11), 1-22.

Sorens, (2017, January 10) Economic Theory – Consumer Sovereignty Supports Affordable Housing and Transportation. *Cities for Everyone.* Retrieved from;

Stone, M. E. (2006). What is Housing Affordability? The case for the residual income approach.

Stone, M., Burke, T. & Ralston, L. (2011). *The Residual Income Approach to Housing Affordability: The Theory and Practice*. AHURI Positioning paper No. 139. Swinburne: Monash research Centre.

Stone, M.E., Ralston, L. & Burke, T. (2010). *A Residual-Income Home- Purchaser Affordability Model*. Report for Victorian Department of Planning and Community Development. Melbourne: Institute for Social Research, Swinburne University of Technology

Unpublished MBA Dissertation. Nairobi: Strathmore University.

Valdez, R. (2009). *Towards a New Measure of Housing Affordability*. [Electronic version]. Seattle: Sightline Institute.

Venton, P. (2017). Pope Francis's Ethics for Democratic Capitalism and the Common Good. In *The Role of Integrity in the Governance of the Commons* (pp. 237-253). Springer, Cham.

Vuluku, G. &Gachanja, J. (2014). Supply Side Aspects of Residential Housing for Low Income Earners in Kenya. *Research in Applied Economics*, 6(3), 271-287.

Wachira, M. (31st July, 2018) Mombasa Countyplans to launch Sh200bn housing project in Sept. Business daily. Accessed on 10th Oct, 2018 from: https://www.businessdailyafrica.com/news/counties/Mombasa-plans-to-launch-Sh200bn-housing-project-in-Sept/4003142-4690008-y59ifxz/index.html

Walley, S. (2011). *Developing Kenya's Mortgage Market*. Conference paper.

Ward, M. L. (2013). *Inclusive Housing in Australia: A Question of Responsibility and Distributive Justice*. PhD thesis. Australia: Queensland University of Technology.

Warnock, V. C. & Warnock, F. E. (2008). Markets and Housing Finance. *Journal of Housing Economics*, 17(3), 239-251.

World Bank (2014). *Doing Business 2015: Going Beyond Efficiency*. (12th ed.). Washington DC: World Bank Group.

Yang, Z. & Shen, Y. (2008). The affordability of owner occupied housing in Beijing. *Journal of Housing and the Built Environment*, 23(4), 317-335.

Zhang, T. (2011). Theoretical Framework of Fair Distribution of Affordable Housing in China.

Appendix I: Letter of Consent

Ahmed Badawy,

Strathmore University,

info@strathmore.edu

(+254) (0)703-034000

+254) (0) 730-734000

Ole Sangale Road, off Lang'ata Road, in Madaraka Estate.

Nairobi, Kenya.

05thApril, 2019

Dear Respondent,

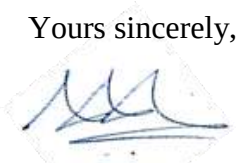
REF: REQUEST TO CONDUCT RESEARCH ON THE FACTORS AFFECTING HOUSING AFFORDABILITY

I am carrying out a research to determine the factors affecting housing affordability. This is in partial fulfillment of the requirement of Masters of BusinessAdministration at Strathmore University. This study has selected the housing industry in Mombasa Countyfor the

Research and your responses towards research question for the study is highly appreciated. This is an academic research and therefore, the information obtained during theresearch process will be used strictly for academic purposes and will be treated with utmostconfidentiality. Your kind support in this regard will be highly appreciated.

Thank you in advance,

Yours sincerely,



Ahmed Badawy.

APPENDIX II: INFORMED CONSENT FORM

Factors Affecting Housing Affordability In Kenya (Case Study Of Mombasa County)

PURPOSE OF STUDY

You are being asked to take part in a research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information.

The purpose of this study is to determine the factors affecting housing affordability in Mombasa CountyCounty.

STUDY PROCEDURES

Descriptive research design

- Survey method to get primary data
- Purposive sampling and simple random sampling
- Expert sampling

Primary data will be sourced and gathered using questionnaires administered to the target respondents. Primary data collection will involve both open and close-ended questions in the questionnaire. The questionnaires will be administered electronically via email and physically through actual administration in the form of an interview. This approach is chosen because it is affordable, time-saving and allows for in-depth data collection as it fosters high rates of personal responses.

RISKS

You may decline to answer any or all questions and you may terminate your involvement at any

time if you choose.

BENEFITS

There will be no direct benefit to you for your participation in this study. However, we hope that the information obtained from this study may be of value to understand and mitigate the factors affecting housing affordability in Mombasa CountyCounty, and to an extent to the entire nation and the world at large.

CONFIDENTIALITY

For the purposes of this research study, your comments will not be anonymous. Every effort will be made by the researcher to preserve your confidentiality including the following:

- Assigning code names/numbers for participants that will be used on all research notes and documents
- Keeping notes, interview transcriptions, and any other identifying participant information in a locked file cabinet in the personal possession of the researcher.

