MASTER'S PROGRAMME IN URBAN MANAGEMENT AND DEVELOPMENT

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Exploring innovative strategies for local infrastructure financing through value capture

Potential Application in a Rezoned Neighbourhood: Kilimani, Nairobi

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Executive Summary

Key words: Infrastructure, finance, strategy, value capture, innovative, local.

Nairobi, the capital city of Kenya is divided into 20 planning zones. The history behind the development of these zones reveals segregative policies applied during the colonial period which separated land uses on the basis of race. These policies which are now over a century old are still reflected to this day only that the segregation is based on income levels i.e. high, middle and low-income zones. The point of departure of this research is a municipal re-zoning policy passed in 1987 which allowed for higher density of development in three predominantly high- income, and low-density zones known as zones 3, 4 and 5.

The subsequent development that has occurred over the years in these three zones reveals that the level of development has not been matched with a commensurate upgrading of the infrastructure. This problem resulted in a suspension of change of user approvals in November 2005 pending a review of the policy guidelines particularly where infrastructure was concerned. This suspension has since been lifted and development continues to take place.

The main objective of this research therefore is to study the potential application of innovative value capture mechanisms for financing the upgrading of infrastructure in Kilimani, a neighbourhood located in zone 4 of the city's planning zones. This necessitates a study on the theory of land rent as developed by three economists, namely David Ricardo, Henry George and Johan von Thünen. These theories explain how land value is created and justify the capturing of land value increments to finance public obligations.

Four case studies on innovative financing strategies based on value capture are then studied. These are chosen on the basis of their potential application in Kilimani. This potential is further examined by assessing the local context with regard to the development profile of Kilimani, the changes in land values since the rezoning policy was passed, the perceptions of developers, property owners in Kilimani, and municipal policy makers on their involvement in the infrastructure development and financing process and the institutional framework of the municipality.

Data for this research is drawn from both primary and secondary sources. Primary sources include interviews with the relevant actors, key members of the just concluded policy review exercise and property and valuation agents. Secondary sources include newspaper articles, the internet, journals, policy minutes and reports.

In concluding the research, the various financing mechanisms are applied to the local context where each tool is assessed on the basis of the circumstances within which each would be best suited for an area like Kilimani and the municipality's capacity to apply the tool. Based on the data collected and the respective analyses, developer-centred approaches stand out as the most appropriate tools for application in the local context. Finally, recommendations on the key policy issues to be considered for the

successful implementation of innovative financing mechanisms are made. These touch on institutional reform, legal framework and building of partnerships.

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Abbreviations

AAK- Architectural Association of Kenya

CBD- Central Business District

EEC- European Economic Union

FAWE- Forum for Women Educationalists

GIS- Geographic Information System

IHS- Institute of Housing and Urban Development Studies

ISK-Institute of Surveyors of Kenya

KARA- Kenya Association of Residents Associations

KLGRP- Kenya Local Government Reform Programme

KP&LC- Kenya Power and Lighting Company

LASDAP- Local Authority Service Delivery Action Plan

LATF- Local Authority Transfer Fund

LGA- Local Government Act

LID- Local Improvement District

MLG-Ministry of Local Government

NCC- Nairobi City Council

NEMA-National Environmental Management Agency

NTPLC- Nairobi Town Planning and Liaison Committee

PPA- Physical Planning Act

OP- Office of the President

UON- University of Nairobi

GOK- Government of Kenya

KHz- Kenya Shilling

UK- the United Kingdom

US- the United States

List of Tables

List of Figures

Table of Contents

Chapter One: Introduction

1.1 Background

City Structure

Nairobi, the capital city of Kenya, was first established as a transportation centre and supply depot in 1899 during the construction of the Kenya-Uganda railway. Its evolution to its current state has largely been influenced by rapid population growth and the planning interventions put in place to guide its development.

By 1900, the city's spatial structure had already taken up a discernibly racially segregated pattern. The city had distinctly separate zones for Europeans, Asians and Africans. The Europeans occupied prime areas close to the Central Business District (CBD) such as Kilimani, Lavington, Loresho and Parklands. The Asian population was mainly concentrated to the North of the city, close to the European population in an area called Parklands while the African settlements were restricted to the Eastern parts of the city. The areas zoned for the Europeans were generally provided with better services and infrastructure than the other areas and were also well located relative to the CBD. The ensuing city master plan of 1948 officially designated these areas as low density zones while the Asian and African zones were designated as middle and high density zones respectively.

