

## **Factors Influencing Real Estate Property Prices A Survey of Real Estates in Meru Municipality, Kenya**

Omboi Bernard Messah (corresponding author)

School of Business & Management Studies

Kenya Methodist University

P O box 267-60200, Meru -Kenya

Tel: +254 724770275 E-mail: [messahb@yahoo.co.uk](mailto:messahb@yahoo.co.uk)

Anderson .M. Kigige

P.O. Box 111 - 60200, Meru- Kenya

Tel 0721401289 E-mail: [kmutembei@yahoo.com](mailto:kmutembei@yahoo.com)

### **Abstract**

Real estate is often used to refer to things that are not movable such as land and improvements permanently attached to the land. Different types of real estate can have very different cyclic properties. Real estates go through bubbles followed by slumps in Meru municipality and some real estate properties take shorter time while others take longer to sell despite that the prevailing conditions seem similar. Several studies done especially on changes in prices of real estates revealed that real estate prices go through bubbles and slumps.

The study therefore, investigated factors at play in determining real estate property prices in Meru Municipality in Kenya. The study investigated factors such as incomes of real estate investors, the influence of location on the price, demand and realtors influence on the price.

The study adopted descriptive research design to obtain information on the current status of the phenomenon. Structured questionnaires were used in data collection to obtain the required information needed for the study. The population consisted of all 15,844 registered real estate owners in the 5 (five) selected areas of Meru municipality from which a sample of 390 real estate owners were selected by stratifying the population and then selecting the respondents by use of simple random sampling.

The data obtained was analyzed by use of available statistical packages for social sciences to obtain descriptive statistics and a regression model. Findings indicated that incomes alone contributed almost 70% of the variations in prices. Demand alone contributed 20% of the changes in prices of real estate. Location and Realtors were found insignificant in determining real estate prices.

A summary regression showed that the variables considered could explain up to about 70% of variations in prices. The study recommends that further investigation be done on reasons why location and realtors were not significant in determining real estate property prices in Meru municipality.

**Keywords:** Real Estate, Property Prices, realtors, Demand, Meru Municipality

## ACRONYMS AND ABBREVIATIONS

<b>CMA:</b>	Competitive Market Analysis
<b>DOM:</b>	Days on the Market
<b>NAR:</b>	National Association of realtors
<b>NYT:</b>	New York Times
<b>NHC:</b>	National Housing Corporation
<b>RCNLD:</b>	Replacement Cost New Less Depreciation
<b>U.S.A:</b>	United States of America
<b>U.K:</b>	United Kingdom

## 1.0 Introduction

### *1.1 Background of the study*

Theory of price asserts that the market price reflects interaction between two opposing considerations. On one side are demand considerations based on marginal utility, while on the other side are supply considerations based on marginal cost. An equilibrium price is supposed to be at once equal to marginal utility from the buyer's side and marginal cost from the seller's side (Jimmy, 2009). Real estate is a business, not a profession. Real estate is sometimes inaccurately spoken of as a profession, but it is essentially a business. The principal divisions of the real estate business are investment, operation and agency (Kimmons, 2010). These differ from one another according to the aims of the persons engaging in them and the methods by which those persons expect to make their gains

There are two kinds of sellers (Capozza *et al.*, 2009); those who can afford to wait for as long as it is necessary to sell at fair market values and those who cannot wait but have to sell more quickly due to various constraints. Schelling (1978) notes that, other factors remaining constant, people are assumed to be rational and to allocate their resources such as time and money in ways that maximize their own utilities. Horton (2010) alludes that no two real estate properties are completely alike, but some are similar enough to compare prices. So, to determine real estate property value, one needs to compare the property with old listings and active listings. One needs to look at comparable land and homes that have recently sold (sold listings), land and homes that were for sale on the market but never successfully sold (expired listings), land and homes that are currently for sale (active listings). According to Edward (2010), unlike the purchases made at retail stores, real estate prices are not fixed. When a buyer searches for a new home, he/she does it with the knowledge that he/she has the option to offer the seller less for the property than the asking price. Every aspect of a real estate purchase is negotiable. According to Sharpe (1999), real estate pricing deals with the valuation of real estate and all the standard methods of determining the price of fixed assets apply. Prices are limited by various factors such as the incomes of potential buyers, the cost and the ability to construct new property to increase supply and demand for rental units. The ability to make payments, borrow money and the cost of borrowing money are major

influences limiting how far prices can rise before hitting resistance due to prices hitting levels where potential borrowers are unable to qualify (Sharpe, 1999).

Real estate prices in Kenya has doubled, even tripled in the past few years (Majtenyi, 2010) and the government wants to know the cause. Demand for housing units continues to outstrip the supply (Masika, 2010). Real estate property market is booming in Kenya especially because of the growth in the mortgage financing in the country (Masika, 2010). 60% of the pension fund is going towards the property market (Mwithiga, 2010) and they are using it as mortgage security (Okumu, 2010). Real estate property negotiations and prices in Kenya are widely determined by the brokers and realtors. Kenyan real estate property covers all property categories including single and multi-family residential dwellings, commercial and agricultural land, office space, go-dawns and warehouses, retail outlets and shopping complexes (Masika, 2010).

Meru Municipality on average occupies an area of about 27.4 KM<sup>2</sup> (Republic of Kenya, 2009). It is subdivided into various administrative boundaries namely; Mulathankari, Ntima, Mpuri and Township. It has only one realtor and several real estate agents and brokers (Republic of Kenya, 2010). Information available, whether in the Kenyan property web sites or with individuals at the time of this research lacked details on the determinants of the property price. They only gave the listed prices.

### *1.2 Statement of the problem*

Research findings by Antonio (2006) indicated that real estate accounts for a large share of wealth; about 33% and Gross Domestic Product (GDP) of about 11% in the United States of America. Antonio further stated that real estate is multifaceted. It is local and it is national. Prices may be high in summer and lower in winter. What sellers ask for may be higher in winter and lower in summer. It can be perception. It can also be supply versus demand. Real estate is a business, an emotion, a science and it is random. There are usually hundreds of forces at work, many unseen, culminating in a selling price for a house or a piece of land. Brophy (2010) pointed out that real estate sellers try and sell for as much as they can and buyers try to buy for as little as they can. Agreements may work out from there and the final selling price is agreed upon.

