FINANCIAL DETERMINANTS AFFECTING THE COST OF HOUSES IN KENYA: A CASE STUDY OF NATIONAL HOUSING CORPORATION

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ABSTRACT
Provision of affordable and decent housing for low income households is clearly in short supply. In Kenya, National Housing Corporation (NHC) is mandated with delivering affordable housing. Provision of affordable housing to the increasing number of lower and middle income classes in the country has hugely been affected by the cost of land, cost of capital, cost of building materials and cost of labor. The main objective of this study was to assess financial determinants affecting the cost of houses in Kenya with reference to NHC. The study employed descriptive research design which explained the relationship between. The study employed census method due to the small size of target population. Data was collected by questionnaire and analyzed using both qualitative and quantitative methods of analysis. Chi-Square was used to test the significance of the research hypothesis. Presentation of the analyzed data was done through figures and frequency tables. One of the key finding was that it has been hard for the company to get a cheaper land for the purpose. This probably explains the reason why cost of the houses sold by NHC is very high. The results also showed that cost of NHC houses has no relationship with the cost of material
Keywords: housing**,** housing affordability, housing finance, real estate markets

INTRODUCTION
The cost of houses has attracted much attention in recent years. A number of industrialized economies, including the United States, the United Kingdom, and Spain, had witnessed a protracted period of significant increases in house costs and prices in the mid-2000s. The perceived lower risk encouraged lax lending criteria in mortgage markets, which greatly contributed to the U.S. subprime crisis and the consequent global financial crisis. Just as suggested by previous studies, house cost fluctuations have caused a major impact on household consumption (Glindro, 2011).
By comparison, housing markets in most Asian economies were relatively tranquil during the same period. In recent years, however, there have been growing concerns about the housing market in a few economies. China, Hong Kong, and South Korea have witnessed very strong house cost inflation in the past several years. Given the not so distant experience of financial crises in this region (such as the 1997 Asian crisis and the so-called lost decade in Japan), in which booms and busts in real estate markets played a crucial role, the question is whether the observed house cost growth can potentially lead to bubble episode (Glindro, *et al*., 2011).
Access to adequate and affordable housing is a current and growing problem in all countries globally. Housing problems are largely to do with the cost of houses: houses are expensive and incomes are too low. Faced with few other options, vast numbers of households live in inadequate housing in slums and informal settlements because they cannot access better quality housing at low cost. Furthermore, in many cases, they pay an inordinate share of their income for such housing, and are further impoverished as a result. The urgent task is to make the urban housing sector —

in both large and small African cities — function more effectively to increase access to affordable land and housing, especially for low income earners (UN-HABITAT, 2011).

Housing has a central importance to quality of life with considerable economic, social, cultural and personal significance. Though a country's national prosperity is usually measured in economic terms, increasing wealth is of diminished value unless all can share its benefits and if the growing wealth is not used to redress growing social deficiencies, one of which is housing (Erguden, 2001). Housing plays a huge role in revitalizing economic growth in any country, with shelter being among key indicators of Development (Ireri, 2010). The Universal Declaration of Human Rights gives one of the basic human rights as the right to a decent standard of living, central to which is the access to adequate housing (United Nations, The Human Rights – article 25, 1948). Housing as a basic human right demands that urban dwellers should have access to decent housing, defined as one that provides a foundation for, rather than being a barrier to, good physical and housing affordability mental health, personal development and the fulfillment of life objectives, (Seedhouse, 1986).

In the United States and Canada, a commonly accepted guideline for housing affordability is a housing cost that does not exceed 30% of a household's gross income. When the monthly carrying costs of a home exceed 30–35% of household income, then the housing is considered unaffordable for that household. Determining is complex and the commonly used housing-expenditure-to-income-ratio tool has been challenged (Hallett, 2008). For a typical house-owner, the house is a major asset in his portfolio and for many households; the purchase of a house represents the largest (and often only) life long investment and a store of wealth. Furthermore, housing represents a large proportion of a household's expenditure and takes up a substantial part of lifetime income. The provision of housing services depends mostly upon a well-functioning housing finance system. The consideration of acquiring a house is driven by the cost of acquisition and various government economic policies which could be fiscal or monetary and even depending on the economic system adopted in a country.

The Kenyan urban housing sector is characterized by inadequate, affordable and decent housing; low level of home ownership (about 16%), extensive and inappropriate dwelling units including slums and squatter settlement (Ireri, 2010).

Statement of the Problem

Provision of affordable and decent houses for low income households is clearly in short supply. The players in this industry are too few and there seems to be minimal interest of other private sector housing developers to provide low cost housing units. These private sector developers as by their success in the middle and high income housing markets, implies that they may have the capacity and skill set to supply relatively priced housing required to alleviate, at least partly, the housing shortfall in the country (Hassanali, 2009). The majority of consumers fall under the low income earners and yet the houses being delivered are of high cost thus contributing to slums. Recent estimates show that over 60 per cent of Nairobi's residents live in places like Kibera. At the national level between 30 and 40 per cent of Kenya's urban population live in slums (Awiti, 2012). Provision of affordable housing to the increasing number of lower and middle income classes in the country has been hugely affected by the cost of land and inadequate infrastructure (Bonyo, 2010).

In Kenya National Housing Corporation (NHC) is mandated to delivering affordable housing with the help of the government. In recent years NHC has continued to supply houses that are slightly high in cost despite government incentives including reduced tax, funding as well as formulated policies aimed at reducing the house cost. Its competitors in the industry are private developers whose main objective is to earn profits and yet deliver slightly low priced houses compared to NHC.