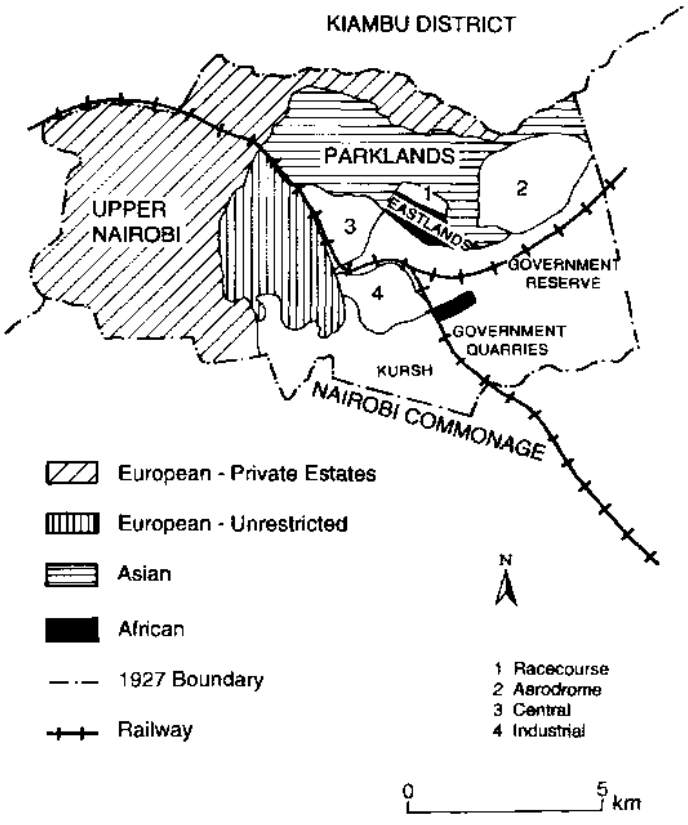


Figure 1-1: The segregation of residential areas in Nairobi, 1909

(Source: Mazingira Institute, 1993)

After Kenya attained independence in 1963, and with the extension of Nairobi's boundary to an area of 684 square kilometres, the population was estimated to have

grown to 270,000 people. (Obudho, 1992). The city began to experience unprecedented growth mainly due to rural-urban migration and natural growth. This led to several challenges. The first was the problem of an increasingly congested CBD which was continually losing its attractiveness as a location for companies. Secondly, the Nairobi City Council was also increasingly faced with problems of inadequate capacity that saw it unable to provide adequate services to meet the increasing demand. Thirdly, due to the city's rapid growth, the government was unable to provide adequate housing for its citizens which saw it make a deliberate shift from housing provision to the creation of an enabling environment in the 1980s.(Obudho, 1992). The policy, however failed in its objective which led to an inadequate supply of housing in all segments of the housing market to meet the increasing overall demand.

Potential growth areas discovered

It is within this context that businesses and housing developers discovered a number of zones which they regarded as potential growth areas ideal for office, commercial and housing developments for the middle and high income segment of the market.(Nairobi City Council, 2004) These areas were identified due to their accessibility to the city centre and well developed infrastructure but whose low densities and restricted land uses saw them regarded as sub-optimally utilized areas. The areas identified were three low-density, high-income residential zones namely zones 3, 4 and 5 of the city's planning zones. These were targeted for multi-family housing and commercial developments. The areas were at the time zoned for single-family dwellings and were seen as ideal for the development of apartment housing for the middle and high-income populations, commercial and office development.