Real estate market is one that is characterized by almost predictable cycles of booms and busts (Smith, 2010). The former are the periods when the prices in market soar and almost inevitably, they are followed by other periods when the prices plummet. There are actually people who make a living out of these cycles. These are people whose study of the real estate property markets has brought them to a point where they can reliably tell when they are seeing a bust (when prices are very low), purchase property at that point and then sell it during the subsequent and virtually inevitable boom, making a big profit (Smith, 2010). The construction sector in Kenya recorded a growth of 8.3 per cent in 2008 compared to 6.9 per cent in 2007 (Republic of Kenya, 2009). The robust growth was supported largely by increased capital investment in roads and housing. Increase in construction activities was reflected in cement consumption which grew by 7.0 per cent from 2,061.4 thousand tones in 2007 to 2,205.8 thousand tones in 2008 (Republic of Kenya, 2009).

Prices in most areas are influenced by demand and supply forces as research as shown (David *et al.*, 1990). But for some reason, the real estate market prices in other different areas seem to be dictated by what comes across as quite a different set of forces. It is for this reason the researcher set out to investigate the factors at play in determining real estate property prices in Meru municipality in Kenya.

### *1.3 Objectives of the study*

The broad objective of this study was to investigate the factors that influence real estate property prices in Meru municipality in Kenya.

#### *1.3.1 Specific Objectives*

- i. To establish the relationship between incomes of real estate investors and prices.
- ii. To evaluate the relationship between the location of a real estate property and its price.
- iii. To establish the effect of demand on real estate property prices.
- iv. To determine the level of influence of realtors and brokers on the prices of real estates.

#### 1.4 *Justification of the study*

This study was intended to contribute to the following areas: To the Meru town Municipal council, the study was intended to help in the policy planning of the town, in boundary setting of the town and in deed restrictions (which are essential private contractual agreements imposed to use or not to use property in certain ways). To the financial analysts, the study was intended to help with information that would be useful in advising their clients in financial decisions. It would also provoke other researchers to carry out similar research on the effects of price of real estate property in other towns in Kenya. The real estate agents and real estate brokers would also benefit from this study. They would get information concerning real estate purchase patterns. They would in turn be able to advise their clients (both sellers and buyers) on the real estate price patterns. The buyers and sellers would also benefit directly. They would be able to make informed choices in the real estate property investment. They would know what factors to consider and the weight of each in their choices of where to invest, when to invest and how much to invest. The results of this study were also intended to benefit other scholars and learners who would be seeking information as they use the results obtained in furtherance of their studies. It would serve as eye opener to them concerning trends of real estate property prices.

#### 1.5 *The scope of the study*

The researcher sought to establish the factors that determine real estate property prices in Meru Municipality. The study specifically covered Mulathankari (Kaaga and Runogone), Ntima (Tuntu and Upper Igoki), township, Gakoromone and Mpuri sections of the Municipality. The sections chosen were due to their proximity to the major urban center (Meru Town) where real estate market is more active and where prices have distinct homogeneities.

## 2.0 Literature review

### 2.1 *Theoretical literature review*

Real estate is often used to refer to things that are not movable such as land and improvements permanently attached to the land (Brueggeman, 1997). Different types of real estate can have very different cyclic properties. Empirically, it is shown that they do (Bailey, 1963) and the question is posed as to what might distinguish between property markets where movements are largely stable responses to repeated economic shocks and those undergoing a continuing endogenous oscillation (Wheaton, 2003). Real estate pricing deals with the valuation of real estate and all the standard methods of determining the price of fixed assets apply (Hugh, 2010). According to David (1990), the concept of consumer surplus is key in analyzing the price theory. This answers the question; how much is it worth to me to be able to buy some goods at a particular price and how much better off am I than if the goods did not exist.

From a survey done by Oward (1998), many people buy real estate because they are told that it is a good investment. They do not bother to keep track of their investment returns to determine whether their purchase was worth the price.

Real estate industry is both capital-intensive, highly related industries and industries essential to provide the daily necessities. However, the real estate pricing models and methods of research rarely receive the critical attention and development it deserves. Lack of adequate data has limited the scope of empirical

research on real estate transactions. Existing data sets typically include property characteristics, time to sale, initial listing price and sale price. They do not contain information on the buyer's side of the transaction or on the seller's behavior between the initial listing and the sale of a property. This explains why most of the empirical literature on real estate transactions has either focused on the determinants of the sale price or on the role of the initial listing price and its effect on the time to sale (Huawang, 2009; ), Horowitz, 1992; Miller and Sklarz, 1987; and Zuehlke, 1987).

In ordinary usage, price is the quantity of payment or compensation given by one party to another in return for goods or service (Morahan, 2002). Price can sometimes alternatively refer to the quantity of payment requested by a seller of goods or services, rather than the eventual payment amount. This requested amount is often called the asking price or selling price, while the actual payment may be called the transaction price or traded price (Wales, 2009). According to David (1990), there are a number of lessons that can be drawn from the analysis of consumer choice as relates to the price. The first is that the value of something is whatever we are willing to give up for it. Two things have the same value if gaining one and loosing the other leaves one neither better nor worse off, meaning that we are indifferent between the situation before the exchange and the situation after the exchange. A second lesson is that the value of something depends not only on the nature of the goods and preference but also on how much of those goods one has. The third lesson is that the price of something is determined by the amount of something else one must give up to get it. Finally, one buys something if and only if its cost is less than its value.

Most real estates' are financed with debts and sadly, most of the monthly payments go down a hole of interest. Just like rent, it would be nice if all the real estate mortgage payment grew one's equity. Even at low interest rates, a 20-year 4% real estate mortgage payment is 55% interest when the extra costs, for instance property taxes, property insurance, mortgage fee and insurance, regular maintenance and sporadic upgrades, higher utilities and higher commuting costs from living further from work are added. Yet, few people consider these costs as part of the price when they set out to purchase a piece of real estate (Oward, 1998). Austrian business cycle theory (Foldvary, 2010), takes a supply-side view, arguing that real estate bubbles cause misallocation of resources. Too many houses and offices are built, and too many resources both materials and labour are wasted in building unneeded buildings. Further, this distorts the industrial base, yielding an excess of homebuilders who must then retrain and retool when the bubble bursts, this transition between non-productive and productive uses of resources being a proximate cause of the resulting economic slump.

The Post-Keynesian theory of debt deflation takes a demand-side view, arguing that real estate property owners not only feel richer, but borrow against the increased value of their property, or borrow money to speculate in real estate property, buying property with borrowed money in the expectation that it will rise in value. This last view is associated with Minsky (2009) and his Financial Instability Hypothesis. When the bubble bursts, the value of the property decreases but, crucially, the level of debt does not (Patrick, 2010). The burden of repaying or defaulting on this debt is argued to depress aggregate demand and be the proximate cause of the ensuing economic slump.