It is estimated that a total of 206,000 housing units are required annually to cater for the 2 million backlog, but about 50,000 units only are developed annually in Kenya. Over 30% of the country's population lives in slums. In Nairobi alone, it is estimated that over 1 million out of a city population of 3.2 million lived in slums, with only 3% living in a house with permanent walls, water and electricity. At current prices less than 10% of urban population can afford a Ksh. 3.2m mortgage house prices (UN-Habitat, 2012).

According to a report by UN-Habitat (2012), over a span of 10 years (Q4 2001 to Q2 2012), the average prices for 1 to 3 bedrooms rose by a factor of 2 from just below Ksh 10 million. Prices for units with 4 to 6 bedrooms rose from about ksh 10 million to ksh 31 million. From a purely market point of view, the three factors driving housing prices are – construction costs, market demand and speculation (Ireri, 2010).

The population of unsheltered people in Kenya is in terms of millions due to the high cost of shelter. However, there is no evidence of a study on the financial cost of housing in Kenya. Therefore, this study seeks to assess the financial factors affecting the cost of houses in Kenya with emphasis on NHC.

Objectives of the study
The general objective of this study was to investigate the financial determinants affecting the cost of houses in Kenya. While specific objectives are:
- To establish contribution of cost of land in determining the price of NHC houses
- To determine how cost of capital affects cost of NHC houses.
- To find out how cost of building materials affects cost of NHC house.
- To investigate how cost of labor affects cost of NHC houses.

Research Hypotheses
1. There is no relationship between cost of land and the price of NHC houses
2. Cost of NHC houses is not affected by interest rates
3. Cost of building materials does not determine the cost of NHC houses
4. There no significant relationship between cost of labor and cost of NHC houses

Scope of the Study
The study was carried out at NHC offices located in Nairobi's NHC House and it dealt mostly with the Technical and Finance Divisions focusing on the financial determinants affecting the cost of houses. The study only targeted top level management, middle level management and support staff who were employees of NHC and the period of study was six weeks.

THEORETICAL FRAMEWORK
Numerous theories have been advanced to explain the cost of houses

a) *Cost Approach Theory*
According to the theory of Cost Approach by Brueggeman and Fisher (2001) the prospected transaction price of a property is geared out by calculating its replacement costs and by adjusting the replacement cost with a market-wide adjustment factor. This theory fits the study because the rationale of the cost approach is based on a simple economic argument: any informed buyer would not pay more for a property than what it would cost to buy the land and build the structure. Thus, prices for existing properties and replacement costs cannot diverge. But this simple argument ignores that construction needs time, that land for building purposes might be scarce, and that building a house needs more effort than buying an existing one. He went ahead and stated that real estate and land are among the oldest asset markets with which humans have had extensive experience. The significance of agricultural, residential and commercial real estate assets in mankind's history can scarcely be exaggerated. Social structure, marriage institutions, inter-state relations and, more broadly, socio-economic organization have been affected by and simultaneously have influenced the nature and functioning of real estate markets.

b) *Real Estate Market Theory*
The results of the research conducted by Darrat and Glascock (1993) provide evidence that the real estate market is efficient. They further uncovered the relationship between current real estate prices and historical information on fiscal and monetary policy and other financial variables. The aim of this study was to find out how cost of capital influences the cost of houses. Based on this theory the conclusion of Darrat and Glascock (1993) was that the real estate market costs is influenced by many factors including financial factors, the cost of land, the return structure of interest rates, and the price of building materials.

The study also reveals that movements in these variables are quickly and fully utilized by developers, the major reason being that the relationship between real estate and their stock returns has been published in the media and the research literature.

c) *Residential Price Index Theory*

Case and Shiller (2003) utilize a residential price index calculated using weighted repeat sales methodology for Atlanta, Dallas, Chicago, and San Francisco, and find strong serial correlation in house prices. They use a sample of micro-level transaction data for the years 1970-1986 to demonstrate that the housing market is inefficient, and that inefficiency arises from the possibility to predict future prices based on the currently available information on economic fundamentals including past price, ratio of construction costs to prices, funding sources, and changes in the adult population.

Barkham and Geltner (1996) stated that the cost of housing and returns are predictable so long as the inputs can be defined. Based on their assertion it can be concluded that this theory fits the study because the costs of materials is predictable at some point, hence the reason why Barkham and Geltner (1996) compared monthly data on the housing market and stock market returns. The results of their investigation demonstrate that the returns in the UK housing market could be anticipated for a certain degree by returns to certain securities on the UK stock market.

CONCEPTUAL FRAMEWORK

One of the objectives of a conceptual framework is to classify and explain concepts relevant to the study and plot relationships between the concepts as well as defining how variables interrelate. Figure 1 below gives an illustration of the conceptual framework.
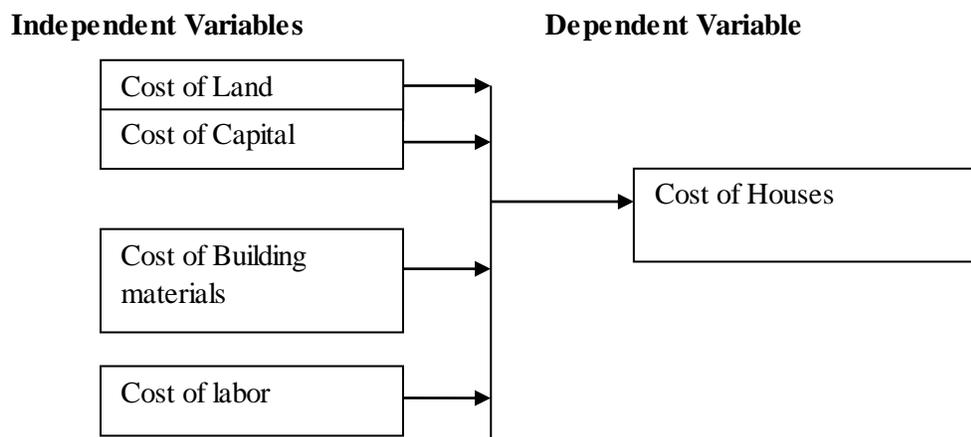