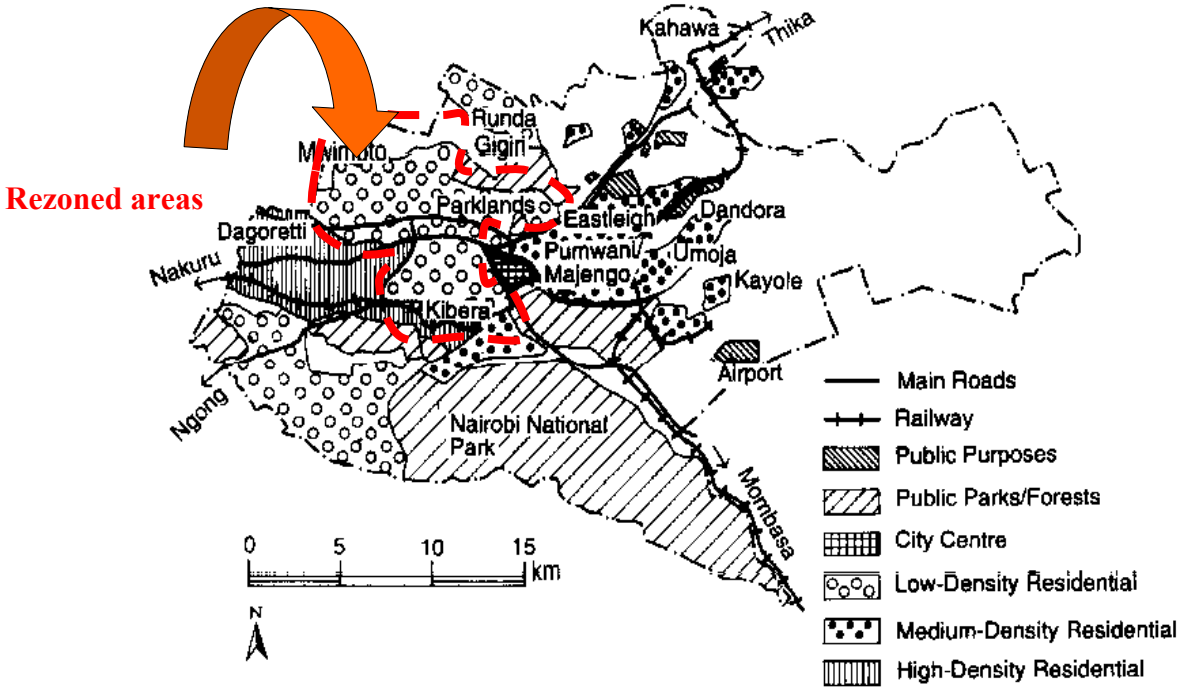


Figure 1-2: Nairobi, land use pattern (Source: Mazingira Institute, 1993)

Introduction of New Legislation

Due to the pressure placed on the municipality by businesses and developers to change the zoning regulations for these three areas, the Nairobi City Council, in 1987, through a council resolution allowed for the rezoning of the aforementioned residential zones. New zoning regulations for Parklands, Kilimani and Lavington, otherwise known as zones 3, 4 and 5, were introduced allowing for increased development densities and change of user.

In the same year, a new piece of legislation known as the Sectional Properties Act was enacted which allowed individuals to own a unit of a multi- unit building with what is referred to as a condominium title; this would later become one of the factors that would fuel demand for apartment units.

Neighbourhood development and transformation

The policy and legislation changes set the stage for the transformation of the three neighbourhoods. However, large-scale construction activity in the rezoned neighbourhoods only began after the year 2000. This was largely as a result of the poor macro-economic conditions that prevailed throughout the 1990s which led to a general decline in industry and in particular, construction. Also, the high lending and mortgage rates which were as high as 45% in 1997(Nation Team, 2000), discouraged developers from seeking development finance for investment in real estate and also discouraged home owners from taking out mortgages to put up housing.

At the turn of 2002, the release of funds from matured government securities and retirement funds resulted in an increase in liquidity within the market.(Mokua, 2006). In the same year, Treasury bill rates were on a steady decline forcing banks to look for alternative avenues to invest their excess funds. As a result, real estate development was seen as a sure avenue for investment. Targeting the high-income groups, banks and mortgage finance institutions offered account holders mortgages at competitive interest rates for the development and purchase of housing.

The year 2003 also brought with it a change in government that saw it institute tighter monetary policies which created improved opportunities for development finance. Increased investor confidence also saw an increase in remittances from abroad for real estate development.