The mainstream economic view is that economic bubbles primarily effect first a temporary boost in wealth, and secondly a redistribution of wealth (Killelea, 2010). When prices go up, there is a positive wealth effect – property owners feel richer, and hence spend more, and when prices go down, there is a negative wealth effect – property owners feel poorer, and hence spend less. It is argued that these effects can be smoothed by counter cycle monetary and fiscal policy ([en.wikipedia.org/wiki/Keynesian](http://en.wikipedia.org/wiki/Keynesian)). Secondly, the ultimate effect on owners who bought before the bubble formed and did not sell is zero throughout, they owned the property. Conversely, those who bought when low and sold high profited, while those who bought high and sold low or held until the price had fallen lost money, though this ultimately is simply redistribution of wealth (Jimmy, 2010) and, it is argued, of little economic significance. In some schools of heterodox economics, notably Austrian economies and post Keynesian economies, real estate bubbles are seen as an example of credit bubble because property owners generally use borrowed money to purchase property, in the form of mortgages. These are then argued to cause



financial and hence economic crises. This is first argued empirically numerous real estate bubbles have been followed by economic slumps, and it is argued that there is a cause-effect relationship between these (Hyman, 2009)

According to Deng (2009), a record \$560 billion of residential property was sold in China; an increase of 80% from the year before constituting a tremendous rise in construction, lending and speculative buying. Housing nationwide rose by nearly 200% in 2009. With prices skyrocketing and with clear signs of exuberance everywhere developers are scrambling to build more mansions, villas and high-rise apartments. An investor in Shanghai bought 54 apartments in a single day in 2009 (Deng, 2009); a villa sold for \$30 million in 2008; and in December a consortium of developers paid more than \$3.5 billion for a huge tract of land in Guangzhou: an important trading center as well as a busy port and the capital city of the province of Guangdong; one of the highest prices paid for any property, anywhere (Liu, 2009).

Fueled by low interest rates, real estate property values in China's urban centers exploded in 2009 after prices had already doubled over the three previous years. It experienced close to a 60% rise in a matter of months. A typical 1,100 sq/foot apartment in Beijing costs up to \$200,000, that's about 80 times the average annual income of the city's residents. Most Chinese home buyers expect that high prices will keep climbing, so they are stretching to pay prices at the edge of their means or beyond. Statistics from Goldman Sachs showed that over the past six years, housing price hikes had outpaced wage hikes by 30% in Shanghai and 80% in Beijing (Ameritrade, 2010)

On December 30, 2008 the Case-Shiller (2010) home price index reported its largest price drop in its history. Increased foreclosure rates in 2006 to 2007 among U.S. homeowners led to a crisis in August 2008 for the sub-prime mortgage, credit, hedge fund, and foreign bank markets. In October 2007, the U.S. Secretary of the Treasury called the bursting housing bubble the most significant risk to the U.S. economy (Roubini, 2010). Any collapse of the U.S. Housing Bubble has a direct impact not only on home valuations, but the nation's mortgage markets, home builders, real estate, home supply retail outlets, Wall Street hedge funds held by large institutional investors, and foreign banks, increasing the risk of a nationwide recession. Concerns about the impact of the collapsing housing and credit markets on the larger U.S. economy caused President George W Bush and the chairman of the Federal Reserve to announce a limited bailout of the U.S. housing market for homeowners who were unable to pay their mortgage debts (Shiller, 2010). The impact of booming home valuations on the U.S. economy since the 2001–2002 recession was an important factor in the recovery, because a large component of consumer spending was fueled by the related refinancing boom, which allowed people to both reduce their monthly mortgage payments with lower interest rate. Although many people claim that an economic bubble is difficult to identify except in hindsight, numerous economic and cultural factors led several economists especially in late 2004 and early 2005 to argue that a housing bubble existed in the U.S In the 2004 article Bush's House of Cards. In the Nation, Dean Baker (2010) identified the nature and depth of the housing bubble and the political reasons it was being ignored. Prior to that, Robert Prechter (2009) wrote about it extensively as did Professor Shiller in his original publication of Irrational Exuberance in the year 2000.

Real estate in Philippines according to Cahill (2010) varies in prices due to many factors. Among these factors, there are three that have the greatest influence. The first is location. The location of real estate in Philippines has one of the most, if not the most, effect on the real estate prices. Usually, the closer the land is to commercial centers or recognized vocational spots, the more expensive the land becomes. The second one is accessibility. Roads and other infrastructure cost a great deal of money to build and maintain which is why lands supported with paved streets cost more than lands surrounded with dirt roads. The third is land developer. Real estate prices are also affected by the companies that own them. The more popular the real estate company is, the more expensive the lands are. This is because bigger and more widely recognized realty companies invest large sums of money on quality service and infrastructure in order to provide prime real estate and service smaller companies offer only real estate, the bigger companies offer land, road, and other amenities. They also have a greater amount of experience with land management and development than smaller and newer competitors.

Taylor (2010), points out that price of real estate in Ecuador have been improving in the last few years and the appreciation is likely to continue during the coming decade. A two- bedroom Condo in the historic center of Quito, capital of Ecuador is normally priced below \$55,000. In the city center of Cuenca, the same type of two-bedroom property would cost less than \$40,000. This would clearly indicate that Ecuador real estate prices are among the most attractive in the international market. A single bedroom, furnished apartment in the richest neighborhood of Cuenca, situated along the banks of river Tomebamba would be available for a monthly rental rate of \$350. A country side land 2.5 acres with several fruit trees, fresh water sources, and a traditional 5 bedroom house in the areas like the valley of Longevity, was recently purchased by an international investor for \$60,000 (Taylor,2010). This clearly proves that any investment in the Ecuador real estate for sale or Ecuador rentals is likely to be a highly profitable venture.

South Africa for instance, has achieved many successes, including greater political stability and greater economic freedom. Research Worldwide.com published results of its annual survey which showed that property investments in South Africa showed an actual total return of 15,1% in 2009. South African commercial real estate outperformed sixteen other major countries (Gauteng, 2010). The real estate boom in South Africa and low interest rates continues to encourage homeowners to feel confident and spend buying those houses for sale, farms for sale and commercial property for sale (Gauteng, 2010)

In Kenya, Property Kenya, a real estate agency operates a heavy traffic of real estate listing service online with more than 31,290 registered members and 30,000 unique visitors monthly. This indicates the immenseness of wealth in real estate (Property kenya, 2010).

