



# Factors Influencing Housing Affordability in Kigali City, Rwanda

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#### **Abstract**

Housing affordability and access remain serious policy issues globally. They are even more serious countries in the south as Rwanda. The study aimed at analysing factors that influence housing affordability in Kigali City in Rwanda. Primary data was collected through questionnaire survey dispersed to households, key informant interviews and observations. Secondary data was obtained through a review of literature. The study results revealed that the level of housing supply in Kigali City is low amidst high demand in the city. In addition, it established the significant factors that influence housing affordability and their level of influence. In addition, the study established that although cost and availability of land is significant, it is none the less; not the most significant. The study concluded that a rethinking of policy options is important particularly with respect to development control measures that are likely to contribute to reduction in housing supply.

Keywords: Affordability, housing, Kigali, Rwanda

#### INTRODUCTION

Housing affordability remains a controversial concept given the lack of a global consensus on both the definition and measurement. This is despite the general recognition of housing as a fundamental human right and essential for individual, family and community well-being. In addition, it is not in doubt that globally, housing is largest expenditure for many households. However as Bieri (2016) argues housing affordability has not received the attention required at all levels. Interestingly, he posits that in the USA the focus has been on largely been on other welfare programs such as social security and health care. However, in Rwanda, there have been many policy initiatives towards provision of affordable housing (Ibarinda, 2018).

The right to adequate housing and land is one of the pillars of sustainable development. With the increasing urbanization, some 1.6 billion people are living in sub-standard housing, a hundred million are homeless and around a quarter of the world's population is estimated to be landless. In developing countries, the number of people living in slums is 828 million; all of them lack access to portable water sources and adequate sanitation and live in distressed housing conditions without sufficient space or secure tenure. More than 60

million new slum dwellers have been added to the global urban population since 2002 (Kothari and Shivani, 2012). Rwanda unlike many countries faces enormous challenges in the provision of affordable housing partly due to its recent past as well as accelerated and uncontrolled growth urbanization (Muhozi, 2008).

Since early 2000 most of the policies initiatives have been aimed at providing access to affordable housing (Rwanda Vision, 2020; City of Kigali, 2002). However despite the numerous policy initiatives, housing affordability remains a dream. As access to and provision of affordable housing continue to be constrained by rapid urban population increase. For instance, since 1990 Rwanda has witnessed increased rural urban migration. Thus increase from 3% in 1970 to 5.6 % in 1991, the urbanization rate has increased to 16.9 % in 2002 (National Census Service [NCS], 2002) and around 19.3 % currently. Thus despite numerous policy initiatives - problems of uncontrolled urban growth; housing and commercial infrastructure remain. In addition, as (Manirakiza, 2012) observed rural-urban migration continue to increase the population size of a city like Kigali City further exacerbating problems of land and housing scarcity. In this

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paper our main aim was highlight the factors that influence housing affordability in Kigali City. In the process, determine the level of housing supply and demand and establish the contribution and/ or significant factors and contribution of each to housing affordability.

# **Housing Affordability**

Housing is viewed diversely for instance, Bello (2003), sees it an investment, while Ozo (1990) as a driver for saving and formation of capital in an economy, while for Lawrence (1995) it is a consumable item. In addition, housing is viewed as being more than a dwelling unit but one that incorporates diverse factors such as health, security, privacy, neighbourhood and social relations, status, community facilities and services, access to job, and control over the environment. Others like Salau (1992) see housing as constituting the physical environment in which the family and society's basic units must develop. Housing structures are enclosures in which people are housed for lodging, living accommodation or even work places. This position sits well with Abrams (1964) that views housing not only as shelter but also part of the fabric of the neighbourhood life and of the whole social milieu. It touches upon many facets of economic activity and development.

Although important, access to housing remains elusive for many given their income levels. This brings to focus the issue of affordability. And as Bieri (2018) observes housing affordability presents itself as a function of both housing demand and supply factors. On the demand side, affordability depends on household income, accessibility and credit. While on the supply side, it depends on factors such as cost of construction, land use regulations and rent controls among others. In general, affordable housing constitutes the total costs (rents, mortgages, basic utilities, and maintenance) that costs between 30% and 35% of a household's income (Hulchanski, 1995 Bieri, 2018 and Ibarinda, 2019). On the other hand, Bhatta (2010) view affordable housing as housing which is deemed affordable to those with a moderate household income.