Participant data will be kept confidential except in cases where the researcher is legally obligated to report specific incidents. These incidents include, but may not be limited to, incidents of abuse and suicide risk.

CONTACT INFORMATION

If you have questions at any time about this study, or you experience adverse effects as the result of participating in this study, you may contact the researcher whose contact information is provided on the first page. If you have questions regarding your rights as a research participant, or if problems arise which you do not feel you can discuss with the Primary Investigator, please contact the **Strathmore Business School, Strathmore University Nairobi, Kenya.**

VOLUNTARY PARTICIPATION

Your participation in this study is voluntary. It is up to you to decide whether or not to take part

in this study. If you decide to take part in this study, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason. Withdrawing from this study will not affect the relationship you have, if any, with the researcher. If you withdraw from the study before data collection is completed, your data will be returned to you or destroyed.

CONSENT

I have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

Participant's signature _____ Date _____

Investigator's signature _____ Date _____

Appendix III: ETHICAL REVIEW AND NACOSTI DOCUMENTS

Strathmore UNIVERSITY

18th April 2019

Mr. Badawy, Ahmed
ab@gcaf.co

Dear Mr. Badawy,

REF Protocol ID: SU-IERC0383/19

FACTORS AFFECTING AFFORDABILITY HOUSING IN KENYA: CASE STUDY OF MOMBASA

We acknowledge receipt of your application documents to the Strathmore University Institutional Ethics Review Committee (SU-IERC) which includes:

1. Study Protocol submitted 2th April 2019
2. Cover letter listing all submitted documents 2th April 2019
3. Proposal declaration Page signed by supervisors 2th April 2019

The committee has reviewed your application, and your study *"Factors affecting affordability housing in Kenya: Case Study"* has been granted approval.
This approval is valid for one year beginning 18th April 2019 until 17th April 2020

In case the study extends beyond one year, you are required to seek an extension of the Ethics approval prior to its expiry. You are required to submit any proposed changes to this proposal to SU-IERC for review and approval prior to implementation of any change.

SU-IERC should be notified when your study is complete.

Thank you

Sincerely,

STRATHMORE UNIVERSITY INSTITUTIONAL ETHICS REVIEW COMMITTEE (SU-IERC)
18 APR 2019
TEL: +254 (0)703 034 000
P. O. Box 59857 - 00200
NAIROBI - KENYA

Prof Florence Oloo
Secretary
Strathmore University Institutional Ethics Review Committee

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349,3310571,2219420
Fax: +254-20-318245,318249
Email: dg@nacosti.go.ke
Website : www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref No. **NACOSTI/P/19/41146/29903**

Date: **21st May, 2019**

Ahmed Alwy Ahmed Badawy
Strathmore Business School
P.O. Box 59857 - 00200
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Factors affecting housing affordability in Kenya: Case study of Mombasa"*** I am pleased to inform you that you have been authorized to undertake research in **Mombasa County** for the period ending **21st May, 2020.**

You are advised to report to **the County Commissioner and the County Director of Education, Mombasa County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Mombasa County

The County Director of Education
Mombasa County

Appendix IV: RESEARCH QUESTIONAIRE

The retorts given herein will be used solely for academic purposes, your response is highly valued to this regard. Please respond to the following questions by ticking on the appropriate box **(√)** for only **one** choice to indicate the degree of agreement or disagreement that fits the situation in your opinion of factors affecting housing affordability in Mombasa CountyKenya that best fit for each of the following statements.

A. BACKGROUND INFORMATION

Please take a few moments to give us some background information.

Description: This section aims at obtaining background information about household owner, in an effort to understand better on the nature of factors affecting housing affordability in Mombasa CountyKenya.

Instructions: Please select the most appropriate response to the following statements as householder owner:

1. **Type of Household**

□ Borrower

□ Loanee

□ Other

2. Age of your Household……years

3. Number of family members with income

□ One Member

□ Two Members

□ Three Members

□ More than 3 Members

4. Number of Dependents outside nuclear family

□ One Member

□ Two Members

□ Three Members

□ More than 3 Members

1. **Years of Schooling……**

2. **How many bedrooms rooms should a house for an ideal family have?**

□ One Bedroom

□ Two Bedrooms

□ Three Bedrooms

□ More than 3 Bedrooms

3. **What should be the cost of the house selected on Question 6 above, for it to be affordable?**

Ksh……..

B. GOVERNMENT POLICIES

Description: This section aims at obtaining information about how government policies will affecthousing affordability in Mombasa CountyKenya.