### *2.1.1 Price determination*

#### *2.1.1 a) How to set a list price for a real estate property*

Setting the real estate list price for a piece of property involves evaluating the property as well as the various market conditions and financial factors (Realestatepros, 2010). It is very important to price property at a competitive market value right when listing it. When people search for properties, they often use the pricing parameters, homes listed between \$120,000 and \$125,000. After having looked at a few homes, buyers begin to understand the market values. The market is so competitive that even over-pricing by a few thousand dollars could mean that a house will not sell. That means that the seller will have to put him/herself in the buyer's shoes when pricing a real estate. If he/she clings to what he/she thinks it is worth, he/she may end up holding it for longer than expected (Ozarks, 2010).

#### *2.1.1 b) Pricing considerations*

Real estate property buyer's shop by comparison, they preview properties in the areas they are looking and the price range they can afford (Wales, 2010). Buyers typically base their selection of a house for instance on what's most appealing to their personal tastes but also what they feel is the best value based on all of the houses they've seen (Elli *et al.*, 2010). So it's important to consider this when setting a list price for a house. The following additional pricing factors need to be considered as well (Hutchison, 2005); If a seller set the price too high, the house won't be selected for showing by realtors. Even though his may be much nicer, it needs to be priced appropriately and in comparison to other houses in the neighborhood. And while he may have told his Realtor "Bring me any and all offers. As frankly, I'd take less." What buyers and their agents see is a property that simply appears overpriced in comparison to other properties in the community, and too expensive to be considered. If the real estate price is too low, the seller will short-change himself. His property will sell promptly, but he may make less on the sale than if he had set a higher price and waited for a buyer who was willing to pay it.

#### *2.1.1 c) Price against comparable sales in the neighborhood and community*

No matter how attractive and polished a piece of real estate is (Kilpatrick, 2007), buyers will be comparing its price with other real properties on the market.

The seller's best guide is a record of what the buying public has been willing to pay in the past few months for property in his neighborhood (Hutchison, 2005). Realtors can furnish data on sales figures for those comparable sales and analyze them to help him come up with a suggested listing price. Of course ultimately the decision about how much to ask is always the seller's.

### *2.2.1 Offering incentives to hasten a sale*

Sometimes cash incentives are as effective as lowering the price, especially in the lower price range where buyers may be cash poor. The seller may offer to pay some or all of a buyer's closing costs and discount points required by the buyer's lending institution (Homesmart, 1990). If the seller hasn't had much traffic through his property and he's in a hurry to sell, he may want to add the offer of a bonus to the selling broker, in addition to their commission (Nexis, 2007). An example of the wording for such an offer may be to the broker who brings a successful offer before Christmas.

### *2.2.2 Modeling real estate intermediaries*

There are a number of possible services that real estate agents provide. The real estate agent has the ability to include a seller's property in a large database of property for sale, called the multiple listing service, which in conjunction with other types of advertising, can help to increase the rate of arrival of potential buyers, and/or result in arrivals of buyers who are better informed and thus better matches for the seller's real estate property, resulting in a higher rate of offers, or higher offers or both (Gehrig, 1993). The real estate agent is an expert on conditions in the local property market, and can therefore aggregate information and provide useful information advice to a seller about what list prices are appropriate, what arrival rates of buyers to expect, and what price the seller can expect to receive from sale of their property. From the standpoint of buyers, real estate agents also provide valuable services via their access to the multiple listing services, by helping buyers to direct their search more efficiently to the property in their desired location, style and price range (Atakan, 2006).

It is possible as already presented, to quantify the impact of a real estate agent on buyer arrival rates, on offer distributions, and so forth. If it is possible to identify the causal effects; how a real estate agent affects arrival rates, offer distributions and so forth, then it is possible to estimate the value of the real estate services using the modeling approach (Atakan, 2005). In particular, the cost of a real estate agent is also known. The real estate commission is typically 6% in the U.S., and when a sale occurs between a buyer and seller who are both represented by their own real estate agents. This commission is split 50/50 between the buying and selling agents. We can model buyers' and sellers' endogenous choice of whether to use real estate agents. In particular, a seller will list their property with a real estate agency only if the increase in the expected selling price due to higher arrival rates of buyers and/or higher offers due to improved matches and/or better advice to the seller on selling strategy, exceeds the 6% commission (Park, 1989).

There are difficult economic issues arising from the possibility of multi-equilibrium when real estate agents are introduced, and related econometric issues of how to infer causality given the patterns of self-selection in the decision of whether or not to use a real estate agent. In particular, until recently, the vast majority of properties have been sold via real estate agencies and the properties that are sold by owner may not be typical of the overall population of properties for sale. It might be the case that beliefs about the power of real estate agents are self-confirming. That is, if sellers believe that they are unlikely to be successful unless they hire a real estate agent, then they will do so and most of the good homes and land will be listed with real estate agents. If buyers also believe that they will not be able to find out about good properties unless they search the multiple listing services, then the sellers' beliefs will be confirmed and the vast majority of transactions will be mediated by real estate agents (Yavas, 2005). However it



could be possible that there is an alternative equilibrium where a significant share of land and houses are for sale by owner, and that search via avenues outside the multiple listing service for instance, the classified advertisements, or independent internet posting agencies could result in a very different equilibrium in the real estate market with a far lower share of property transactions handled by traditional real estate agents (Vernon, 2009).

### *2.2.3 Competitive market analysis (CMA)*

The list of comparable sales the Realtor provides, along with data about other property in the neighborhood that are presently on the market is used for a Comparative Market Analysis (CMA). To help in estimating a possible sales price for a real estate, the analysis will also include data on nearby property that are presently on the market as well as those which failed to sell in the past few months, along with their list prices (Weintraub, 2010). A CMA differs from a formal appraisal in several ways (Elizabeth, 2010). One significant difference is that an appraisal will be based only on past sales and will not take into account those properties currently listed. Also, an appraisal is done for a fee while the CMA is provided by the realtor. For the average home sale for instance, a CMA is all the information the seller will need to help in setting a proper prices.

### *2.2.4 Formal written appraisal*

Real estate appraisal, property valuation or land valuation is the practice of developing an opinion of the value of real property, usually its market value (Estellita *et al.*, 2005). The need for appraisals arises from the heterogeneous nature of property as an investment class: no two properties are identical, and all properties differ from each other in their location - which is one of the most important determinants of their value.

Hutchison (2005), states that a formal written appraisal can be useful if; the property is a unique property, there hasn't been much activity in the seller's area recently, co-owners disagree about price, or there are other circumstances that make it difficult to put a value on a property.

