INFLUENCE OF HOUSING DEMAND ON THE GROWTH OF RENTAL INCOME IN NAKURU EAST SUB-COUNTY, KENYA

Henry Dikirr and Barry Weche Eshiwani
School of Business, Jomo Kenyatta of Agriculture and Technology

ABSTRACT
The real estate market has experienced significant growth in the last decade with many countries experiencing house price fluctuations. This study investigated the influence of housing demand on the growth of rental income in Nakuru East Sub-county Kenya. The study adopted Game Theory. Descriptive research study design was employed in the study. The study targeted population was 45 real estate agencies and companies in the Sub-county. Census survey was employed where all 45 managers in the real estate agencies and companies were engaged in data collection. The study used both primary and secondary data. Structured questionnaires were used for data collection. Questionnaire was tested for validity and reliability. The collected data was analyzed using statistical package for social sciences. Data was analyzed using descriptive statistics and inferential statistics and was presented in tables and figures. Findings established that housing demand significantly influence the growth of rental income. The study concluded that housing demand have a significant role in determining growth of rental income in Nakuru east sub-county. Therefore, the study recommended that government should give price subsidies and tax exemptions or concessions on construction materials to companies engaged in housing construction as this would guarantee lower market prices for housing.

Keyword: Growth, Housing Demand, Rental Income, Pricing, labour.

1. INTRODUCTION
Access to secure shelter and basic services has traditionally been considered one of the most vital components of urban social policy (Hall, 2004). Both have also been directly linked to the level of overall national development not only in the sense that higher income countries have better housing conditions and services, but in the sense that development effort must be committed to addressing urban needs. Basic services include water supply and sanitation, urban transport, health and education services. Basic services play a vital role in environmental sustainability by preventing the pollution of rivers and aquifers and the destruction of the ozone layer. Secondly, serviced housing is an economic asset. Its value may increase over time and it can be used to generate rental income or as a work place. Housing also forms an important part of a nation's or a city's fixed capital, with a buoyant housing market helping to fuel economic growth in other areas (Hall, 2004).

Real estate industry is the leading indicator of development in any economy and is used to measure the economic growth and health of a country. It entails creation of permanent immovable assets, involves capital and labour intensive activities thus used as a vehicle for economic development since there is job creation. Demand for real estate is triggered by

economic and population growth thus real estate participants construct houses to meet the demand and on return get cash flow from these investments. As the cycle continues, there is oversupply thus creation of trade off between supply and demand (Carey, 2001).

In most developed economies where housing equity is of much importance to households, it is found that homeownership has a significant impact on household wealth accumulation in the long run. The activities of businesses, especially banks, are also significantly affected by homeownership. There is evidence that banks are the main source of finance for start-up businesses and that they are unwilling to grant unsecured lending. Thus, family homes have become one of the most acceptable collateral for granting credits. Additionally, high returns on housing investment provide yet another basis for increasing bank credit to the sector (Di and Zhu Xiao, 2001).

Studies have shown that half of the world's population live in urban centres and one third of them in slums. This figure is expected to increase by one billion in a decade and slums will grow at an accelerated pace unless 35million housing units are made available annually (UN-Habitat, 2002). Virtually all this growth takes place in developing countries. A report by Goldman Sachs (2007) analyzed factors that led to the global housing boom. The report cited several facts to support the importance of fundamentals. First, the report found a strong positive correlation between income growth and house price appreciation across countries. Second, house price appreciation was also strongly correlated with population growth.

Finally, countries with the biggest reduction in real interest rates also had the highest rates of house price appreciation. Globally real estate prices have been on an upward trend; like in the UK prices have been rising, but buying property remains 13 per cent more cost-effective than renting (Zoopla, 2012;KFPGRI, 2012). In the UK, the market for property derivatives did not begin until 2004.However, since the market's inception, the growth has been significant. Through the third quarter of 2007, trades with an outstanding notional value of 7.9 billion pounds have been executed. Renting in the UK was previously £993 per year on average more expensive than servicing a mortgage, but this gap has now come down by 3.2 per cent to £961 today. As a result, the proportion of towns and cities across the UK where it is cheaper to buy than rent has fallen from 90per cent to 86per cent over the past few years (Zoopla, 2012).