The property market, keen on capitalizing on the increased liquidity began an aggressive marketing campaign of the redevelopment areas as prime areas for real estate development. According to a local daily, the marketers created the perception that Kenya was enjoying a property boom and set prices that were in no way related to the cost of property and Kenyans, fearing that they might not afford property gain rushed to apply for mortgages.(Mokua, 2006)

According to a local newspaper, the demand for apartments was so high that in some cases potential buyers would pay the full amount for a flat purely on the basis of an approved building plan. (Ayieko, 2004). Developers, keen on getting a return on their investment demolished old bungalows replacing them with apartments, townhouses and commercial developments which could eventually be sold off as single units.(Kwama, 2006) The demand for multi-family dwelling units was highest in the older residential neighbourhoods which were mainly characterized by colonial style bungalows with spacious compounds as shown in figures 1-3 to 1-7. Change of user was also quite prevalent such that in August 2004 alone, the municipal council

received 50 such applications with 21 of these coming from only three areas: Kilimani, Kileleshwa and Parklands.(Ayieko, 2004)

The land market was also awash with activity due to the reduction in the minimum acreage for a parcel of land which varied depending on the land use. This led to the purchase of redevelopment land for purposes of sub-division and subsequent re-sale as separate parcels at a profit.

Impact of Development

The new development activity was not without its consequences. It led to complaints from the residents about the sudden intense construction activity that was taking place in the area. The mushrooming of high-rise developments in close proximity to the bungalows resulted in several complaints, among them the loss of privacy. In addition, there was concern about the extent of development in relation to the available infrastructure.

A section of the residents who were dissatisfied with the developments petitioned the NCC to stop further high rise construction in these areas for the reasons previously cited. This led to a 6 month suspension of further development in November 2005, in order for the council to undertake a policy review for the area. According to a local daily, the ban was lifted in July 2007, after the policy review for the three zones was endorsed by the City Hall's Town Planning Committee. (Ayieko, 2006a).

1.2 Problem Statement

The municipal rezoning policy of 1987 was passed in response to a market push to intensify the use of three low density zones that were regarded as well located and well serviced areas of the city for residential and commercial development. Planning regulations were revised to allow for the development of high density development and commercial use.

However, it was only until the year 2000 that large-scale construction activity began to take place in the area and in particular between 2002 and 2005. This was as a result of the availability of finances brought about by, among others, an increase in remittances from Kenyans abroad and increased macro-economic stability. This led to a fall in interest rates facilitating borrowing for development financing.

A drop in Treasury bill rates in 2002 pushed banks to seek other avenues to invest the excess liquidity and as a result placed their focus on the real estate market, offering housing mortgages to the public at low interest rates. In addition, property marketers made use of the opportunity to market the redevelopment areas as attractive areas for housing development.

Further to this, the policy change allowed for change of use from residential to commercial use. Businesses enterprises keen on locating their businesses away for the congested CBD saw this as a good opportunity to construct office and commercial developments. Finally, the reduction of minimum plot sizes resulted in increased sub-division of the land leading to an increase in densities.

Despite the increased densities brought about by the numerous high rise developments and intensified use of the land, the areas have not seen a commensurate upgrading of their infrastructure. This has led to the deterioration of the road network, traffic congestion, failure of sewage systems, flooding, inadequate parking provision and

perennial water shortages. Social infrastructure such as public parks and community facilities are also inadequate while the existing ones are in need of upgrading.

Towards the end of the year 2005, the Nairobi Town Clerk sounded an alarm over the situation pointing out that the service infrastructure in the estates was not designed to accommodate the far higher number of inhabitants brought about by among other developments, the replacement of bungalows with apartment blocks.(Mulama, 2006).

A six month moratorium on all change of user applications to multi-dwelling units, commercial and office development and any other development application that would increase density within the zones was instituted to allow the municipality to assess the development trends against the level of the infrastructure.

This study therefore seeks to explore the potential for the use of land value capture instruments in the rezoned areas as a means of financing infrastructure upgrading and development in order to efficiently serve the needs of its inhabitants.

1.3 Research Objectives

The following are the main objectives of this research:

1. To establish the strategy that was put in place to finance and develop infrastructure in Kilimani as provided for within the 1987 rezoning policy and other subsequent policies targeting the area.
2. To establish the perceptions of the Nairobi City Council policy makers, residents' and developers' on roles in financing infrastructure development and upgrading in Kilimani.
   - *To establish the extent to which residents and developers in Kilimani perceive themselves as playing a role in financing the upgrading and development of infrastructure in their neighbourhood.*
3. To explore the potential in applying innovative financing mechanisms for infrastructure development through value capture in Kilimani.

1.4 Research Questions

The aim of the research is to answer the following questions:

1. What was the municipality's strategy with regard to financing the development and upgrading of infrastructure in Kilimani upon the rezoning and in other subsequent policies affecting the area?