Fig. 1 Conceptual Framework

EMPIRICAL LITERATURE REVIEW

Cost of Land

According to Payne (2002), land constitutes a significant proportion of the total cost of financing incremental housing construction process and access to low cost land is very essential in making the progressive housing development process viable. Access to land determines how land is made available for residential development to all income groups. It is conditioned by land tenure which is inextricably linked with historical, cultural, legal and economic factors that affect people's perceptions and behaviour. It is related to location, the nature and distribution of employment centres, transportation and other public infrastructural services. Payne argues that for the very poor urban households, their priority is to obtain access to land where they can maximize their livelihoods opportunities and this is usually in prime locations in urban areas where there is very high competition for land and land prices are very high. Payne further posits that, for more established low income households, their ability to cover

transport cost influences their decision to construct their dwelling at less central locations in the urban areas and the type of tenure that afford this, becomes an important element for access to services and credit.

According to Erguden (2001), the lack of available and accessible land is a major challenge in Africa particularly in the prime locations in the urban areas where there is high competition for land and land prices are high. Population increase in Africa which is a developing country has also posed a major challenge on the land availability because as the number of people increase, more land is needed for their settlement. The increasing cost of land which is determined by several factors such as location, distance from services and amenities, nearness to commercial, academic, health facilities, availability of public transport, etc. is also a problem to many people who desire to own houses.

The cost of raw land typically accounts for a large share of total housing production costs. Land costs vary depending on whether the site is vacant or has an existing use that must be removed. Similarly, site constraints such as environmental issues (e.g. steep slopes, soil stability, seismic hazards or flooding) can be a factor driving up the cost of developable land. Typically, land prices can add to the cost of a residential development project and ultimately be a constraint on housing development. The cost and availability of land is an important issue affecting the cost of houses supply for urban families and low income families alike. The cost of land depends on many factors including location, distance from services and amenities, nearness to commercial, academic, health facilities, availability of public transport, etc. The further land is from the city centre, the cheaper the price of land is likely to become. At the city peripherals land prices may end up being low enough to be afforded by low income groups. Unfortunately, in such locations there will be inadequate or no facilities in terms of services and amenities (Buurman, 2001).

In Kenya land belongs to the public although the government can possess it in the interest of national development. For the city to plan to provide cheap housing alternatives for it citizens, the city needs to invest in acquiring land near amenities and services, or provide amenities and services in urban peripheries. These are all costly alternatives. Serviced land is more expensive than raw land. For instance, in sites and services schemes, before installation of services and infrastructure, poor households may afford to live there but once the raw land has been serviced, it may become too expensive for these families (Ministry of Lands, 2011).

Lack of adequate land for urban development particularly for low-income housing is perhaps the single most important impediment in achieving the goal of shelter for all. Proper records and registration of land is the first step in formulating and implementing a strategy on land. It is estimated that only about 1 per cent of land in the Sub-Saharan African countries are covered by any kind of cadastral system. Land cadastral systems should urgently be improved in developing countries and particularly in Africa. Scarcity of land leads to escalating land prices, overcrowding of existing neighborhoods, and illegal invasion of vacant land and growth of squatter settlements. This trend can only be reversed by the provision of adequate and affordable land for low-income housing. In order to increase the supply of urban land, the financial and technical capabilities of the municipalities must be strengthened. It is also necessary to create conditions that would facilitate the growth of private land development agencies. Governments should formulate a regulatory framework ensuring that such private sector land developers will serve all income groups (Erguden, 2001).

Land is one of the key factors of production. Access to land is a critical element in providing low income housing. The supply of land is very limited. Land for public utility which would be used for low cost housing is also very scarce. Consequently, there is a growing class of urban landless whose access to land and shelter is becoming more difficult every day. This fact is reinforced by the statement: "In the past, land for low income housing was provided by a number of mechanisms which in most cases can no longer function" (Habitat, 1997).

Cost of Capital
Institutional investors usually require certain information about the performance of firms in order to advance financial assistance to them. The investors look out for the commercial viability of the project before making decisions whether or not to grant finance. Financial statements are dressed up to the point

that they do not accurately reflect a company's profitability, and companies frequently hide material information or delay its disclosure. Because periodically-disclosed financial statements do not provide warnings of problems, information asymmetry prevents investors from being fully informed and protected (Zhou, 2004).

According to Okonkwo (1998) this idea rests on two main assumptions about the lack of financial capital observed among small firms, in particular during their start-up phase: firstly, lenders cannot distinguish between high and low-risk borrowers, and borrowers cannot easily signal their own risk-taking behavior, secondly, loan contracts are subjected to limited liability. According to this theory, credit is rationed when the amount lenders are willing to offer to borrowers is limited, or when no lender is willing to make a loan to a borrower. Despite the ongoing theoretical discussion, little consensus has been reached about whether credit rationing is an economically significant phenomenon.