### *2.2.5 Market conditions*

A CMA often includes a Days on the Market (DOM) value for each comparable house sold. When real estate is booming and prices are rising, houses for instance may sell in a few days. Conversely, when the market slows down, average DOM can run into many months (Mary, 1997). It is easy to tell whether an area is currently in a buyer's market or a seller's market. In a seller's market, the seller can price a bit beyond what he really expects just to see what the reaction will be. In a buyer's market, if the seller really needs to sell promptly, he has to offer an attractive bargain price (Gehrig, 1993).

Some sellers list at the rock-bottom price they'd really take, because they hate bargaining. Others add on thousands to the estimated market value just to see what happens. CMA does not recommend the latter strategy as the price at which a property eventually sells is inversely correlated to its time on the market and thus it is best that the property be priced appropriately from the start. Furthermore, they typically receive the highest levels of traffic in the first 30 days they are listed and thus if the property is initially overpriced one is most likely missing out on the best opportunity to sell. However, if one would want to try this strategy, they have the luxury of time to feel out the market and it indicates willingness to take the risk, such people will need to work out an advance schedule for lowering the price if need be (Gehrig, 1993).

### *2.2.6 Estimating net proceeds*

Once the seller has been given an estimate of market value by his realtor, he can get a rough idea of how much cash he might walk away with when the sale is completed. To estimate the net proceeds, from the

estimated sales amount, we subtract the seller's costs, buyer's/seller's costs and closing costs ([www.free-mortgage-calculators.com](http://www.free-mortgage-calculators.com)).

**Buyer's/Seller's Costs:** Additionally, the realtor can tell whether local customs or rules dictate whether the buyer or seller pays for the items listed. Buyer's/seller's costs as applicable are; Title insurance premium, transfer taxes, survey fees, inspections and repairs for termites, recording fees, homeowner association transfer fees and document preparation, home protection plan, natural hazard disclosure report.

**Closing Costs:** As far as closing costs are concerned, the seller and his eventual buyer may agree on any arrangement, no matter what local practice dictates (Opland, 2010).

### *2.2.7 Housing affordability measures*

**The price to income ratio:** This is the basic affordability measure for housing in a given area. It is generally the ratio of median house prices to median familial disposable incomes, expressed as a percentage or as years of income. It is sometimes compiled separately for first time buyers and termed attainability. This ratio, applied to individuals, is a basic component of mortgage lending decisions. According to calculation by Goldman Sachs, a comparison of median home prices to median household income suggested that U.S. housing in 2005 was overvalued by 10%. However, this estimate was based on an average mortgage rate of about 6%, and the rates were expected to rise. According to Goldman's figures, a one-percentage-point rise in mortgage rates would reduce the fair value of home prices by 8%. ([www.housing.infoxchange.net.a](http://www.housing.infoxchange.net.a)).

**The deposit to income ratio (Pietersz, 2010):** This is the minimum required down payment for a typical mortgage, expressed in months or years of income. It is especially important for first-time buyers without existing home equity. If the down payment becomes too high then those buyers may find themselves priced out of the market. For example, as of 2004 this ratio was equal to one year of income in the UK.

Another variant is what the National Association of Realtors calls the housing affordability index in its publications. (The NAR's methodology was criticized by some analysts as it does not account for inflation). Other analysts, however, consider the measure appropriate, because both the income and housing cost data is expressed in terms that include inflation and, all things being equal, the index implicitly includes inflation. In either case, the usefulness of this ratio in identifying a bubble is debatable. While down payments normally increase with house valuations, bank lending becomes increasingly lax during a bubble and mortgages are offered to borrowers who would not normally qualify for them (Economics' reports for the Canadian markets, 2009)

**The Affordability Index (NAR, 2010):** This measures the ratio of the actual monthly cost of the mortgage to take home income. It is used more in the United Kingdom where nearly all mortgages are variable and pegged to bank lending rates. It offers a much more realistic measure of the ability of households to afford housing than the crude price to income ratio. However it is more difficult to calculate, and hence the price to income ratio is still more commonly used by pundits. In recent years, lending practices have relaxed, allowing greater multiples of income to be borrowed. Some speculate that this practice in the long term cannot be sustained and may ultimately lead to unaffordable mortgage payments, and repossession for many.

**The Median Multiple:** This measures the ratio of the median house price to the median annual household income. This measure has historically hovered around a value of 3.0 or less, but in recent years has raised dramatically, especially in markets with severe public policy constraints on land and development.

**Inflation-adjusted home prices in Japan (1980–2005) compared to home price appreciation in the United States, Britain, and Australia (1995–2005).**

### 2.2.8 Housing debt measures

The housing debt to income ratio or debt-service ratio: This is the ratio of mortgage payments to disposable income. When the ratio gets too high, households become increasingly dependent on rising property values to service their debt. A variant of this indicator measures total home ownership costs, including mortgage payments, utilities and property taxes, as a percentage of a typical household's monthly pre-tax income (Talbot, 2003).

The housing debt to equity ratio: Also called loan to value, is the ratio of the mortgage debt to the value of the underlying property (Tyson, 2003). It measures financial leverage. This ratio increases when home owners refinance and tap into their home equity through a second mortgage or home equity loan. A ratio of 1 means 100% leverage, Higher than 1 means negative equity.

### 2.2.9 Real Estate valuation

Real estate appraisal, property valuation or land valuation is the practice of developing an opinion of the value of real property, usually its Market Value (Kilpatrick, 2007). The need for appraisals arises from the heterogeneous nature of property as an investment class. No two properties are identical, and all properties differ from each other in their location, which is one of the most important determinants of their value (Wallace, 2004). The absence of a market-based pricing mechanism determines the need for an expert appraisal/valuation of real estate/property (Tyagi, 2003).

Although some areas require no license or certification at all, a real estate appraisal is generally performed by a licensed or certified appraiser in many countries known as a Property Valuer or Land Valuer and in British English as a valuation surveyor (Kiyosaki, 2005). If the appraiser's opinion is based on market value, then it must also be based on the highest and best use of the real property. For mortgage valuations of improved residential property in the US, the appraisal is most often reported on a standardized form, such as the uniform residential appraisal report. Appraisals of more complex property are usually reported in a narrative appraisal report (Kiyosaki, 2005).

#### 2.2.9 a) The cost approach

The cost approach was formerly called the summation approach. The theory is that the value of a property can be estimated by summing the land value and the depreciated value of any improvements (Kilpatrick, 2007). The value of the improvements is often referred to by the abbreviation RCNLD (reproduction cost new less depreciation or replacement cost new less depreciation). Reproduction refers to reproducing an exact replica. Replacement cost refers to the cost of building a house or other improvement which has the same utility, but using modern design, workmanship and materials. In practice, appraisers use replacement cost and then deduct a factor for any functional disutility associated with the age of the subject property (Pagourtzi *et al.*, 2003).