2. What are the perceptions of the municipality, residents and developers with regard to their roles in the development and upgrading of infrastructure in Kilimani?

   a. *Who do they perceive to be responsible for financing infrastructure development and upgrading in the neighbourhood?*

   b. *To what extent are they willing to participate in the development and upgrading of infrastructure?*

3. How have the land values changed in Kilimani since the rezoning policy of 1987?

4. What opportunities exist in the use of land value capture instruments to facilitate the development and upgrading of infrastructure in Kilimani neighbourhood?

- *What international cases can serve as good examples in the use of land value capture strategies for the development of infrastructure in Kilimani?*

In addition, the following sub-question will be asked:

- *What are the Strengths, Weaknesses, Opportunities and Threats (SWOT) of the municipality in the use of innovative financing strategies for infrastructure development through value capture in Kilimani?*

1.5 Description of Research Area

Kilimani is a residential neighbourhood located in zone 4 of the 20 planning zones of Nairobi city. It is a predominantly high-income low-density zone. It lies in Westlands division, Kilimani location to the west of the city centre. In 1999, it had a density of 25 persons per hectare and a population of 36,220.(Republic of Kenya, 2001).

Kilimani neighbourhood has been selected as the research area as it has seen one of the most marked transformations in its character since the new development activity began. The area has developed a new character with several retail malls, office and commercial buildings and apartments having sprung up in recent times. High rise office developments for organizations such as K-Rep and Forum for African Women Educationalists (FAWE), have located their premises within the neighbourhood.

Many of the new developments in Kilimani, particularly for commercial use, have been put up along the main road corridors namely Ngong' road and Argwings Kodhek road while some have been constructed along secondary roads within the neighbourhood. Many of the bungalows and maisonettes that were once the predominant building type have been demolished with high rise buildings having taken their place.

1.6 Justification of the Study

The 1987 municipal rezoning policy created an opportunity for higher development densities in three predominantly high income, low density zones of the city. However it was only after the year 2000 when the impacts of this policy change became increasingly evident due to the construction of high rise buildings and multi family dwellings.

Owing to the fact that this type of development was taking place without a commensurate upgrading of the infrastructure, the council suspended all change of user applications that would increase development densities on the 16th of November 2005. The moratorium was to be in place for 6 months so as to allow the council to assess the development trends against the level of infrastructure. During this period, the council entered into collaboration with the University of Nairobi, the Department of Physical Planning (Ministry of Lands) and the Nairobi Water and Sewerage Company to undertake a policy review exercise with the NCC playing a facilitative role.

The policy review exercise which began in March 2006 and ended in June the same year brought together stakeholders in the building industry and comprised of professional bodies, residents associations, local residents of the three zones, property developers, business and financial organizations and utility institutions. Their participation was requested by the municipality through a public notice placed in a

local daily.[1] Five working groups were formed from the policy review team with each addressing pertinent development issues. Each of the groups prepared reports and proposals on their findings and recommendations for the council on proposed development guidelines for the zones.

Of the five working groups, the fifth group addressed issues of property development and the assessment of costs and fee determination for infrastructure and service delivery in the area. An interview with the team leader of this group revealed that various recommendations were made to the council on ways of raising finances for infrastructure and service delivery[2]. These, he stated, were not developed comprehensively. This research is therefore being undertaken at an opportune moment when the council is in search of innovative and workable solutions for raising finances for the upgrading of infrastructure in these areas. The research adds value by providing useful literature on value capture mechanisms as innovative solutions for infrastructure financing which have been adopted in various countries with various levels of success. In addition, it places these solutions in the context of Kilimani which the council can also apply in the other zones.

[1] The East African Standard, 16th March 2006

[2] Interview with Dr. Tom Konyimbih senior lecturer and researcher, Department of Land Development, University of Nairobi

Chapter 2: Literature Review and Theoretical Framework

*"The **ordinary progress** of a society which increases in wealth, is at all times tending to augment the incomes of **landlords**; to give them both a greater amount and a greater proportion of the wealth of the community, independently of any trouble or outlay incurred by themselves. **They grow richer, as it were in their sleep, without working, risking, or economizing.** What claim have they, on the general principle of social justice, to this accession of riches? In what would they have been wronged if society had, from the beginning, reserved the right of taxing the spontaneous increase of rent, to the highest amount required by financial exigencies?"(Mill, 1848)*

2.1 Introduction

Before embarking on a description of the concept of land value capture and its relation to infrastructure financing, it would be essential to first of all provide certain basic definitions:

Land: This can be defined as "that element of natural resources which is used or potentially capable of being used for physical development." (Lichfield and Connellan, 2000). It is "the platform of all human activities which can barely exist otherwise." Ibid. It has unique features as a factor of production in comparison with others; it is fixed in location, immovable and it cannot be expanded. In addition, its has a unique place in society in that no state can be regarded as independent if it has no control over its own land.