According to World Bank report (2010) Kenya is one of the most rapidly urbanizing nations among the developing countries. It is estimates that about 200,000 Kenyans move to cities every year and that formerly rural areas are increasingly becoming urban. Despite this, the national and local governments have failed to provide basic urban services like infrastructure and affordable housing, thus allowing the private sector to take over (Kenya's vision 2030). Unfortunately, the profit-motivated sector largely provides housing for the upper-middle and upper-income households, thus leading to proliferation of slums and other informal settlements that cater for poor dwellers (UN-Habitat report, 2011).

Despite some attempts at achieving decent housing for Kenyans, the country has, on the whole, failed to address the dire housing conditions of her population. The situation has been partially alleviated through the activities of the private sector housing developers, who have been a key supplier of housing, particularly in Nairobi (Hassanali, 2009). In the year 2007, the private sector commenced construction of housing units worth Kshs. 9.8 billion and registered growth of 6.9% over the previous year (Republic of Kenya, 2004). But despite intensive overall private-sector

activity, these private developers have mainly concentrated in the middle and upper segments of the market with relatively little focus on the low-income market. The low income house units currently constitutes less than 30% of the private development portfolio (Republic of Kenya, 2007), yet this is the segment where the need is particularly acute.

Nakuru is Kenya's third largest residential town after Nairobi and Mombasa and was rated the fastest developing town in sub-Saharan Africa in 2011 by the UN habitat. Prices for commercial space have more than doubled in the last four years with office space costing up to Sh90 per square foot from about Sh30 in 2008. The high demand has been triggered by large corporate institutions such as banks, supermarkets, universities and colleges in town which normally require huge space.

According to first county integrated plan (2013-2017) the total population of Nakuru County stood at 1,867,461 in year 2014, comprising of 937,131 males and 930,330 Females as per the projections of Kenya National Population and Housing Census of 2009. The population is projected to increase to 1,925,296, comprising of 966,154 males and 959,142 Female in 2015 and to 2,046,395 comprising of 1,026,924 males and 1,019,471 females at the end of the plan period. This remarkable growth in the population implies that the county will have to invest in more social and physical infrastructure to match the needs of the growing population. Among physical infrastructure constraining the county is residential houses. The county has a housing demand of 10,000 units per year but only 2,000 units are available annually. The governor of Nakuru County noted that some few years ago (5 years), the price of a three bed roomed house was Kshs3000 while currently the prices have more than tripled (Daily Nation, DN2 Magazine, 2014). This study sought to examine the influence of housing demand on the growth of rental income in Nakuru East Sub-County, Kenya.

2.STATEMENT OF THE PROBLEM

The Constitution of Kenya (2010) under article 60 brings forth the principle of equitable access to land. Article 40 stipulates that every person has the right, either individually or in association with others, to acquire and own property of any description and in any part of Kenya. According to the ministry of lands and physical planning (2016), Kenya continues to face a shortage in housing of over 250,000 units per year. This has been aggravated by the rapid urbanization of the country that has been boosted by devolution and realization of vision 2030. According to GOK (2007) the proportion of the Kenyans living in urban areas is estimated to reach 60 per cent by the year 2030. Access to virgin and prime land for housing has been an attractive opportunity for investors. This has seen the prices of property skyrocket to unimaginable levels. As such, property acquisition has been taken as a reserve of the well to do people. Murangi (2013) indicates that prices of real estate can be affected by factors such as property location, neighbourhood, the level of accessibility and distance or proximity to facilities. Real estate prices can also be determined by the level of technology available, level of demand and supply, the existing economy of a country, employment level and accessibility of finance by both investors and buyers (Chiller, 2005). Statistics indicate that the demand for housing, which has possibly led to increase in house prices, has been on the rise at a faster rate than the number of houses available or under construction (National Housing Corporation, 2009). The estimate number of houses constructed annually is about 30,000 whereas the demand is estimate at 150,000

(National Housing Survey, 2013). There is a deficit of studies addressing the aspects of the market that influence the pricing of properties. In trying to fill this gap, the study focused on the influence of housing demand on the growth of rental income in Nakuru east sub- County, Kenya.
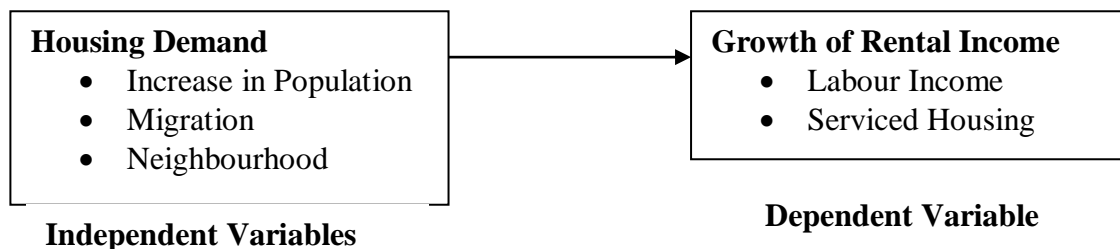
3.OBJECTIVES OF THE STUDY
The study set out to examine the influence of housing demand on the growth of rental income in Nakuru east sub-county, Kenya.