In most instances when the cost approach is involved, the overall methodology is a hybrid of the cost and sales comparison approaches (Olmo, 2008). For example, while the replacement cost to construct a building can be determined by adding the labor, material, and other costs, land values and depreciation must be derived from an analysis of comparable data. The cost approach is considered reliable when used on newer structures, but the method tends to become less reliable for older properties. The cost approach is often the only reliable approach when dealing with special use properties (Adair, 2005).

### 2.3 Empirical literature review

In most empirical studies, Price Model is used to identify and measure the effect of environmental valuables and building characteristics on property values. This modeling approach assumes that the monetary value of a dwelling unit depends on the attributes a particular house or apartment may possess.

For instance, the market price of a dwelling may reflect its physical size and environmental characteristics, such as the number of rooms, age and location.

Plaut (2003) alludes that although the price method is, undoubtedly, the most commonly used research tool for investigating the negative and positive effects of neighborhood, amenities and building characteristics on property values, some underlying assumptions of this method may, nevertheless, be questioned.

According to Rosiers (2002) for instance, the hedonic price approach assumes the existence of direct links between environmental factors and building characteristics, on the one hand, and property values, on the other. However, these factors likely correlate indirectly, through the investment decisions of property owners.

### *2.3.1 Drivers of house prices.*

According to Debelle (2004), investigation relates to the importance of inflation as a driver of housing prices. On average, across countries, inflation accounts for more than half of the total variation in house prices. In the short run, the size of the impact is even larger. Debelle alludes that its contribution nears 90% of the total price variation in the one-quarter horizon and drops to about two thirds over the one-year horizon. This strong influence of inflation is more important when one considers that house prices are measured in real terms. There are two potential explanations for this finding. The first relates to the dual function of residential real estate as consumption good and investment vehicle. As such, it is often used by households as the main hedge against the risk that inflation might erode their wealth. The fact that the purchase of property is typically financed with nominal debt makes it more attractive in this respect. A high degree of inflation persistence also suggests that the effects of innovations in inflation on house prices are likely to be felt over longer horizons. Higher uncertainty levels about future expected returns on investments in bonds and equities associated with high inflation also contribute to the attractiveness of real estate as a vehicle for long-term savings. The second explanation is linked to the impact of inflation on the cost of mortgage financing and generally suggests that higher inflation would have a negative impact on house prices. If financing decisions are more sensitive to the nominal yield curve than to real rates, one would expect housing demand, and thus real house prices, to respond to changes in inflation and to expected inflation. In addition, inflation may also proxy for the prevailing financing conditions, which have an impact on the demand for real estate. High inflation and high nominal interest rates backload the repayment of the mortgage principal and increase the real value of repayment in the early part of the repayment period of the loan, thus dampening the demand for housing.

In Kenya, the housing sector has been characterized by inadequacy of affordable and decent housing, low level of urban home ownership, extensive and inappropriate dwelling units, including slums and squatter settlements. The national housing corporation (NHC) continued to play a leading role in the implementation of housing policies and programmes through site and service schemes, rental and mortgage housing developments. In 2008, three housing projects were completed at a total cost of Ksh 194.8 million. These consisted of 16 rental flats in Woodley infill (Nairobi), 24 rental flats in Sadi infill (Nairobi) and 38 mortgage maisonettes in Kiambu (Phase III). Other six housing projects under construction as at 31<sup>st</sup> December 2008 cost a total of Ksh 1,340.3 million upon completion (Republic of Kenya, 2009). These consisted of 420 tenant purchase flats in Nairobi (Langata II and III), 6 mortgage maisonettes in Nairobi (Dam infill), and repair of rental houses in Changamwe – Mombasa (Republic of Kenya, 2009).see table 2.1

Table 2.1 shows the approved and actual central government expenditure on housing for the year 2004/05 to 2008/09. Actual expenditure on housing increased by 44.9% from Ksh 1,969.9 million registered in 2006/07 to Ksh 2,853.5 million in 2007/08. Approved expenditure on housing was expected to increase

by 31.1% to Ksh 4,104.5 million in 2008/09 from Ksh 3,130.1 million in 2007/08. Actual expenditure as a percentage of approved expenditure decreased to 91.2% from 98.9% in 2006/07.

Housing projects at Ngara phase I, Jogoo Road, Upper Hill, Kileleshwa and Kilimani all in Nairobi are being developed by the ministry of housing for sale to civil servants through the civil servants housing scheme fund. The houses being developed started in 2005/06 financial year and were estimated to cost Ksh 696.79 million upon completion.

Table 2.2 shows the latest data on reported completion of building for private ownership in main towns (by type of building and town, 1999 – 2005). In 1995, the total of residential and non-residential buildings was 1,135 and in 2005, the total was 1838 making a difference of 705 buildings over a period of 7 years. This constitutes a growth rate of 62% in buildings over the 7 years. The cost of the construction at the same corresponding time rose from Ksh 890 million to Ksh 2,135 million indicating an increase in cost of Ksh 1,245 million. This constituted about 140% growth in the cost of construction which is unproportionately more than double the growth in the rate of construction of new ones. The researchers needed to investigate this interesting phenomenon especially in Meru Municipality.

Table 2.3 indicates the analysis of reported new habitable residential buildings in Nairobi (Kenya). In the year 2000, 2001, and 2002 residential buildings with six or more habitable rooms was the mode. However, the trend changed in 2003 where buildings with four rooms were the mode. In 2004 and 2005, buildings with three rooms dominated. The trend pointed to a decline in the number of rooms in the following year's buildings. The reason for the decline is however not explained in the data given. This trend induced further investigation on the cause of the trend.

Table 2.4 shows the population by sex, the number of households and the density of Meru municipality. The total population of Males was 26,527 and that of Females was 27,107 in 2009. Females exceeded males by 580. The total households were 15,844. This number constituted the research population to be studied in this thesis.

### **3.0 Methodology**

#### *3.1 Research design*

This research was undertaken by use of descriptive survey. A research design is a programme to guide the researcher in collecting, analyzing and interpreting observed facts (Orotho, 2003). Orotho further defines descriptive survey as a method of collecting information by interviewing or administering a questionnaire to a sample of individuals. Mugenda and Mugenda (2003) support this view by asserting that this type of research attempts to describe such things as possible behavior, attitudes, and characteristics.

The data that collected was categorized into the various classes since the study aimed at providing a picture of the relationship between the Incomes of real estate owners, Demand of real estates, Location of the real estate properties, and the extent of the Realtors contribution on the Real Estate Prices.