However, there is a lack of consensus on definition and measurement of housing affordability thus the various definitions. For instance, others like Quigley and Raphael (2004) see affordability as jumbling together in a single term a number of disparate issues: the distribution of housing prices, the distribution of housing quality, the distribution of income, the ability of households to borrow, public policies affecting housing markets, conditions affecting the supply of new or refurbished housing, and the choices that people make about how much housing to consume relative to other goods. MacLennan and Williams (1990) see it as being concerned with securing some given standard of housing at a price or a rent which does not impose, in the eye of some third party (usually the government) an unreasonable burden on household incomes. Thus, households should be able to occupy housing that meets well established social housing norms of adequacy, given household type and size, at a net rent which leaves them enough income to live on without falling below some poverty standard (Bramley, 1990). In general, all these definitions attempt to invoke some or all of the three standards on socially acceptable housing cost and quality of life (King, 1994).

## Factors influencing housing affordability

A review of existing literature revealed that among the key factors that influence housing affordability are market forces (Yates et al. 2008), this is demonstrated by the interaction of both demand and supply factors that influence the price of housing and in turn affects affordability. The interactions of the market forces are as O'Flynn (2017); are influenced by among others household growth (in turn affected by natural increase, immigration, household formation); real incomes; real wealth; tax concessions to both owner occupied and rental housing; concessions to first home buyers; return on alternative investments; cost and availability of finance for housing; and the institutional structure affecting housing finance. Yates et al. (2017) and O'Flynn (2011) further assert that other factors that influence housing affordability include: cost and availability of land development processes and policies, infrastructure costs (including development charges), the cost of construction, costs of professional services; and property related taxes.

Factors influencing affordability are varied; for instance, Mostafa (2008) indicate that it is house prices and rental costs that influence housing affordability. On the other hand, Mulliner and Maliene (2010) see interest rates and mortgage as



the key influencing factors. Winston et.al. (2008) see availability of rented accommodation and affordable home ownership as the main factors influencing housing affordability. While those like Robertson, (2006), Winston (2010) and Khobetsi (2017) concluded that affordable rent, safety and transport are the main factors influencing housing affordability. Others like Fischer et al. (2009) see housing affordability as being influenced by availability of employment opportunities; while Mulliner and Maliene (2010) see access to schools as a determinant of housing affordability; Zhu et al. (2005) however contend that access to health service is a key influencing affordability. Quality of housing has however been viewed by Maliene and Malys (2009) as key determinants of housing affordability while Mulliner and Maliene (2011) view availability of leisure facilities within accessible range as a determinant of housing accessibility.

In addition, poor access to child care facilities may negatively impact on affordability since households may subsequently have to travel greater distances to access such services or it may ultimately affect a parents ability to go out to work if such services are inaccessible (Mulliner and Maliene, 2010) waste management facilities (Maliene and Malys, 2009) energy efficiency (Pullen et al., 2010; Kirbet 2008, Larson et al., 2008 and Winston and Eastaway, 2008) green open public spaces (Zhu et al., 2005; Winston, 2010; Maliene and Malys, 2009) and shopping facilities (Samuels, 2004); Zhu et al., 2005) among others. It is however, our contention that the contribution of each of the factors vary depending on the country and /or within a country.

#### RESEARCH METHODS

Across sectional study design approach with three case studies was adopted. The three case study areas included: Nyarugenge, Kicukiro and Gasabo. The population densities of the three districts were as follows: Nyarugenge (2,124 inhabitants/ km²), Kicukiro (1,911 inhabitants/ square km), and Gasabo (1,234 inhabitants/ square km) (NISR, 2012). The design is considered inexpensive, time efficient and representative as the sample is taken from across a wide section of the population, the prevalence of outcomes can be predicted from cross sectional studies. In addition, the design facilitates quick and easy data

gathering. This design is appropriate within the specific cross-section of Nyarugenge, Kicukiro and Gasabo districts. The common characteristic for the study was households which were either property owners or tenants. Due to the limitations imposed on the research, all households in Kigali City were not covered. The sample frame was constructed according to the number of households in each district. Property owners were mostly targeted because they are believed to have a better understanding of the area than tenants.