Infrastructure: (Lichfield and Connellan, 2000) define infrastructure as the underlying foundation or basic framework supporting the socio-economic activities that are undertaken on the land. Infrastructure is described as being both physical and social. Physical infrastructure includes roads, water, sewerage and parking while social infrastructure includes parks and amenity areas, schools and health facilities.

Land value capture: There are certain actions that are taken by various parties that enhance the value of land. These are rarely as a result of the actions of private landowners but rather result from actions notably of the public sector. Land value capture is therefore defined as the process by which a portion of, or all land value increments attributed to the community effort are recouped by the public sector. This could be through their conversion into public revenues through taxes, fees and other fiscal means or more directly in on-site land improvements for the benefit of the community. (Smolka and Ambroski, 2000).

Some of the actions undertaken by the public sector that contribute to increases in land values include the granting of permissions for the development of specific land uses and densities or through investment on infrastructure or of market forces due to a general increase in urban population among others. (Ibid.).

2.2 Theoretical Framework: Land Rent Theories

The thinking behind the concept of value capture has its origins in the works of 19th century classical and neo-classical economists. However, the works of three economists in particular stand out as having made significant contributions to the development of theories on land rent and the subsequent concepts behind land value capture. These include:

1. The Law of Rent by David Ricardo

2. The Single Tax Movement by Henry George
3. The Location Rent Theory by Johan Von Thünen

2.2.1The Law of Rent by David Ricardo

David Ricardo (1772- 1823), was one of the classical economists of the nineteenth century who was regarded as having settled the main themes of land rent theory. He based his theory on the following three assumptions:

i. The supply of land is fixed,
ii. All the fixed supply of land is used on agriculture,
iii. There is only one agricultural product: corn.

His main assertion that the supply of land is fixed meant that land rates and values were fully determined by demand (demand-derived). In other words "the demand for land is high because the demand for corn is high." An increase in demand either due to population growth or increase in incomes would result in an increase in the rent payable to the land owner for the same quantity of land as illustrated in the figure below:

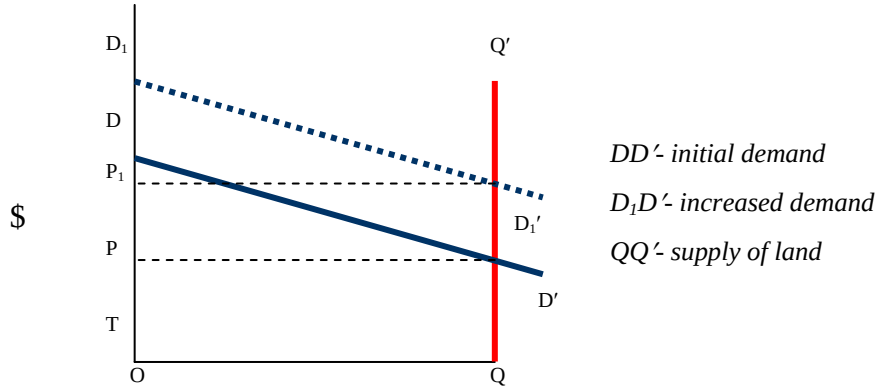


Figure 2-1: The Ricardo model. Source: (Evans, 2004)

In the figure above, rent is represented on the vertical axis and the quantity of land OQ, on the horizontal axis. The fixed supply of land is indicated in the figure by the vertical line QQ′. The demand for land is represented by the downward sloping curve DD′.

If the demand for land increases because of economic growth or population growth, the supply of land shifts to D_1D' and the price of land to P_1.