#### *3.2 Target population*

The target population in the study was the real estate owners (i.e. the 15,844 people who own commercial land/or rental (residential/commercial) house(s) within the selected five areas of Meru Municipality.

#### *3.3 Sample and sampling design*



The researchers selected a sample of 390 respondents from the target population of the 15,844 households. This represents about 2.46% of the total number of targeted households.

The study used the formula:  $n = N / (1 + N(e)^2)$

Where: n is the sample size, N is the size of the population, and e is the sampling error at 95% level of confidence (Israel, 2010)

The sampling technique adopted was stratified sampling method of data collection. Strata's were purposively formed based on personal judgment of the characteristics of the population and the characteristics to be estimated, then simple random sampling was used to select respondents in each strata.

### *3.4 procedures for data collection*

Data was collected using questionnaires. The sampled people filled in the questionnaires provided while being assisted by research assistants where they were unable to interpret the questions during any scheduled meetings, otherwise, the research assistants dropped and picked the questionnaires as agreed. The questions were both closed and open ended and covered the four independent variables that were used to obtain responses. Issues covered were sequenced and worded to make the data collected systematic. The researcher sought permission from the provincial administration to visit and supply questionnaires to real estate property owners.

### *3.5 Data analysis*

This involved interpreting information collected from respondents when the questionnaires were completed by the respondents. The researcher compiled them by use of data editing, data coding and data tabulation. Data analysis was carried out by use of Statistical package for the social Scientists (SPSS) to obtain descriptive statistics and excel to obtain a summary regression and the linear regression model. Inferences and calculations were made from these measures and compared with the existing literature to arrive at the conclusion of the study.

### *3.6 Data presentation and interpretation*

After collecting, data was presented in the form of tables and percentages. This was done by use of the information obtained from software statistical packages. Based on the data analysis and presentation, interpretation was made on the findings of the study.

## **4.0 Findings**

### *4.1 Summary*

#### *4.1.1 Incomes of real estate investors*

To establish the relationship between incomes of real estate investors and price, a bivariate analysis was done and a Pearson correlation coefficient computed and tested at 5% level of significance. The results obtained indicated that there was a very strong association ( $r = 0.834$ ) between prices of real estates and incomes of the investors. The relationship was found to be statistically significant at 5% level ( $p = 2.35 \times 10^{-25} < 0.05$ ). The coefficient of determination ( $r^2 = 0.6955$ ) indicates that demand alone was able to explain about 70% of the variations in real estate property prices in Meru municipality making it the most influential factor other factors remaining constant.

#### *4.1.2 Location of the real estate property*

To evaluate the relationship between the location of a real estate property and price, a bivariate analysis was done and Pearson correlation coefficient computed and tested at 5% level of significance. Results obtained revealed a very low association ( $r = 0.1562$ ) between location of a real estate and its price. The relationship was found to be statistically insignificant at 5% level. A coefficient of determination ( $r^2 = 0.0244$ ) and p value equal to 0.7183 which is  $> 0.05$  indicates that prices of a real estate could not be attributed to location in Meru municipality.

#### *4.1.3 Demand of real estate*

To establish the effect of demand on real estate property prices a bivariate analysis was done and Pearson correlation coefficient computed at 5% level of significance. Results obtained revealed a moderate inverse association ( $r = -0.446$ ) between demand and real estate property prices. The relationship was found to be statistically significant at 5% level ( $p = 0.00135 < 0.05$ ). Coefficient of determination ( $r^2 = 0.1992$ ) indicates that prices of real estate could be attributed to demand. It also indicates that demand alone could explain about 20% of the variations in real estate property prices other factors remaining constant.

#### *4.1.4 Realtors and brokers*

To determine the level of influence of realtors and brokers on the price of real estates, a bivariate analysis was done and Pearson correlation coefficient computed at 5% level of significance. Results obtained revealed a very weak inverse association ( $r = -0.2517$ ) between demand and real estate property prices. The relationship was found to be statistically insignificant at 5% level ( $p = 0.8408 > 0.05$ ). A coefficient of determination ( $r^2 = 0.0634$ ) indicates that brokers had insignificant influence (i.e. only 6% influence) on the real estate property prices

#### *4.2 Conclusion*

From the data collected and analyzed, it can be concluded that in Meru municipality, Incomes from real estate property are key in influencing their prices. Income alone accounts for more than 70% of the changes in real estate property prices in the municipality other factors remaining constant. Demand for real estates in Meru was found to second in importance in influencing the prices of real estates. Demand alone contributes about 20% of the changes in prices. However, location of the property was found to be insignificant in influencing the prices of real estates. This implies that location as a factor does not play a big role when one is considering purchasing real estate property within municipality. A similar situation was established in the case of the realtors. Real estate investors do not consider realtors and brokers as significant in determining property prices in Meru municipality.

#### *4.3 Recommendations*

It was evident that most of the land in the municipality has not been sold out to would be investors. This might in effect imply that there is less investment in real estate in Meru municipality. Inducement to real estate investors by financial institutions in the form of good terms in loaning would help to open up the municipality in terms of housing estates to cater for the growing population.

The researchers also recommends that the municipal council of Meru to broaden its scope in terms of the size of the municipality to widen possibility for better terms in loaning to the people who are outside the municipality and to enhance their credit rating.

The study discovered that there was only one realtor in the municipality, and that is why possibly the realtors effect in real estate prices was not significant. Realtors help a lot in property identification and sales. The role of realtors in identifying and sales of real estate is key and more people should come up as registered estate agents to enhance real estate business.

To the financial analysts, it is important to realize the need to sensitize their clients to do more investment in real estate in Meru Municipality because there is need for housing. Further, they need to let financial banks realize that real estate investment in Meru municipality is not exhausted financing so that they can open up possibilities for their client who would like to venture in the same.

#### 4.4 Areas of further studies

The findings of this research set a ground for further research in the following areas:

The research covered only the geographical region of Meru Municipality. It is recommended that a study of a bigger magnitude needs to be done for Kenya at large. Very little research has been done on real estates in Kenya and this research should be treated as eye opener to the same. Further, empirical review showed that location goes as a very key factor in determining real estate prices. However, it is not clear why location is not significant in real estate pricing in Meru Municipality. This should act as a trigger for further research on this finding.

It also became a matter of concern to the researcher why location is not a critical factor in determining real estate prices in Meru Municipality. Scholars are requested to do further investigations.