4.RESEARCH HYPOTHESIS
Housing demand has no significant influence on the growth of rental income in Nakuru town East Sub-county, Kenya.

5.CONCEPTUAL FRAMEWORK

Housing Demand
- Increase in Population
- Migration
- Neighbourhood

Independent Variables

Growth of Rental Income
- Labour Income
- Serviced Housing

Dependent Variable

6. THEORETICAL REVIEW
6.1 Game Theory
Game theory has several features: there are two or more players, some choice of action is to be taken where strategy matters, and the game has one or more outcomes (someone wins, someone loses) and the outcome depends on the strategies chosen by all players. Game theory provides a model to study strategic interactions among economic agents in imperfect markets. In game theory, the outcome depends on the number of players in the game, strategies employed by each player, information available to every player and the payoffs of every player for every profile of strategy employed (Duffy, 2012). Decision making of the players is always interdependent. Hence players have to think ahead and devise strategy based on expected moves of other players. In the real estate market, individuals try to anticipate the moves of other players' e.g. financing institutions and make decisions based on that. Developers can use their information advantage to influence consumers' decision and push up the real estate prices.

This price game is likely to be a contributing factor in high housing prices (Duffy, 2012). Mu & Ma, (2007) have studied game theory in the real estate market in a model with government, land developer and a real estate developer as the players. They concluded that the optimal strategy is cooperation and tax regulation is an efficient way for government to maintain social stability.

7.EMPIRICAL REVIEW

Despite some attempts at achieving decent housing for Kenyans, the country has, on the whole, failed to address the dire housing conditions of her population. The situation has been partially alleviated through the activities of the private sector housing developers, who have been a key supplier of housing, particularly in Nairobi (Hassanali, 2009). In the year 2007, the private sector commenced construction of housing units worth Kshs. 9.8 billion and registered growth of 6.9% over the previous year (Republic of Kenya, 2004). But despite intensive overall private-sector activity, these private developers have mainly concentrated in the middle and upper segments of the market with relatively little focus on the low-income market. The low income house units currently constitutes less than 30% of the private development portfolio (Republic of Kenya, 2007), yet this is the segment where the need is particularly acute.

7.1 Housing Demand and Growth of Rental Income

Research indicates that, while urbanization may be a precursor for development, it has been identified as one of the factors with profound effects on the demand for housing. It is estimated that in the last 50 years urbanization in the developing countries has increased by 600%, and it was expected to increase from 4.5 to 50% of the total population by the year 2005 (Pugh, 2001). Eastern Africa, is the least urbanized on the continent with 26% of its population living in urban areas (UNEP, 2002; Kamete et al, 2001), but with the highest rate of urbanization on the African continent at 4.5%. Rapid urbanization in Africa first became notable in the 1960s when most countries were becoming independent. According to UNEP (United Nations Environment Programme) (2002), this rapid urbanization is attributed to the natural growth of urban populations and migration to urban centers from the rural areas owing to declining agricultural productivity and the search for better employment opportunities and income.

According to Mukiibi (2008) due to rapid urbanization in Kampala Uganda, access to land for housing development has become an almost insurmountable challenge. Therefore Mukiibi observed that the price of land was rising exponentially, making it unaffordable to many low and middle-income earners. The situation has been further aggravated by the multiple complex systems of land tenure in the city and land speculation. Housing is said to be affordable if it does not affect the ability of the household to pay for other necessary expenditure. Pelletiere (2008) put forward that the maximum acceptable cost burden be set at 30% of the households income to imply affordability. Therefore, the ratio of housing expenditure to income is often used as an indicator for housing affordability.

Over the last few years, a large number of Kenyans have been in a rush to own property which has contributed highly to a major boom in the residential property market (Korir, 2009). Majtenyi (2010) argues that increase in demand for residential property in Kenya has resulted to doubling and even to an extent of tripling of residential property prices in the past few years.