Interest rates offered by financial institutions on borrowed funds have increased significantly over the past decade; they have a substantial impact on housing costs for both purchasers and developers. Developers are forced to borrow funds to finance their projects at those high interest rates thus forming part of the eventual cost of housing. The financing of a residential project, particularly affordable housing, is quite complex. No firm threshold determines an acceptable 'return' on investment, nor the maximum equity contribution at which an otherwise feasible project becomes infeasible. Upfront cash commitment may not even be problematic for some developers as long as the project can generate an acceptable net cash flow to meet the acceptable returns. Although financing costs impact project feasibility, these problems constraint delivery of affordable housing (Zhou, 2004).

Housing finance institutions in developing countries and particularly in Africa provide services only to a small proportion of population. Financing of housing mostly comes through informal sources of credit. This is a result of national policies that are not successful in encouraging domestic savings and the development of domestic financial institutions and instruments. Lacking collateral, the guarantee of regular and recorded income, the low-income groups depend completely on informal credit sources, which are expensive and mostly short-term. Establishing and in rare cases (since there a few) strengthening mechanisms for financing low income housing and in this relation inclusion of the informal settlements is a fundamental issue (Okonkwo, 1998).

According to Rubinowitz (1974), the level of financial knowledge and capabilities of real estate managers to a large extent influences their financial decisions to incorporate financial and accounting information into their operations. However, personal interaction with real estate developers has convinced the researcher that neither the idea of what factors influence financial decisions of real estate developers nor any relationship between these developers and their level of financial capabilities are known among most of the developers for any possible measures to be explored in closing up these challenges. The importance of a research in this field will offer policy makers a profound insight about the real estate industry and how frantic efforts geared towards their financial challenges could be met. Although interest rates have fallen dramatically over the past decade, they still have a substantial impact on housing costs for both purchasers and developers. An additional obstacle for homebuyers continues to be the down payment required by lending institutions. Under the Home Mortgage Disclosure Act (HMDA), lending institutions must disclose information on the disposition of loan applications by the income, gender, and race of the applicants. This applies to all loan applications for home purchases and improvements, whether financed at market rate or through government assistance. The primary concern in a review of lending activity is to see whether home financing is generally available to all income groups in the community.

Governments lack adequate funds to finance houses. This has been a major constraint in the construction of sufficient houses particularly in the developing countries. In most developing countries, existing public financial institutions do not fulfill requirements for financial resources which are needed as critical inputs in construction. The development of institutions to provide the finance needed to build and purchase housing is closely tied to the general sophistication of a country's financial system. The latter also depends closely on the general economic development globally. The government apparently lacks enough money for providing housing. The growth of housing finance institutions is retarded by the

government's regulations such as those which direct credit selectively to some segments of the economy. Developers for low cost housing are less likely to benefit from institutional financing. Those individuals who cannot obtain credit from banks turn to relatives, personal savings, private financiers or to money merchants who may charge interest rates as high as 10% (ten percent) per week. This source of financing is not favorable for low cost housing (Aziz, 1981).

In countries where there are comparatively well developed financial systems, the institutions in question have not evolved to serve the housing needs of the poor. Financial structures in developing countries have been designed for those with ability to repay the loans. No financial structures have been developed for accessibility to the poor. Interest rates in developing countries are usually high due to high demand which is coupled by low supply of funds. This makes the cost of borrowing very expensive which is unsuitable to the low income groups. Financing low cost housing is a fundamental problem. It is therefore important that special financial facilities be provided for this purpose. These facilities have to provide for easy repayment terms and particular implementation policies have to be evolved which suit different situations and general development policies (Aziz, 1981).

Cost of Building Materials

Volatile and rising costs of materials have contributed to the non-governmental constraints on housing development and improvement. These costs are a substantial part of the increased housing costs in the recent past decade. Builders are forced to pass those increases along to the home buyer or renter. In the last several years, construction costs for materials and land have significantly increased, as the demand for housing increases. These increased costs can no longer be passed on to the taxpayer by the local jurisdiction and must be borne by the developer, who then must pass them along by increasing the cost of housing or rents (Case and Shiller, 2003).

Prices of construction materials are a major impediment to the ability of a community to augment its housing stock, and influence rents and sale prices when new units are placed on the market. A major component of these costs are the price of building materials, which has seen a significant increase so far this decade but is showing signs of leveling off. Analyses of the construction market published in the Construction Industry Market Report—2007 First Quarter and Second Quarter by Davis Langdon stated that nationally, material costs had increased at a rate of six percent per annum over the preceding year—and even experienced a dip at the end of 2006—following a period from 2004 to 2006 in which they rose meteorically, hitting peak rates of approximately 15 percent. However, the reports say, prices remain at a high level, and the uncertainty of material prices is currently having a far greater impact on the final cost of housing (Langdon, 2007).

According to UN-Habitat (2001), building materials often constitute the single largest input to housing construction in most developing countries. It is estimated that the cost of building materials alone can take up to 70 per cent of a standard low-income formal housing unit. A number of factors influence construction costs and the sales price. A reduction in amenities and the quality of building materials could result in lower sales prices. Another factor related to construction costs is the number of units built at one time. As the number increases, overall costs generally decrease as builders are able to take advantage of economies of scale. This type of cost reduction is of particular benefit when density bonuses are used for the provision of affordable housing. Manufactured housing may provide for lower priced housing by reducing construction and labor costs. However, due to the high cost of land in urban neighborhoods, new construction of manufactured housing cannot be assumed to meet the housing needs of lower-income households. It is difficult for builders to know how much of the actual cost of construction consists of the cost of materials or of labor, since most of the work is done by subcontractors, and the subcontractors often supply both materials and labor. A wide range of building materials is available for the construction of rural buildings and structures. The proper selection of materials to be used in a particular building or structure can influence the original cost, maintenance, ease of cleaning, durability and, of course, appearance.