In order to undertake sampling, the study adopted the explanation of a household by Ellis (1993) that referred to a household as a group of individuals belonging in the same residential place where distinct activities of production and consumption occur simultaneously. The selected areas are within the three districts of Kigali City where 1250 property owners and tenants were selected. A sample size of 93 households from a population of 1250 was determined, proportionately apportioned as per the population and randomly selected for interviews from each stratum.

Various approaches were employed for data collection that included the use of a semi-structured questionnaire, key informant interviews were used to collect data that could not be captured by the survey questionnaire and hence the key informant interviews complemented the questionnaire and provided for triangulation of the study results at the earliest opportunity. The key informants were selected on the basis that they held a specific kind of information that could only be obtained from them by virtue of their rank in society or role in the housing sector management. The use of a oneon-one conversational approach for key informant interviews facilitated the collection of rich, reliable and accurate data. Focus groups discussions were used to help corroborate data obtained through key informant interviews and observation. Observations were employed to collect data related to the physical state of houses and verified some of the information obtained by the survey questionnaire, key informant interviews, and focus group discussions. Secondary data was obtained through desk review as an important part of the assessment by collecting, organizing and synthesizing existing information. This study reviewed documents at both global and country levels related to the housing affordability from published documents and reports from different



institutions. Data analysis was undertaken using Statistical Package for Social Sciences and the Ordinary Least Squares (OLS) method to estimate the significant factors that influence housing affordability in Kigali City and the contribution of each factor in housing affordability in Kigali City. Descriptive statistics was used to provide summaries about samples and the measures of the study variables. Correlation analysis was used on the variables both dependent and independent variables to show the relationship between the variables. Regression analysis was used in this study to determine the contribution of each factor to housing affordability.

#### **RESULTS AND DISCUSSION**

The study results were as follows:

#### Characteristics of the household

The study results among others revealed that 75 and 25 percent of household heads were male and female respectively. The results further revealed that most of the household heads were aged between 46 and 55 years which is about 36.6%, followed by respondents aged between 36 and 45 which is about 35.5% and respondents aged of 56 and above were about 18.3% and final respondents aged between 21 and 35 were about 9.7%.

In terms of education, results of the study revealed that respondents have different levels of education; 29% are at secondary level, 24.7% have a bachelor degree, 21.5% primary school, and 15.1% Master level followed by 5.4 with Ph.D. and finally 4.3% those who have not attended any school. This results contrasts with the results Rwanda Demographic and Health Survey 2020 that confirms that there has been improved in literacy levels have increased since 2015 when only 80 per cent of the population to about 85 percent of the population. It further emerged that 55.9% of respondents are married while 29% of respondents are single, 11.8% widowed and 4.3 have divorced.

The results further indicated that household sizes varied between 1 and 11 which constitutes 4.3% and 1.1% respectively. The majority of households are constituted by 3, 4 and 5 people who represent 15.1%, 30.1% and 22.6% respectively. The respondents argued that this is due to the fact that the area of the study is mainly composed by the young generation and those who are married are

no longer willing to have many children.

On income levels, it merged that 45.2% had a monthly income comprised between 70,000 Rwf and 260,000 Rwf, while 35.5% had an income comprised between 260,000 Rwf and 650,000 Rwf followed by 9.7% of households who had an monthly income between 760,000 Rwf and 1,000,000, 6.5% of respondents who had an income comprised 1,100,000 Rwf and 1,900,000 Rwf and finally 3.2 % gained a monthly income of 2,000,000 Rwf and above (Note: 1USD equivalent to 1030 Rwf). On the other hand, the incomes were mainly from commerce (35.5%), public sector salary (18.3%), part time employee (15.1%), private sector employee (12.9%), technicians (10.9%), agriculture (4.3%) and mining (3.2%).

# Housing supply and demand

One of the central issues when measuring housing affordability is the interaction in the property market between supply and demand sides (Bieri, 2015). In Kigali, it emerged that there is a shortage of housing in Kigali where most of respondents 48.4% said that housing supply is low' followed by 39.8% of respondents who said that housing supply is very low'. A small number of respondents 8.6% said that housing supply is high while 3.2% respondents said that housing supply is very high.