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Table 2.1: Approved and actual Central Government Expenditure on Housing, 2004/05 – 2008/09

Year	Expenditure in Kshs million		Actual Expenditure as percentage of Approved Expenditure
	Approved	Actual	
2004/05	542.64	480.65	88.6
2005/06	1,615.96	1,056.96	65.4
2006/07	1,992.10	1,969.89	98.9
2007/08	3,130.12	2,853.51	91.2
2008/09	4,104.51		

Source: Ministry of housing (Republic of Kenya, 2009)

Table 2.2: Reported completion of building for private ownership in main towns (by type of building and town, 1999 – 2005)

	1999	2000	2001	2002	2003	2004	2005
<b>Number of New Buildings</b>							
Residential	1,113	1,017	941	1,040	1,142	1,704	1,810

Non-Residential	22	37	11	27	36	21	28
<b>Floor Area of New Buildings(*000 sq.m.)</b>							
Residential	265	258	259	323	210	460	484
Servant quarters	-	-	-	-	-	-	-
<b>Total Residential</b>	<b>265</b>	<b>258</b>	<b>259</b>	<b>323</b>	<b>210</b>	<b>460</b>	<b>484</b>
Offices	50	36	65	112	146	119	166
Shops	25	25	44	49	64	9	13
Godowns, Stores etc	45	61	120	70	91	24	34
Factories	20	41	74	56	73	68	95
Others	65	30	54	42	56	43	85
<b>Total Non-Residential.</b>	<b>205</b>	<b>193</b>	<b>357</b>	<b>329</b>	<b>430</b>	<b>263</b>	<b>393</b>
<b>Cost (Ksh.million)</b>							
New Buildings: residential.	890	843	650	966	906	1,988	2,135
New Buildings: Non-Residential	385	154	416	430	520	307	423
Extensions: Residential	13	172	75	81	-	55	41
Extensions: Non-Residential	48	84	32	140	123	83	88
<b>Total Cost</b>	<b>1,336</b>	<b>1,252</b>	<b>1,173</b>	<b>1,617</b>	<b>1,549</b>	<b>2,433</b>	<b>2,687</b>
<b>Analysis of cost by town (Ksh.million)</b>							
Nairobi							
Mombasa	648	622	656	1,262	1,126	2,003	2,242
Other main towns	387	276	258	186	159	163	165
	300	374	259	170	263	267	280



Source: Central Bureau of statistics (Republic of Kenya, Nairobi (Kenya); 2000 – 2005).

Table 2.3: Analysis of reported new residential building (Nairobi-Kenya)

Habitable Rooms	2000	2001	2002	2003	2004	2005
One	18	35	55	19	54	57
Two	29	31	64	25	14	40
Three	23	40	53	102	180	210
Four	37	35	45	140	26	55
Five	45	38	47	13	43	101
Six or more	86	91	104	6	101	50
<b>Total</b>	<b>238</b>	<b>270</b>	<b>368</b>	<b>305</b>	<b>418</b>	<b>513</b>

Source: Central Bureau of Statistics (Republic of Kenya, 2009).

Table 2.4: Meru municipality population by sex, Number of Households, Area and Density

Population, 2009 census				Households	Area in km <sup>2</sup>	Density
Administration Area	Male	Female	Total			
<b>MIRIGAMIERU EAST</b> <b><u>Mulathankari</u></b>						
Kaaga	2,307	2,326	4,633	1,339	4.2	1,103
Runogone	1,974	1,948	3,922	1,023	4.4	891
<b>MIRIGAMIERU WEST</b> <b><u>Ntima</u></b>						
Upper Igoki	4,217	4,301	8,518	2,687	3.0	2,839

Tuntu	1,736	1,761	3,497	1,153	1.4	2,498
<b><u>Municipality</u></b>						
Township	2,116	2,040	4,156	1,043	0.8	5,195
Kaaga	5,690	5,999	11,689	3,462	3.9	2,997
Gakoromone	5,657	5,801	11,458	3,654	3.9	2,938
<b><u>Nthimbiri</u></b>						
Mpuri	2,830	2,931	5,761	1,483	7.8	739

Source: District Statistical Officer, Imenti North (Republic of Kenya, 2009)

**Figure 1: Conceptual Framework**

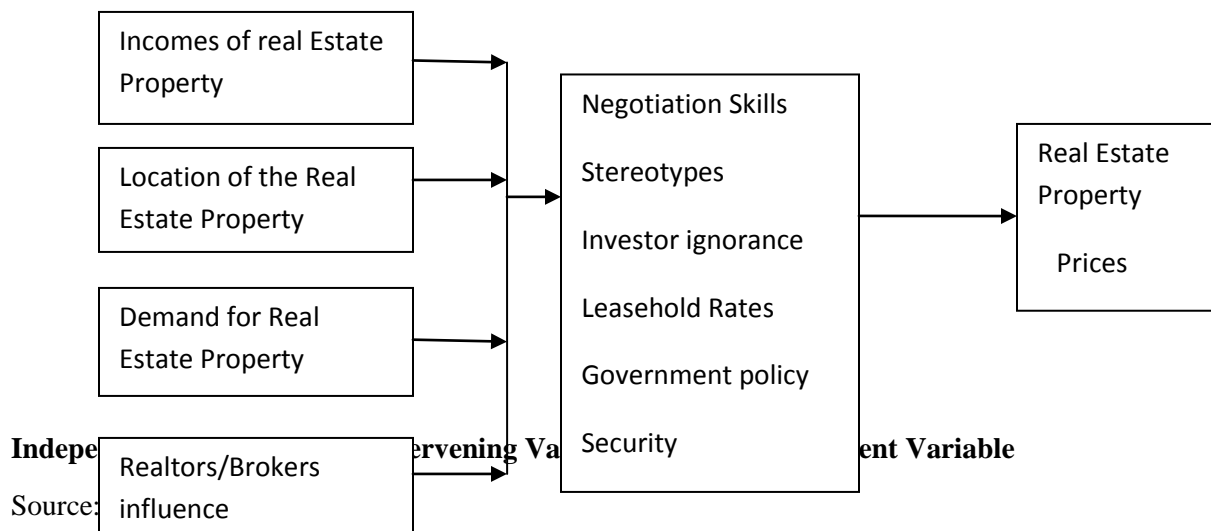


Table 3.1: The following table represents a guide to the sample size in each section of the municipality:

Section of the Municipality	Total no of households	Sample size
Mulathankari (Kaaga & Runogone)	5,824	144
Ntima (Igoki & Tuntu)	3,840	94
Meru Town	1,043	25
Gakopromone & Kooje	3,654	90
Mpuri	1,483	37
<b>TOTAL</b>	<b>15,844</b>	<b>390</b>

Source: District Statistical Officer, Imenti North (Republic of Kenya, 2009)

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