Okeyo (2013) explains that the demand for residential property in Nairobi has grown over the last years. The high demand has pushed up rent in most estates. Okeyo (2013) continues to explain that, two years ago, a tenant used to pay about Kshs. 3,000.00 a month for a single self-contained house in high-end neighbourhoods such as Westlands, Kileleshwa and Kilimani but as of January 2013 the rent had doubled. Rent for a one-bedroom house in these areas costs up to Kshs. 14,000.00 while those renting a three-bedroom house in a gated community pay more than Kshs. 22,000.00. Land, on the other hand, is no longer available closer to town. A 50ft by 100ft

plot in an estate like Pipeline is sold between Kshs. 600,000.00 and Kshs. 800,000.00 compared to Kshs. 300,000.00 early last year (Okeyo, 2013).

According to Arvanitis, (2013), the future of housing prices is expected to grow, both due to inflation and increasing urbanization. The demand for housing units will remain above supply in the urban economy, unless drastic control measures are put in place, and, as a result, prices will keep growing. Vohwinkle (2013) observed that real estate properties should be acquired for the right reasons. The real estate consumers should not go by the fact that everyone's dream is to own a home and not renting because it is a waste of money. If a person is not ready to buy a home, there is no need to rush in buying a house. By doing this, it leads to a reduction of demand of real estate which in turn reduces prices of the existing properties.

7.2 Growth of Rental Income

According to Hass property consultants, in the first property index in Kenya, the prices for high end residential properties has doubled between 2005 and 2009 (Hass property index, 2009). The current rental yields that are the return on capital tied up in property is however much lower than mortgage interest. The Hass consultant property index data for the first quarter in 2011 indicated that rental yield are down to 5.62 per cent per from a high of 7.3 percent per year in 2007. The Hass survey further revealed that property prices have risen to 55 per cent since the 2007 while rental yields have appreciated with only 18 per cent. The main concern is that real estate contribution to the economy of Kenya (as measured in relation to the economic growth) has faced a declining trend for the past years. For instance in 2008, it contributed to 5.1% of total GDP, and in 2009 it reduced to 4.9% of GDP. Subsequently it slightly fell to 4.8% in 2010 and further declined to 4.5% in 2011. There is need therefore establish and assess the factors that contribute to the growth of the investment so as to sustain the investment growth in future.

Serrano (2004) studied the effect of labour income uncertainty in the probability of home ownership in Germany and Spain. Using a simple theoretical formula that highlighted a pivotal role of risk attitudes in the housing tenure decision that would allow introduction of the phenomenon, the study carried out tests using an income uncertainty measure based on panel data labour equations. The findings of the study showed that households facing increasing income uncertainty display preference for renting while those located in a positively skewed income distribution show a greater propensity for home ownership. The study also concluded that income uncertainty analysis in housing decision has important implication for the design of private mortgage insurance products.

Access to secure shelter and basic services has traditionally been considered one of the most vital components of urban social policy (Hall, 2004). Both have also been directly linked to the level of overall national development not only in the sense that higher income countries have better housing conditions and services, but in the sense that development effort must be committed to addressing urban needs. Basic services include water supply and sanitation, urban transport, health and education services. Basic services play a vital role in environmental sustainability by preventing the pollution of rivers and aquifers and the destruction of the ozone layer. Secondly, serviced housing is an economic asset. Its value may increase over time and it can be used to generate rental income or as a work place. Housing also forms an important part of a nation's or a city's fixed capital, with a buoyant housing market helping to fuel economic growth in other areas (Hall, 2004).

8. RESEARCH METHODOLOGY

Descriptive survey design was used in the research. Mugenda and Mugenda (2003) assert that this type of research design attempts to describe such things as possible behavior, attitudes, and characteristics. The design allowed the researcher to expose the respondents to a set of questions to allow comparison. The target population consisted of financial officers working in real estate companies and agencies. There are a total of 45 real estate agencies and companies in Nakuru town. Thus the total target population will be 45 financial officers in this companies and agencies. The researcher opted to adopt a census survey where all the elements in the target population were considered as the study respondents. The study used both primary and secondary data. Structured questionnaires were used as instruments of data collection to gather data from the respondents. To gather structured responses, closed ended questionnaires were used. The questionnaires contained a five point Likert scale (5-strongly agree, 4-agree, 3-neutral, 2-disagree and 1-strongly disagree) to measure financial factors and growth of rental income. Data analysis was carried out through the use of descriptive statistics such as frequencies, percentages and standard deviation. In order to establish the relationship between the independent variables and the dependent variable, multiple regression analysis was carried out. To avoid co-linearity between the independent variables, correlation analysis was used and adjustments made to ensure the independent variables do not affect each other and hence the results.