On the other hand, most respondents were of the view that housing demand in Kigali City is high which is represented by 47.3% of respondents followed by 41.9% of respondents who believed that the level of housing demand in Kigali is very high followed by 7.5% of respondents who said that housing demand in Kigali is low and finally 3.2% of respondents who said that housing demand in Kigali City is very low.

# Significant factors that influence housing affordability

A review of literature on factors influencing in section 4 above revealed that there are many factors influencing housing affordability. However, the contribution and significance of each of the factors needed to be established. This is partly attributed to the fact that government policies and laws play an important role in the influencing affordability as has been argued by various authors (Bieri, 2016; Diamond et al; 2015; Diamond and McQueen, 2015, Jeremy and Helland; 2015). We thus used T- statistic and kept in Eckert et al., (1990) explanations with respect to sample size.



**TABLE 1**Regression model on the factors influencing housing afford-ability in Kigali City

Variable	Coefficient	Std. Error	T-Statistic	Prob.
	154.5264	168.1246	0.919118	0.3611
Household Growth	-0.004574	0.276831	-0.016522	0.9869
Income	-0.329388	0.892888	-0.368902	0.7133
Wealth	-0.281653	0.927261	-0.303747	0.7622
Tax concessions to both owner occupied and rental housing	-0.395624	1.775123	-0.222871	0.8243
Concessions to first home buyers	-2.524112	8.382438	-0.301119	0.7642
Return on alternative investments	6.142073	16.27460	0.377402	0.7070
Cost and availability of finance for housing	-2.925241	5.344233	-0.547364	0.5858
Institutional structure affecting housing finance	-0.876993	2.555659	-0.343157	0.7325
The cost and availability of land	1.165682	1.453211	0.802142	0.4251
Land development processes and policies	0.160230	2.028385	0.078994	0.9373
Infrastructure costs	-0.632080	2.410337	-0.262237	0.7939
The cost of construction	0.121465	1.089249	0.111513	0.9115
Costs of professional services	-0.194512	0.973293	-0.199849	0.8422
Property related taxes	-0.616109	2.204531	-0.279474	0.7807
House prices and rental costs	-0.192124	0.198491	-0.967922	0.3364
Interest rates and mortgage availability	-0.293728	0.156614	-1.875491	0.0648
Availability of rented accommodation and affordable home ownership	2.643593	1.328639	1.989700	0.0499
Safety	1.725938	1.002747	1.721209	0.0889
Public Transport	-2.164332	0.718802	-3.011028	0.0034
Employment	-5.856597	4.730226	-1.238122	0.2192
Schools	4.124605	2.910343	1.417223	0.1602
Health service	0.829810	0.625838	1.325918	0.1885
Quality of housing	-0.664437	1.951644	-0.340450	0.7344
Leisure facilities	-0.504608	0.265929	-1.897532	0.0612
Child care	0.287859	0.426579	0.674808	0.5016
Waste management facilities	0.121336	0.151438	0.801229	0.4252
Energy efficiency of housing	0.326715	0.275766	1.184758	0.2394
Shopping facilities	-0.368341	0.144515	-2.548815	0.0126

Source: Ibarinda, 2019



The results of the analysis are as depicted in **Table 1.** The results of the analysis revealed that 17 out of 28 factors were significant in influencing housing affordability and they include: household growth, income, wealth, tax concessions to both owner occupied and rental housing, concessions for first home buyers, cost and availability of finance, institutional structure affecting housing finance, infrastructure costs, cost of professional services, property related taxes, house prices and rental costs, interest rates and mortgage availability, public transport, employment, quality of housing, leisure facilities and shopping facilities.

The results of t-statistic confirm the findings in the literature review and the findings of field survey where all those factors were found and explained. Those factors that influence housing affordability in Kigali City are related to social, economic, environmental factors and household income. Specifically, factors listed table 5 below with correlation co-efficient were found be significant.