According to Langdon (2007), the lack of a clear frame of reference in the building materials sector has meant that efforts at innovation are usually uncoordinated and often unsuccessful. Moreover, it has resulted in the current state of the sector, where there is a disjuncture between producers and consumers

or end-users, and where a majority of establishments in the sector face unstable futures given the seasonal variability in the demand for building materials in the domestic economy. Most establishments attempt to buffer themselves from this effect by making inroads into several regional economies within the U.S. There is, however, a limit to the degree to which materials producer can hedge on uncertainty in the domestic economy by targeting regional or sub-national economies. For instance, severe economic recessions in the U.S. usually result in declines in construction activity, leading to lowered demands for building materials. At such times, materials producers would do well to expand their markets by looking to foreign markets. But to do that, the producer needs to have a firm grasp of the consumer preferences in that particular market so as to distinguish between viable and non-viable materials in that market. A good knowledge of consumer preferences would help the producer gain a better understanding of potential end-users in the domestic market.

Building materials constitute the largest factor in the construction of a house in some cases accounting for as much as 60% of the total cost. The building industry has been experiencing shortage of building materials. It has been difficult for some developing countries to import raw ingredients for the manufacturing of building materials due to lack of foreign exchange. Appropriate materials produced locally have been scantly used in the construction of low cost housing. The building industry is not adequately aware of properties, qualities and suitability of such materials in the construction of such housing. Small producers of appropriate materials e.g. stabilized soil blocks have not received good support from the government. This leaves them to depend on themselves or other agencies for advice on production, pricing and marketing which is inadequate. There is also consumer bias against the use of appropriate materials. There are other factors such as availability of labour and technology which affect the construction of low cost housing. The reason for shortage of materials could be the defective supply of materials occasioned by general shortages in the industry, poor communication amidst sites and head office, poor purchasing planning and materials coordination. Nigeria still imports cement when her cement production potentials surpass any other African country except Egypt and that the 100 % raw materials required for cement production, is readily available in Nigeria (Habitat, 2001).

Cost of Labor

Real estate prices according to Baker (2002) have escalated rapidly over the last decade in many developed markets, raising concern among investors. Residential property market in Spain for instance is determined by various factors. One of the factors is the urban population growth, demand and supply of land, investors' expectations, general economic conditions, cultural factors and economic fundamentals. But key among these factors in the opinion of Baker (2002) is the rising cost of labor in pain.

Cost of labor has been defined by Herring and Wachter (2003) as the sum of all wages paid to employees, as well as the cost of employee benefits and payroll taxes paid by an employer. The cost of labor is broken into direct and indirect costs where the direct costs would include wages for the employees physically making a product. Indirect costs are associated with support labor, such as employees that maintain factory equipment but don't operate the machines themselves.

It has been a common practice for firms according to Herring and Wachter (2003) to consider the costs of their inputs to production as well as the price of their output when making production decisions. These inputs to production, commonly referred to as factors of production, are things like labor and capital where each   input to production would come with its own price. Wages in the opinion of Brueggeman and Fisher (1997) are prices of labor and a while an interest rate is a price of capital. When the prices of the inputs to production increase, it becomes less attractive to produce, and the quantity that firms are willing to supply decreases. In contrast, firms are willing to supply more output when the prices of the inputs to production decrease. Price would perhaps be the most obvious determinant of supply, since when the price of a firm's output increases, it becomes more attractive to produce that output and firms will want to supply more. Economists refer to the phenomenon that quantity supplied increases as price increases.

In any market, as observed by Herring and Wachter (2003) the price of labor - that is the wage rate, is determined by the intersection of supply and demand. When the supply of labor increases the equilibrium price falls, and when the demand for labor increases the equilibrium price rises. In the long

run the supply of labor is a simple function of the size of the population, so in order to understand changes in wage rates we focus on the demand for labor. To determine demand in the labor market the marginal revenue product of labor (MRPL), is calculated which is based on the marginal productivity of labor (MPL) and the price of output Donald and Gordon, (2003). The MPL is the increase in output that a firm experiences from adding one additional unit of labor. In most industries, the MPL is declining - as more and more units of labor are employed, their additional output begins to fall. This according to Hall and Hitch (2007) is reflected in a downward sloping MPL curve. If the MPL is multiplied by the price of output, we find the MRPL, which is the additional revenue that a firm can expect from adding one more unit of labor to its production process.

RESEARCH METHODOLOGY
This study utilized descriptive research design since the study focused on describing independent variables. According to Cooper and Schindler (2011), a descriptive study deals with the what, how and who of a phenomenon which is the concern for this study. The study used both quantitative and qualitative approaches where data was collected regarding financial determinants affecting the cost of houses in Kenya.
The study targeted the staff of National Housing Corporation and they were categorized into top level management staff, middle level management staff, and support staff, who total up to 41 respondents (NHC Human Resource Manual, 2010). This study used non-probability sampling technique. Owing to small size of the target population, a census of NHC staff in Nairobi was carried out. The study used likert scale as a major tool for data collection. The questionnaires were designed in a way to give the respondents option to give more insight on choice of answer.

Data Processing and Analysis
Descriptive statistics was used to analyze the collected data with the aim of generalizing to the whole population. The data collected was cleaned and coded to enhance basic statistical analysis. The analysis involved quantitative (numerical) methods where statistical Package for Social Sciences (SPSS) was used because it is capable of analyzing large data within a short time. Also correlation was used to measure the association of the dependent and independent variables that is determinants of cost of houses versus cost of land, cost of capital, cost of building material and cost of labor. The study applied Spearman rank-order correlation coefficient which is a non-parametric measure of the strength and direction of association that exists between two variables measured on at least an ordinal scale. It is denoted by the symbol *rs* (or the Greek letter, pronounced rho). Chi-Square (X2) method was run to test the hypothesis of the study. Data was then presented using statistical techniques which include percentages and frequency distribution tables.