9.FINDINGS AND ANALYSIS

The researcher distributed 45 questionnaires to the respondents for data collection. 6 questionnaires were not returned from the field. 39 questionnaires were completely filled up and returned for data analysis. This presented a response rate of 86.7%.

9.1 Descriptive Statistics
9.1.1 Housing Demand Descriptive Statistics Results

The findings indicated respondents view regarding housing demand and findings from the analysis were as presented in Table 4.3.

Table 4. 1: Descriptive Statistics on Housing Demand							
	SA (%)	A (%)	U (%)	D (%)	SD (%)	Mean	Std. Dev
Increased urbanization has raised the demand for housing	74.4	17.9	0	7.7	0	4.59	.850
There has been increased immigration from rural areas to urban areas leading housing demands	59.0	35.9	5.1	0	0	4.49	.756
A large number of people in Nakuru East Sub-county have been in a rush to own property	35.6	35.9	12.8	20.5	5.1	3.56	1.231
There is increased construction of rental apartments in the neighborhood due to increasing housing demands	51.3	38.5	5.1	5.1	0	4.36	.811
High demand for housing has pushed cost of properties to higher levels	35.9	59.0	2.6	2.6	0	4.28	.647

The demand for housing in this area is higher than the supply	30.8	30.8	7.7	30.8	0	3.62	1.227
Valid N (listwise)	39						

Findings indicated that majority of the respondents agreed that increased urbanization has xd72 the demand for housing. 74.4% of the respondents strongly agreed while 17.9% of them agreed with a mean of 4.59 and standard deviation of .850. Further respondents agreed that there has been increased immigration from rural areas to urban areas leading housing demands. 94.9% of the respondents strongly and/or agreed registering a mean of 4.49 and a standard deviation of .756. On the other hand, a mean of 3.56 and a standard deviation of 1.231were recorded where 71.5% of the respondents strongly and/or agreed that a large number of people in Nakuru East Sub-county have been in a rush to own property. In addition, respondents agreed that there is increased construction of rental apartments in the neighborhood due to increasing housing demands. 51.3% of the respondents strongly agreed while 38.5% of them agreed. This aspect had a mean on 4.36 and a standard deviation of .811. Respondents agreed that high demand housing has pushed cost of properties to higher levels. 59.0% and 35.9% of the respondents agreed and strongly agreed respectively that high demand for housing has pushed cost of properties to higher levels. This assertion had a mean of 4.28 and a standard deviation of .647. 61.6% of the respondents agreed and strongly agreed that the demand for housing in this area s higher that the supply.

9.1.2 Rental Income Growth Descriptive Statistical Results
The study further established the views of the respondents in regard rental income growth in Nakuru East Sub-county. The percentages, means and standard deviations of the responses were computed. The findings from the analysis were as presented in Table 4.7.

Table 4. 2: Descriptive Statistics on Rental Income Growth

	SA (%)	A (%)	U (%)	D (%)	SD (%)	Mean	Std. Dev
Rental income has more than doubled in the last ten years	28.2	56.4	5.1	10.3	0	4.03	.873
We don't experience losses on rental income	10.3	15.4	15.4	48.7	10.3	2.67	1.177
Increased housing demand spurs the growth of our rental income	25.6	59.0	0	15.4	0	3.95	.944
The number of rental properties in our management continues to rise enhancing rental income	38.5	48.7	5.1	7.7	0	4.18	.854
The value of housing continues to raise enhancing rental income	35.9	51.3	10.3	2.6	0	4.21	.732
Increased adoption of housing agents management has led to an increase in rental income	17.9	38.5	23.1	17.9	2.6	3.51	1.073
Valid N (listwise)	39						