A correlation analysis was performed on both variables; housing affordability as dependent and factors influencing housing variable affordability as independent variables (Table 2). This statistical analysis was performed for the purpose of identifying the relationship between housing affordability and different factors of housing as per the literature review and field work results. The coefficient of correlation is represented by R and the value of R ranges from -1 to +1 with both extremes indicating a perfect correlation. A positive sign of the correlation coefficient between the dependent variable and independent variable denotes a strong relationship between them (Eckert et al., 1990). The results on the correlation analysis for the contribution to housing affordability are in conformity with these literatures where the housing sector is labelled as a major contributor to the national economy in terms of finance. In addition, housing influences the social, political and environmental aspects of the society.

Based on the above results, there are several correlation coefficients whereas 0.81955 for income, this means that any change for income

leads to 81.95% change on housing affordability. The coefficient 0.44940 for wealth which means that any change in wealth leads to 44.94% on housing affordability. Concessions to first home buyers' changes will change housing affordability by 33.83% as indicated by the coefficient 0.33839. The coefficient 0.30720 of return on alternative investments means that any change for return on alternative investments leads to 30.72% change on housing affordability. 0.059401coefficient of cost and availability of finance for housing means that the change on cost and availability of finance for housing leads to change of housing affordability by 59.40%.

If institutional structure affecting housing finances changes, this will affect housing affordability by 76.038% based on the coefficient 0.76038. The coefficient 0.184378 for the cost and availability of land means a change of housing affordability by 18.43%. If house prices and rental costs change, housing affordability will change by 23.54% as indicated by the coefficient R= 0.23543. The coefficient 0.97383 for availability of rented accommodation and affordable home ownership means a change by 97.38% on housing affordability. The coefficient 0.31353 for safety means that any change in safety will change housing affordability by 31.35% and 0.36470 for public transport means that the change on public transports will change by 36.47% the housing affordability. The coefficient 0.102428 for employment means that any change in employment will change housing affordability by 10.24%. The coefficient 0.138421 for schools means that any change in schools will change housing affordability by 13.84%.

Moreover, the coefficient 0.96233 for quality of housing means that any change will contribute to housing affordability by 96.23%. The coefficient 0.176458 for child care means that any change in child care will change housing affordability by 17.64%, and finally the coefficient 0.236303 for energy efficiency of housing means that housing affordability will change by 23.63%.

As per the above analysis, the factors which contribute to housing affordability according to their correlation coefficients are as ranked in **Table 3**.



**TABLE 2**Correlation Analysis

Variables	Coefficient R
Housing afford-ability	1.000000
Household Growth	-0.090481
Income	0.081955
Wealth	0.044940
Tax concessions to both owner occupied and rental housing	-0.045818
Concessions to first home buyers	0.033839
Return on alternative investments	0.030720
Cost and availability of finance for housing	0.059401
Institutional structure affecting housing finance	0.076038
The cost and availability of land	0.0184378
Land development processes and policies	-0.209094
Infrastructure costs	-0.154326
The cost of construction	-0.064007
Costs of professional services	-0.150705
Property related taxes	-0.045243
House prices and rental costs	0.023543
Interest rates and mortgage availability	-0.192680
Availability of rented accommodation and affordable home ownership	0.097383
Safety	0.031353
Public Transport	0.036470
Employment	0.102428
Schools	0.0138421
Health service	-0.007287
Quality of housing	0.096233
Leisure facilities	-0.074132
Child care	0.0176458
Waste management facilities	-0.071493
Energy efficiency of housing	0.0236303
Shopping facilities	-0.025015

Source: Ibarinda, 2019.



**TABLE 3** Factors that contribute to housing afford-ability

Ranked	Factor	Correlation
1	Availability of rented accommodation and affordable home ownership	0.097383
2	Quality of housing	0.096233
3	Income	0.081955
4	Institutional structure affecting housing finance	0.076038
5	Cost and availability of finance for housing	0.059401
6	Wealth	0.044940
7	Public transport	0.036470
8	Concessions to first home buyers	0.033839
9	Safety	0.031353
10	Return on alternative investments	0.030720
11	Energy efficiency of housing	0.0236303
12	House prices and rental costs	0.023543
13	Cost and availability of land	0.0184378
14	Child care	0.0176458
15	Schools	0.0138421
16	Employment	0.0102428

Source: Ibarinda, 2019

Energy costs can contribute substantially to the overall financial burden of housing, and can make housing unaffordable for many families. Improving energy efficiency in affordable housing can have many energy, environmental, and economic benefits as the results of the correlation analysis confirm with the coefficient R= 1.184758.