Correlation Analysis
Correlation is a statistical technique that shows the strength of association between pairs of variables. Correlations are useful because they can indicate a predictive relationship that can be exploited in practice. This part aims to correlate the dependent and the independent variables. In the study, the dependent variable is determinants of cost of houses while the independent variables are cost of land, cost of capital, cost of building material and cost of labor.

RESULTS AND DISCUSSION
The association of cost of NHC houses and cost of land

Table 1. Correlation of cost of NHC houses and cost of land

Spearman's Rho		Cost Of NHC Houses are High
	Correlation Coefficient	0.781
Challenges Faced by NHC to get Cheaper Land	Sig. (2-tailed)	0.0367
	N	41

The correlation result in the Table 1 shows a positive correlation between the challenges faced by NHC to get cheaper land and cost of NHC houses with a correlation coefficient of (RHO 0.781, $r^2 = 0.609$). The P-value which is 0.0367 is lower than 0.05 suggesting that the company should make every effort to source for cheaper land to build houses for sale. With high cost of land means a higher price of the houses.

Correlation on cost of NHC houses and interest rates
Table 2. Correlation on cost of NHC houses and interest rates

Spearman's Rho		Cost Of NHC Houses are High
	Correlation Coefficient	0.821
	Sig. (2-tailed)	0.040
Interest rates charged	N	41

The correlation result in the Table 2 shows a positive correlation between interest rates and cost of NHC houses with a correlation coefficient of (RHO 0.821, $r^2 = 0.674$). The P-value which is 0.0404 is lower than 0.05 suggesting that the company should consider sourcing funds from institutions whose cost of capital is lower. Interest rate charged on loan is found to have significant impact on cost. Lower cost of capital will most likely bring down the cost and make the houses affordable to the buyers.

Correlation on cost of NHC houses cost of material
Table 3. Correlation on cost of NHC houses cost of material

Spearman's rho		NHC Sources Material From Manufacturers
Cost Of NHC Houses is High	Correlation Coefficient	-.084
	Sig. (2-tailed)	.0601
	N	41

The correlation report in the Table 3 shows a negative correlation between cost of material and cost of NHC houses with a correlation coefficient of (RHO 0.084, $r^2 = 0.0705$). The P-value which is 0.0601 is

greater than 0.05 suggesting that the company is not involved in the business of sourcing material for construction. The responsibility lies with the contractor who is selected through a competitive bidding and should present to NHC a competitive construction cost. It means that whether the materials are sourced from the manufactures or not is not a determining factor of the house prices.

Correlation on cost of NHC houses and cost of labor

Table 4. Correlation on cost of NHC houses and cost of labor

Spearman's Rho		Government has Guideline Policy on Minimum Wage
Cost of NHC Houses is High	Correlation Coefficient	0.920
	Sig. (2-tailed)	0.0228
	N	41

The correlation report in the Table 4 shows a positive correlation between interest rates and cost of NHC houses with a correlation coefficient of (RHO 0.920, r^2 =0.846). The P-value which is 0.0228 is lower than 0.05 suggesting that cost of labor has an adverse effect on the cost of houses. This is a clear testimony that NHC pays her workers high salaries. To bridge this gap the management of NHC has to either think of reducing the workforce or improve on revenue generation if the price of their houses should be competitive.

Hypothesis Testing

Statistical hypothesis tests define a procedure that controls the probability of incorrectly deciding that a default position (null hypothesis) is incorrect based on how likely it would be for a set of observations to occur if the null hypothesis were true. The probability of making an incorrect decision is not the probability that the null hypothesis is true, nor whether any specific alternative hypothesis is true. A result therefore is considered statistically significant if it has been predicted as unlikely to have occurred by chance alone, according to a pre-determined threshold probability, the significance level. Small significance values which are less than 0.05 indicate that the observed distribution does not conform to the hypothesized distribution. A Chi-square denoted by X^2 is used to carry out the statistical hypothesis test.

Cost of NHC houses has no relationship with cost of land

Table 5 Cost of NHC houses has no relationship with cost of land

	NHC Faces Challenges to get Cheaper Land
Chi-Square(a)	35.780
df	3
Asymp. Sig.	.000

Results from the above Table 5 shows that the statistical significance of the study is 0.000 which is smaller than the confidence level of 0.05 meaning the observed distribution does not conform to the hypothesized distribution. The hypothesized distribution is that cost of NHC houses has no relationship with the cost of land. Analysis of the study revealed that 95% of the respondent agreed and strongly so that NHC faces challenges to get a cheaper land to construct houses for sale. The only available land is expensive and this most often affects cost of the houses. This study therefore rejects the null hypothesis and accepts the alternative.

Cost of NHC houses has no relationship with interest rates
Table 6. Cost of NHC houses has no relationship with interest rates

	Interest Charged To NHC Has Effect
Chi-Square(a)	18.024
df	3
Asymp. Sig.	0.000

Results from the Table 6 shows that the statistical significance of the study is 0.000 which is smaller than the confidence level of 0.05 meaning the observed distribution does not conform to the hypothesized distribution. The hypothesized distribution is that cost of NHC houses has no relationship with the cost of capital which is the interest rate charged on loan. Analysis of the study revealed that 83% of the respondent agreed and strongly so that the interest rates charged to NHC on their loan has significant impact on the cost of houses. This study therefore rejects the null hypothesis that interest rates charged has no relationship with the cost of houses.