Two conclusions are drawn from this analysis. The first is that the rent or the value of the land is solely determined by demand since the supply of land is fixed. Thus the value of the land is high because the price of corn[3] is high and not the other way around since the demand for land is derived from the demand for corn. The second conclusion is that a tax levied on the value of the land will not affect the rent paid or the quantity of land supplied. This is because the supply of land is fixed no matter what the price paid for it and the rent paid will be OR as determined by the demand for

[3] Corn denotes the use to which the land is put. This could be residential, commercial, etc. use. David Ricardo used the growing of corn as an example.

the land no matter what proportion of this is taken in tax. It is from these conclusions that various proposals on the discriminatory taxes on land value have been made. One notable proposal is the single tax movement founded by Henry George in the nineteenth century.

2.2.2 The Single Tax Movement by Henry George

Henry George (1839-1897) was an American economist who began the single tax movement in which he advocated for the abolition of all taxes except a single tax which would be applied on the value of the land irrespective of whatever improvements were on it. This, he claimed, would be sufficient to cover all the expenditure assignments of government.

His motivation behind starting this movement was based on the economic events which were taking place particularly in California in 1870 during the gold rush. He saw a vibrant society full of economic activity emerge where before there was nothing. He also noted that with the emergence of progress, there also emerged increasing levels of poverty. He believed that the increase in poverty accompanied and even surpassed the increase in national wealth that was being created. He felt that the answer to this lay in the fact that the rental value of land and the *unearned increase in land values* brought about by the discovery of gold, *profited only the land owners rather than the community* whose existence and labour made the land valuable. This is a view he shared with another economist before him; John Stuart Mill.

Henry George therefore saw no justification in wealthy landowners collecting large sums of money in rent which they had not earned. The rich therefore would grow richer while doing no work while the poor were made to work with minimal wages. His solution to this was therefore the single tax which would see the unearned rent of the landowners taken away from them. He believed that if all the land rent was taxed away it would generate enough government revenue to do away with all other forms of tax particularly those on labour and production. Governments would in addition have the simplicity of administering one understandable tax, a tax on land.(George, 1879).

Taxing the land, no matter the level of the tax would not have a distorting effect on the land market since it was thought then that the same amount of land would be available for the community and for the same uses. (Sullivan, 1990). The views of Henry George's theory can be represented on the Ricardian model as shown in figure 2-1.

Given a demand schedule represented by DD' and a fixed supply with a vertical supply curve QQ', the price of land will be OP, as earlier mentioned. Supposing that a proportion of the rent is taken away in tax say PT, it is evident that the rent of the land will remain the same and the quantity of land as well. A tax on land would not therefore affect the allocation of resources and would not distort the economy.

From this premise, it is argued that a high tax on land would deal with the problem of the landowner 'growing richer while he sleeps'. A high rate of tax would capture increases in the value of land since the tax would capture most of the increases in rent.

2.2.3 The Location rent theory by Johan Von Thünen [4]

Johan Von Thünen (1780-1850) was a German agriculturalist best known for his work on the relationship between the costs of commodity transportation and the location of production. Through his theories he was able to create a link between spatial economics and the theory of rent. His model was based on the following assumptions:

1. All land is of equal fertility
2. The physical environment is homogenous
3. There is only one marketplace for the produce of the land

Unlike Ricardo who assumed that corn was the only produce of the land, Von Thünen stated that there were different agricultural products that were grown on the land. He further envisaged a single market where the farmers sold their produce. The different crops are grown in concentric rings surrounding the market place with the perishable goods being grown on the land immediately surrounding the market. His model assumes that farmers whose land immediately surrounds the market will produce crops that have the highest market value (highest rent) which will earn them a maximum net profit (location or land rent).

His theory has been important in studying the link between location and land value. Location can be created by increased accessibility through the development of transit systems and infrastructure or through changes in zoning regulations that allow for more profitable land uses. The more accessible a location is the higher its property value, all things held equal.

The theory of location rent has formed the basis that various governments have used to justify value capture. The public creates location by allowing for changes in land use from agricultural to urban use and also increasing accessibility by developing the necessary infrastructure. Accessibility refers to the ease with which the people can reach services, activities and other important locations.(Smith and Gihring, 2006). This leads to higher values of the properties that benefit from such interventions.

2.3 Summary of Land Rent Theories

The three theories on land rent presented above are among several theories developed on the subject. These three have been presented as they provide a clear understanding on the thinking behind value capture.

The Ricardian rent theory is fundamental to the entire body of knowledge on the determinants of land value. Through this theory, it is clearly seen that the value of land is demand derived due to the fixed supply of the land. It also clearly shows that the increase in the value of land has nothing to do with any effort from the landowner.