Availability of rented accommodation and affordable home ownership with the coefficient R=0.97383 means that there is a strong relationship between the dependent and independent variables. This factor has a greater contribution on housing affordability. As mentioned in the literature review, housing affordability is often expressed in terms of rent, and supply constraints may limit the ability of an area to provide housing for those who need it.

The coefficient R= 0.96233 for quality of housing explains the contribution of quality of housing to housing affordability. A home is meant to be a safe and secure shelter for individuals and families, fulfilling the basic need to have a roof over your head. This is in accordance with the literature review whereby housing premises must be set out according to the conditions of that locality and must meet the

established technical and hygienic requirements.

The coefficient R= 0.76038 for institutional structure affecting housing finance affordability as it is the case for cost and availability of finance for housing with R= 0.059401 show a strong relationship with housing affording whereby in accordance to the literature review, poor performance of the formal financial sector, absence of effective linkage between community finance and these financial systems has an impact on economic factors i.e. return on alternative investments with its coefficient R= 0.030720, employment with the coefficient R=0.102428 and wealth with the R= 0.044940 of households. Consideration is given to the resources that households bring to local authorities and formal financial institutions for home ownership. In the case of home buyers, concerns about affordability are typically about the accessibility of home ownership, or the ability of younger households to gain access to home ownership for the first time. So, house ownership is based on the ability of a person to pay for house (Habib et al., 2010).

The results of the correlation analysis for house prices and rental costs (R=0.023543) confirmed



the contribution of house prices and rental costs to housing affordability. It is clear from existing literature that rent is important in affecting affordability as it determines how much is required to pay for housing. For the case of prices for home buyers, concerns about affordability are typically about the accessibility of home ownership or rent a house. House ownership is based on the affordability of a person to pay for house and this explains why those factors contribute to housing affordability.

Concessions to first home buyers also contributes to housing affordability in Kigali with R= 0.033839. According to the information of respondents, getting caught up in the excitement of purchasing your first home, you may not be aware of your state taxation obligations and entitlements. So, it is important to know what these are to ensure that you budget for any taxation liabilities and do not get caught out with any unexpected taxes or fees.

The cost and availability of land ( R= 0.184378) often become a matter of economic significance whenever people begin to use them, compete with others for their uses and control, put a price or assume the costs associated with land development. The results of the correlation analysis confirm their contribution to housing as the findings of the survey show. Some of the key informants said that;

"if one bought a plot of land cheaply a few years ago, the same property has gone up three fold or even more and some residents have opted for the remotest neighbourhoods where they can easily acquire cheaper land or houses. Having seen Kigali City over decades, some residents narrate that this city is growing at high speed with magnificent houses occupying lands that in last few years were hosting forests and wild animals".

Child care is one of the factors that contribute to housing affordability with R= 0.176458. As explained with the findings of the literature review, poor access to facilities for child care may negatively impact on housing affordability. Affordability can be experienced by household types in different ways; that is, through the employment, transport, health or safety, and other consumption trade-offs that have to be made by singles, sole parents and couples with children as they adapt their circumstances to high housing costs and/or low income.

#### CONCLUSION AND RECOMMENDATIONS

This paper set to analyse the factors that influence housing affordability in Kigali, Rwanda. In the venture, it had two hypotheses: i) the null hypothesis being that the cost and availability of land is not the most important factor influencing housing affordability in Kigali; ii) the alternative hypothesis was that the cost and availability of land is the most important factor influencing housing affordability in Kigali. Thus based on the results, the correlation coefficient of 0.059401 of cost and availability of finance for housing, showed that the cost and availability of land is not the most important factor influencing housing affordability in Kigali was supported since though it was found to be one of the significant factors that influence housing affordability in Kigali City, it is not the most important. The alternative hypothesis which says that the cost and availability of land is the most important factor influencing housing affordability in Kigali was refuted.

The study results contradict the often held view that availability and cost of land is the most important factor influencing housing affordability. This implies a need to rethink policy directions if the government of Rwanda prioritizes access to affordable housing for her citizens; it will thus shift gears to addressing access to finance both for development and mortgage – ensuring that property market is more vibrant. Besides, the existing channels that give access to credit have shown their limits in Rwanda in view of the fact that the limited mortgage sources coupled with high cost resulting from the process effectively disqualifies the average middle-income earners, a category in which most government employees fall.