Cost of NHC houses has no relationship with cost of material
Table 7. Cost of NHC houses has no relationship with cost of material

	NHC Sources Material From Manufacturers
Chi-Square(a)	12.561
df	3
Asymp. Sig.	0.06

Findings from the study in Table 7 show a statistical significance of 0.06 which is greater than a confidence level of 0.05. In this case it means observed distribution conforms to the hypothesized distribution that cost of NHC houses has no relationship with the cost of material. This finding is confirmed by the highest response rate of 68% of the respondents who alluded that NHC sources construction materials from manufacturers which are cheaper so as to construct cheaper houses. But this has been found not to be true because the company contracts private organization to do this through a competitive bidding. This study therefore accepts the null hypothesis and rejects the alternative hypothesis.

Cost of NHC houses has no relationship with cost of labor
Table 8. Cost of NHC houses has no relationship with cost of labor

	Government Has Guideline Policy On Minimum Wage
Chi-Square(a)	15.268
Df	2
Asymp. Sig.	.000

Table 8 gives a significant statistic of 0.000 which is lower than 0.05 indicating the observed distribution does not conforms to the hypothesized distribution that the cost of NHC houses is not influenced by cost of labor. Analysis results showed the highest number (95%) agreeing and strongly so that government

has guideline on the minimum wage policy which has in effect determine cost of houses. This study therefore rejects the null hypothesis and accepts the alternative hypothesis.

SUMMARY OF MAJOR FINDINGS
Cost of Land
The study showed that it is the responsibility of NHC to source for land to construct houses for sale to prospective customers. According to the finding, it has been hard for the company to get a cheaper land for the purpose. This is as illustrated by the highest response rate of 56% of those who agreed and strongly agreed that the company faces challenges to get cheaper land for construction. This probably explains the reason why cost of the houses sold by NHC is very high. Further to this finding, a non parametric test done revealed statistical significance of 0.000 which is smaller than the confidence level of 0.05 meaning the observed distribution does not conform to the hypothesized distribution.
Cost of Capital
The study showed that interest rates charged to NHC on their borrowed money have been a major drawback for achieving their objectives. This was demonstrated by a total of 83% of the respondents who agreed and strongly agreed to the fact that Interest charged to NHC has had effect on the NHC goals. The findings in addition established that the study data gave a statistical significance of 0.000 which is smaller than the confidence level of 0.05 meaning the observed distribution does not conform to the hypothesized distribution. The hypothesized distribution is that cost of NHC houses has no relationship with the cost of capital. This null hypothesis was therefore rejected by the study and the alternative accepted.
Cost of Materials
This study found that NHC does not engage in sourcing of materials because most of the construction work is outsourced through a competitive bidding as illustrated by a total response rate of 68% of those who disagreed and strongly disagreed to the fact that NHC sources construction material from manufacturers. Further findings from the study showed a statistical significance of 0.06 which is greater than a confidence level of 0.05. In this case it means the observed distribution conforms to the hypothesized distribution that cost of NHC houses has no relationship with the cost of material.
Cost of Labor
This study further indicated that the highest number of respondents (61%) strongly agreed that high labor cost influences NHC decisions on house pricing. The study data gave a significant statistic of 0.000 which is lower than 0.05 indicating the observed distribution does not conforms to the hypothesized distribution that the cost of NHC houses is not influenced by cost of labor.

CONCLUSIONS
Based on the study findings, it is safe to conclude that land for construction especially in the major towns of this country is becoming scarce day by day probably due to the increasing demand of the resource. As the demand increases and supply decreases, then prices are likely to escalate. And is what has exactly happened with NHC houses as illustrated by a total response rate of 95% of those who agreed and strongly agreed that NHC faces challenges to get a cheap land for construction.

This study concludes that for huge projects to be undertaken such as house construction, a loan facility is a prerequisite. The interest rate charged on the loan facility therefore is an integral component in determining whether or not the institutions will realize return on investment (ROI). The interest rates charged on NHC loans have been an impediment to company's effort to set fair prices for their houses as illustrated by 83% of total respondent who agreed and strongly agreed that the interest rates charged to NHC loan has some effect.

As far as the findings of this study are concerned, it is in order to conclude that NHC is not directly involved in the construction work and the reason why cost of material may not be a determining fact in costing of their houses. This demonstrated by the highest response rate (68%) of respondents who disagreed and strongly disagreed to the fact that NHC sources material from manufacturers.

Conclusion drawn by this study is that minimum wage guideline in Kenya is determined by the government and that the minimum wage is not fair for business. According to the majority of respondents (95%) it is strongly agreed that the minimum wages proposed by the government are too high and not favorable for business progress in the country unless prices of services and products are set high.

RECOMMENDATIONS

Findings of this study established that land is becoming scarce due to the increasing demand of the asset especially in the major towns such as Nairobi. The study recommends that NHC should start thinking of utilizing the air space within their already existing unconstructed land by constructing storey houses which go to more floors. The company should also focus more on constructing some houses in smaller towns and take advantage of devolved services.

Interest rates are an obstacle for setting a fair price for the consumer. This study proposes that NHC should source funds from financial institutions which are willing to negotiate fair interest rates. This would help the company (NHC) cost their houses in a way there are competitive.

It emerged from the study results that NHC is not involved in the construction work and therefore may not require finding out the difference between material cost from manufacturers and from the suppliers. But this study recommends that it is of paramount significance that the company gets time to have a rough idea of difference in costs when sourcing for the material. The company can advise the contractor on where to source for material and hence form a basis for further negotiation of construction cost.