Majority of the respondents agreed that rental income has more than doubled in the last ten years. 56.4% of the respondents agreed while 28.2% of them strongly agreed. This had a mean of 4.03 and a standard deviation of .873. Further, respondents' disagreed with the statement that

they don't experience losses on rental income. 59.0% of the respondents strongly and/or disagreed registering a mean of 2.67 and a standard deviation of 1.177. In addition, a mean of 3.94 and a standard deviation of .944 were recorded where 59.0% and 25.6% of the respondents agreed and strongly agreed respectively that increased housing demand spurs the growth of our rental income. Respondents agreed that the number of rental properties in our management continues to raise enhancing rental income. 48.7% and 38.5% of them agreed and strongly agreed registering a mean of 4.18 and a standard deviation of .854. Findings established that respondents agreed that the value of housing continues to raise enhancing rental income. 38.5% and 17.9% of the respondents agreed and strongly agreed respectively. This assertion had a mean of 3.51 and a standard deviation of 1.073.

9.3 Correlation Analysis

9.3.1 The Relationship between Housing Demand and Rental Income Growth

The researcher sought to establish whether there existed any significant relationship between housing demand and rental income growth in Nakuru East Sub-county, Kenya. The findings were as shown in Table 4.8.

Table 4. 3: Correlations between Housing Demand on Rental Income Growth		Housing Demand	Rental Income Growth
Housing Demand	Pearson Correlation	1	.621**
	Sig. (2-tailed)		.000
	N	39	39
Rental Income Growth	Pearson Correlation	.621**	1
	Sig. (2-tailed)	.000	
	N	39	39
**. Correlation is significant at the 0.01 level (2-tailed).			

Findings indicated a strong positive significant (r=.621, p=.000) relationship between housing demand and rental income growth. The study observed that housing demand was important in determining rental income growth in Nakuru East Sub-county, Kenya.

10 .CONCUSIONS AND RECOMMENDATIONS

The study concluded that housing demand significantly influenced rental income growth in Nakuru East Sub-county. Hence, housing demand had played a crucial role in determining rental income growth. The researcher recommended that the government should give price subsidies and tax exemptions or concessions on construction materials to companies engaged in housing construction. This in turn would guarantee lower market prices for housing. The high cost of housing as reflected on the final price to the consumer is itself a constraint to providing affordable housing to the city dwellers majority of who are lower and middle income earners. Subsidy programmes that will allow government systems be more equitable in serving more households with affordable shelter are desirable.

REFERENCES

Arvanitis, Y., (2013). African Housing Dynamics: Lessons from the Kenyan Market, *Journal of Economics*, *4,* 1 – 12.

Carey, M., (2001). Small Business Lending and the New Basel Capital Accord, Presented at the Global Conference on Credit Scoring, Washington DC, April 3.

Duffy, N., (2012). Introduction to Game Theory University of Pittsburgh from www.gametheory.net/lectures/level.pl

Government of Kenya (2007). *Housing Sector Incentives and Market Re – Engineering.* Government Printer

Hall, P., & Rust, J., (2004). *Simulated Minimum Distance Estimation of a Model of Optimal Commodity Price Speculation with Endogenously Sampled Prices*" Working paper Brandeis University.

Hass Property index, (2009), Hass Consultants. Retrieved from: Http://www.hass consult.co.ke./hass/index

Hassanali, M., (2009). *Understanding reduced Private – sector participation in Low Income Housing delivery in Nairobi.*

Kamete, A., Tostensen A., & Tvedten, I., (2001). From global village to urban globe. Urbanisation and poverty in Africa: Implications for Norwegian aid policy. Chr. Michelsen Institute, Norway.

Mugenda O., & Mugenda, G., (2003). *Research Methods, Qualitative and Qualitative Approaches*, African Centre for Technology Studies, ACTS Press ,Nairobi, Kenya. PP 256.

Mukiibi, S., (2008). Housing policies on the supply of housing to urban low-income earners in Uganda: a case study of Kampala. Unpublished PhD dissertation, University of Newcastle upon Tyne, U.K.

Pugh, C., (2001). The theory and practice of housing sector development for developing countries, 1950-99, *Housing Studies, 16*(4), 399-423.

Republic of Kenya (2004). Economic Survey, *Kenya National Bureau of Statistics*

Republic of Kenya (2007). Housing Sector Incentives and Market Re–Engineering Measures, *Ministry of Housing*

UN- Habitat Report (2011). "*Housing Challenges in Upcoming Countries'*

UNEP, (2002). Africa environment outlook. Past, present and future perspectives. http://www.grida.no/aeo/209.htm 9/12/04

World Bank Report (2010). "*Kenya's Informal Settlement*" Retrieved December 2010