In addition, the policy makers will further need to closely look at household growth with a view to ensuring a predictable growth to facilitate appropriate innovative interventions. It must be appreciated that left unchecked it would contribute to rapid growth of informal settlements. On the other hand, deliberate interference with natural household growth may not be tenable in the immediate future. The government however, must address inequality in infrastructure and service provision is minimized and facilitate job creation in rural and peri-urban areas.



In conclusion, the findings although interesting cover a limited area and scope. This essentially limits generalization of the results and calls for further research to further verify the study results. It is thus our recommendation that academics and other researchers be encouraged to undertake studies on housing with the aim of providing answers to the many questions that this study left unanswered.

#### **CITED REFERENCES**

**Abrams, C. (1964).** Housing in the modern world. Man's struggle for shelter in an urbanizing world. *Africa Today. Journal of Urbanization*, 11(8), 12-14.

**Bhatta, B. (2010).** *Analysis of urban growth and sprawl from remote sensing data.* Heidelberg: Springer.

**Bramley, G. (1990).** *Access, affordability and housing need.* London: School of Advanced Studies, University of Bristol.

**Bramley, G. (1994).** An affordability crisis in British housing: Dimensions, causes and policy impact. *Housing Studies*, 9 (1), 103–124.

**City of Kigali. (2002).** Kigali economic development strategy. Kigali: Rwanda, Kigali, Local Government.

**Diamond, R. & McQuade, T. (2015).** Who wants affordable housing in their backyard? An equilibrium analysis of low income property development. *Journal of Political Economy, 127(3), 1-86.* 

Ellis, R. (1993). Variability and the natural order hypothesis. . Beyond the monitor model. Boston: Heinle and Heinle.

**Fisher, E. (2009).** Amenity based housing affordability indexes. *Real Estate Economics*, 37(4), 705-746.

**Habib, A. E. (2010).** Relationship between job satisfaction, job performance attitude toward work and organizational commitment. *European Journal of Social Sciences*, 18(2), 257-267.

Hulchanski, J.D. (1995). The concept of housing

affordability: six contemporary uses of the housing expenditure-to-income ratios. *Housing Studies*, 10(4), 471-491.

Jeremy, R. Groves. & Eric Helland. (2002). Zoning and the distribution of location rents: an empirical analysis of Harris County. *Journal of Land Economics*, 78(1), 28-44.

**Khobetsi, L.** (11/25/2011). *Namibia invests in education*. Windhoek: MCA.

**Kibert, C. J. (2008).** Sustainable construction: green building design and delivery, 5th edition. New York: Wiley Publishing company.

**Kigali City Council. (2013).** *Kigali City development plan 2013-2018.* Kigali: Rwanda, Kigali, Local Government.

**Kothari, M. & Chaudhry, S. (2012).** Housing, land and sustainable development. Canelones: Social Watch.

Kupeka, A. M. C. (2013). Factors influencing sustainability of housing projects in Kenya, Nairobi. A case of KCB Simba Villas Estate Embakasi Project. (Unpublished master's thesis). University of Nairobi, Nairobi.

Larsen, S.Z.L., Kuznetsov, Y., McPhersond, A., Hatfield, W.G. & Sandmeyer, S. (2008). TY3 GAG3 protein forms ordered particles in Escherichia coli. *Virology*, 370(2), 223-227.

**Lawrence**, **R.J.** (1995). Housing quality: An agenda for research and practice. Chichester: John Wiley and Sons.

**Leary, M., et al. (2013).** A measurement instrument to evaluate teachers assessment for learning classroom practices. *The International Journal of Educational and Psychological Assessment*, 14(2), 40-62.

**Lerman, D. & Reeder, W. J. (1987).** The affordability of adequate housing. *AUEUEA Journal*, 15 (4), 398-404.

**Luffman, J. (2006).** *Measuring housing affordability.* Canada: Perspective.

Maliene, M. A. (2013). Austerity and reform to



affordable housing policy. *Journal of Housing and the Built Environment*, 28, 397-407.