The company has very little to do with the minimum wage guideline set by the government. However, this study recommends that the company should consider bringing down other overhead and operation costs to compensate for the high labor cost. This could include and not limited to reduction of workforce as well as restructuring the organization.

REFERENCES

Arab Republic of Egypt, Ministry of Housing, Utilities and Urban Communities. (2000). *Urban Development in Egypt*.

Awiti, A. (2012). *Managing Slums in Kenyan Towns*. Paper presented to Ministry of Housing in Kenya.

Aziz, S. (1981). *Rural Development: Learning from China*. New York: Holmes & Meier

Baker D. (2002) "The Run-Up in Home Prices: Is it Real or is it Another Bubble *Center for Economic and Policy Research,* August 2.

Barkham, R. and Geltner, D. (1996). Price Discovery and Efficiency in the UK Housing Market. *Journal of Housing Economics* 5: 41-63.

Bonyo, J. (2010). Business Magazine, 2nd Ed Business Section Article

Brueggeman W.; Fisher J. D. (1997) *Real Estate Finance and Investments*. 8th Ed. New York: McGraw-Hill Irwin.

Brueggeman, W. B. and Fisher, J. D. (2001). *Real Estate Finance and Investments*. 11th Ed. New York: McGraw-Hill Irwin.

Buurman, J. (2001). *A spatial exploratory model for rural land prices*. Paper presented at the 41st congress of the European Regional Science Association in Zagreb, Croatia.

Case, K. E. and Shiller, R. J. (2003). Is there a bubble in the housing market? *Brookings Papers on Economic Activity* 2: 299-362.

Collins English Dictionary (2014) - Complete and Unabridged 10th Edition. Retrieved April 04 from Dictionary.com website: http://dictionary.reference.com/browse/tranquil

Cooper, D. R. and Schindler, P. S. (2011). *Business research methods*. New York: McGraw Hill

Cramer, J. S. (2003). *The origins and development of the logit model.* Cambridge: Cambridge

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika* 16 (3): 297–334.

Darrat, A. F. and Glascock, J. L. (1993). On the real estate market efficiency. *Journal of Real Estate Finance and Economics* 7: 55-72.

Donald F. Gordon, (2003) What was the Labor Theory of Value", *American Economic Review Papers and Proceedings*, V. 49: 462–472

Erguden, S. (2001). Low-cost housing: policies and constraints in developing countries.

Fisher, R. A and Yates, F. (2007). S*tatistical tables for biological agricultural and medical research.* 6th ed. Table IV, Oliver & Boyd, Ltd., Edinburgh, by permission of the authors and publishers

Glindro, E. T., Tientip Subhanij, Jessica Szeto and Haibin Zhu. (September 2011). Determinants of Housing Prices. *International Journal of Central Banking.*

Hall L. and Hitch, J. (2007) Price Theory and Business Behavior *Oxford Economic Papers*, pp. 12–45.

Hassanali, F. M. (2009). *Understanding reduced private-Sector: Participation in low income housing delivery in Nairobi. Strathmore University.*

Herring R.; Wachter S. (2003) *Bubbles in Real Estate Markets*, Asset house prices in nine Asia-Pacific economies. *International Journal of Central Banking.* International Policies.*Investments,* Irwin/McGraw-Hill.

Ireri, F, (2010). Home Expo Publication on Challenges of Cost of Housing in Kenya

Langdon, D. (2007). *Construction Industry Market Report—2007.* First Quarter and

NHC Human Resource Manual (2010). Publication by Government of Kenya under the Ministry of Housing

Okonkwo, O. (1998). Housing Finance and Housing delivery systems in Kenya: Bottlenecks, recent developments and the way forward. *Housing Finance International.*

Payne, M. (2002). Tenure and the law: the legality of illegality and the illegality of legality. IN Payne, G. (Ed.) *Land, rights and innovation: improving tenure security for the urban poor.* London: ITDG Publishing.

Macharia, K. (2011). Investment in real estate in Kenya and cost of mortgage.

Randall, A. and Castle, E. N. (1985). *Land resources and land markets:. Handbook of natural resource and energy economics.* Kneese, A. V., Sweeney, J. L., Elsevier Science Publishers B.V.

Republic of Kenya, Ministry of Lands. (2011). *Land resources and real estate industry.*

Rubinowitz, L. S. (1974). *Low income housing.* Sub-urban Strategies, Cambridge. Second Quarter.

Seedhouse, D. (1986). Health: The foundation for achievement. *Health Policy*, Vol 7, Issue 3.

United Nations Centre for Human Settlements (Habitat II). (1996). *The Istanbul Declaration and The Habitat Agenda.*

United Nations Centre for Human Settlements (Habitat). (1997). *Shelter for all: The potential of housing policy in the implementation of the habitat agenda.* Habitat, the City Agency of the United Nations

United Nations Centre for Human Settlements (Habitat). (2001). Cities in a globalizing world. *Global Report on Human Settlements.*

United Nations Centre for Human Settlements (Habitat). (2012). *Status conference on Kenya housing market.* Report on provision of decent and affordable housing in Kenya.University Press.

Voith, R. P., (1991), Capitalization of Local and Regional Attributes into Wages and Rents: Differences across Residential, Commercial, and Mixed-Use Communities, Journal of Regional Science.

Wang, Z. (2008). A technical note on seismic microzonation in the central United States. *Journal of Earth Systems Science.* 117, S2, pp. 749–756

Zhou, Y. Q. (2004). *An analysis of the factors of housing stratification.* Paper presented at the APNHR Conference in Hong Kong, 5-6 February.