Instructions: Please select the most appropriate response to indicate your level of agreement to the following statements:

No.	Items	1 Strongly Disagree	2 Disagree	3 Neither Agree nor Disagree	4 Agree	5 Strongly Agree
1	Government's tax deductibility for housing loans up to Ksh. 150k/yr had advantage towards housing affordability					
2	Government participation with the private sector has facilitated affordable housing					
3	Government's housing allowance has benefited you in terms of housing affordability.					
4	Government provides end-user finance to access					

	affordable housing					
5	Government provides conducive infrastructure to facilitate investment in affordable housing					
6	Government intervenes in the market to aid access to affordable housing					
7	Political environment in the country has affected affordable housing					
8	VAT exemption on low income housing project has benefited you					

C. COST OF FINANCING

Description: This section aims at obtaining information about how cost of financing will affect housing affordability in Mombasa CountyKenya.

Instructions: Please select the most appropriate response to indicate your level of agreement to the following statements:

No.	Items	1 Strongly Disagree	2 Disagree	3 Neither Agree nor Disagree	4 Agree	5 Strongly Agree
1	The loan-to-value ratio greatly affects housing affordability.					
2	Housing affordability is affected by the mortgage interest charged by the bank					
3	The period of mortgage repayment highly affect housing affordability					
4	The insurance premiums on home loans greatly affect housing affordability					
5	The mount of deposit/down payment charged by the bank highly affect affordable housing					
6	The availability of finances highly affect the final cost of housing					
7	Stringent rules by financial institutions to access to finance highly affect the cost of financing					
8	The minimum monthly payment on mortgage highly affect the final cost of housing					
9.	Accessibly to mortgages affect housing affordability e.g. government employees access					

	mortgage facilities easier than private entities employees.					

D. COST OF LAND

Description: This section aims at obtaining information about the cost of land that will affect housing affordability in Mombasa CountyKenya.

Instructions: Please select the most appropriate response to indicate your level of agreement to the following statements:

No.	Items	1 Strongly Disagree	2 Disagree	3 Neither Agree nor Disagree	4 Agree	5 Strongly Agree
1	Affordable constructions such as accessibility to land greatly affect access to homeownership					
2	The minimum land price per acre will highly affect the affordability to own house.					
3	Present land use will highly affect the cost of land when purchasing for construction of affordable houses					
4	Property transfer costs hinders housing affordability in most cases					
5	The developer's profit margins highly affect housing affordability					
6	The availability of title deed greatly affect the cost of land					
7	The minimum monthly payment on mortgage highly effect the final cost of the land					
8	The minimum monthly payment on County ground rate will highly effect the purchase of land					

E. HOUSING INPUT COSTS

Description: This section aims at obtaining information about the housing input costs that will affect housing affordability in Mombasa CountyKenya.

Instructions: Please select the most appropriate response to indicate your level of agreement to the following statements:

No.	Items	1 Strongly Disagree	2 Disagree	3 Neither Agree nor Disagree	4 Agree	5 Strongly Agree
1	The desired number of rooms will greatly affect the affordability of housing					
2	The number of people expected to live in the house will highly affect the affordability of housing					
3	The desired housing facilities/amenities will affect the affordability of housing					
4	The preferred locality of desired house will greatly affect the affordability of housing					
5	The preferred housing design will highly affect its affordability					
6	The size of the house and number of bed rooms will greatly affect its affordability					
7	The availability of local materials for construction will highly reduce housing development.					
8	The availability of local personnel for construction will highly reduce housing development.					

F. AFFORDABLE HOUSING

Description: This section aims at obtaining information about the affordable housing that will affect housing affordability in Mombasa CountyKenya.

Instructions: Please select the most appropriate response to indicate your level of agreement to the following statements:

No.	Items	1 Strongly Disagree	2 Disagree	3 Neither Agree nor Disagree	4 Agree	5 Strongly Agree
1	Income distribution affects housing affordability in Mombasa CountyCounty					
2	Low confidence in the economy affects housing affordability					
3	Concentration/Density of housing units of in an area affects housing affordability					
4	Reduced profitability from other forms of investment *affects housing affordability					
5	Psychological desire for home owners affects housing affordability					
6	Housing affordability is a household income problem made worse by government restrictions on housing supplies					

7	More housing in established Greenfield areas and will reduce housing costs hence increase housing affordability					
8	Housing policy is factored with regards to supply side costs rather than demand side affordability of households					

THANK YOU VERY MUCH FOR TAKING THE TIME TO COMPLETE THIS SURVEY!

Appendix V: Work Schedule of Research

Activity / Month	July 2018	August 2018	September 2018	March 2019	April 2019	May 2019
Research on topic of proposal.	■					
Concept Paper write-up.		■				
Proposal Write up			■			
Proposal Defense				■		
Data Collection					■	
Write-up and editing						■

Appendix VI: BUDGET SCHEDULE OF THE RESEARCH

ITEMS	**COST (KSH.)**
Data collection expenses	50,000
Printing and binding	4000
Transport	60,000
Internet usage	7500
Miscellaneous	10,000
Total	**131,500**