Maliene, V., & Malys, N. (2009). High quality housing: A key issue in delivering sustainable communities. *Journal of Building and environment*, 44, 426-430.

Manirakiza, V. (2012, April). Urbanization issue in the era of globalization: perspectives for urban planning in Kigali. Paper presented at the fourth annual conference proceedings. Social Studies for Community Cohesion and Sustainable Development, Kigali.

Government of Rwanda (2008). National urban housing policy for Rwanda. Kigali: Government of Rwanda.

Mostafa, A. (2008). Rental housing provision based on affordability of the lower populace: The Case of Hong Kong. (Unpublished Phd thesis). . Hong Kong Polytechnic University, Hong Kong.

Muhoza, N. D., Broekhuis, A. & Hooimeijer, P. (2009). Demand and unmet need for means of family limitation in Rwanda. *International Perspectives on Sexual and Reproductive Health*, 35(3), 122–130.

Mulliner, E. and Maliene, V. (2010, November). The meaning and measurement of housing affordability. Proceedings of the 2<sup>nd</sup> International Conference on Advanced Construction, Kaunas.

National Census Service [NCS]. (2002). *General Census of population and housing*. Kigali: Ministry of Finance and Economic Planning.

National Institute of Statistics of Rwanda (NISR). (2012). *Population and housing census* Kigali: Ministry of Finance and Economic.

**O'Flynn, L. (2017).** Housing affordability, NSW parliamentary research service briefing paper No. 04/2011, NSW parliamentary library, NSW, Retrieved June 10, 2017 from http://www.parliament.nsw.gov.au/prod/parliament.

**O'Leary, Z. (2013).** The essential guide to doing your research project. Thousand Oaks, SAGE Publications Ltd.

**Olive, R. (2015).** Empire in waves: A political history of surfing. *International Journal of the History of Sport*, 32(11-12), 45-53.

**Osuide, S. O. (1988).** Population growth and housing in Nigeria. *Habitat International*, 12 (2),129-135.

**Osuide, S.O.** (2004). Strategies for affordable housing stocks delivery in Nigeria.18th inaugural lecture of Ambrose Alli University. Ekpoma Edo State: Floreat System Benin-City.

**Ozo, A. O. (1990).** The private rented housing sector and public policies in developing countries. *Third World Planning Review,* 12(3): 261-279.

**Porter, M. E. (2008).** The five competitive forces that shape strategy. *Harvard Business Review*, 88(1), 20-30.

Republic of Rwanda (2011). Green growth and climate resilience national strategy. Kigali: Ministry of Lands, Environment, Forestry, Water and Mines.

**Robertson R. (2006).** *Thinking about the big drop in Australian housing affordability.* Sydney: Macquarie Research.

**Salau, A.T. (1992).** *The challenge of sustainable development in Nigeria.* Ibadan: NEST.

Commission for Architecture and the Built Environment. (2005). What home buyers want: attitudes and decision-making among home buyers. London: CABE.

Winston, N. and Eastaway, M.P. (2008). Sustainable housing in the urban context. International sustainable development indicator sets and housing. *Social Indicators Research*, 87 (2), 211-221.

**Yates, J. (2008).** Australia's housing affordability crisis. *Australian Economic Review*, 41(2), 200-214.

**Yates, J. & Milligan. V. (2007).** Housing affordability: A 21st century problem, national research venture housing affordability for lower income Australians. *AHURI*, 105, 1-63.



**Yip, M. (1995).** Housing affordability in England. (Unpublished Phd Thesis), University of York, Newyork.

Zhang, Y., Grant A., Sharma A. & Chen D. (2009). Alternative water resources for rural residential development in western, Australia. *Proquest Water Resource Management*, 24, 25-36.

**Zhou, Y. (1999).** China's urban housing reform with specific emphasis on property ownership, Virginia. Virginia: Blackburg.

Zhu, W., Chew, I. and Spangler, W. (2005). CEO transformational leadership and organizational outcomes: The mediating role of human-capital-enhancing human resource management. *The Leadership Quarterly*, 16, 39-52.

**Zhu, X., Liu, S. &Yeow, M.C. (2006).** Accessibility analysis for housing development in Singapore with GIS and multi-criteria analysis methods. *Applied GIS*, 2(2), 13.11-13.12.