Henry George follows up on the Ricardian rent theory to justify that a tax on the land does not affect its value since value is demand derived. As a result, governments can capture the entire value of the land without affecting production thus obtaining adequate finances to fund its public obligations.

Finally Johan von Thünen's location rent theory clearly shows that the government creates location by developing infrastructure or changing zoning laws which then leads

[4] From the book by Thunen, J. V. 1826, *The Isolated State*.

to increased land value. Since the landowner does not contribute to this increase in value, this understanding justifies the decision of governments to capture land value to pay for the infrastructure that created that value in the first place.

Of all the theories presented, Henry George is the only one who makes a link between the value of the land and the effect of taxing the land to capture land value. This theory is used to justify value capture using other mechanisms as well such as regulations and one-off charges.

The other two theories are equally useful in arguing for the application of value capture mechanisms to finance necessary infrastructure development and service delivery costs.

2.4 Objectives of Land Value Capture

While there may be similar motivations for the application of value capture tools, it is important to take into account the objective. Using the same value capture technique for a different objective each time may have some undesired results.(Smolka and Ambroski, 2000) outline three motivations for the use of value capture tools. These are:

1. to deepen land value taxation
2. to control land use
3. to finance urban infrastructure

Land value capture and land value taxation

Value capture tools that lead to the appropriation of land value increment are said to deepen the taxation of land value. This is in addition to property taxes that are essentially a tax on land and/or buildings. Land value taxation is therefore a form of value capture that captures the increment in land value associated with a specific public intervention.

In countries or regions where there is already an efficient property tax system in place in which property owners consider the taxes they pay as sufficient, rather than increase the burden further, value capture tools can provide an opportunity for the enhancement of general revenues. The rationale behind this is that *new growth must pay for itself* and not be borne by the existing property tax payers.

Land value capture to control land use.

Land use regulations and development approvals may often lead to substantial increases in land values and hence have an impact on developers' profits. In such scenarios, value capture tools can be used to control land use. These can be used in several ways. An example is where property tax rates are used as an incentive to achieve some specific mix of land uses or development within a specific jurisdiction or through the use of differential exactions. This would be an approach where higher costs would be imposed in less desirable areas or types of developments. On the other hand, relief could also be given to development or locations that are deemed to be desirable according to some master plan or policy objective.

Land value capture for the provision of urban infrastructure

"When we build infrastructure — roads, sewage systems, shared water supplies, schools, libraries, hospitals, highways, public transportation, bridges, etc. — we build

communities. We make the land served by those amenities far more valuable than it would be in the absence of those amenities. Shopping centres and office buildings seldom get built far away from infrastructure.

Who should pay for infrastructure? How should they pay for it?

Does it make sense to pay for infrastructure through taxes on wages? Does it make sense to pay for infrastructure through taxing capital? Or does it make sense to pay for infrastructure by taxing land value? The legitimate way to pay for infrastructure spending is by taxing land value. If we tax land value fully, and that still isn't enough to pay for all the infrastructure we feel it appropriate to build and maintain, then, yes, it may be desirable to supplement taxes on land value with taxes on work or on trade. But don't tax them first!

Think, too, about the effects of building infrastructure in other countries. Who benefits? All the residents? Mostly those who own their own homes and business places? How about the tenants? Do they benefit, or is it their landlord, because they simply end up paying their landlords more rent for the privilege of simply living?"[5]

Infrastructure is the backbone of the global economy and what supports its growth. (Reiss, 2006). Any new development, be it residential or commercial needs to be supported by adequate provision of urban infrastructure. Such investments generate increases in land value which can be captured using value capture instruments. These instruments are intended to raise the necessary finances to cover the cost of developing the infrastructure.

2.5 Instruments used to capture land value

According to (Smolka and Ambroski, 2000), value capture policies rely on two broad categories of instruments: fiscal and regulatory.

Fiscal Instruments

Fiscal tools require some form of either a *tax* or *fee* to be paid by the private landowner to facilitate the capture of value for the public sector. Any form of tax on land value can be said to be a form of value capture in as far as the values take into account accumulated land value increments. Examples of fiscal instruments are impact fees and betterment levies.

Regulatory Instruments

The use of regulatory tools covers a wide range of applications in which increments in land value that result from changes in urban regulations are transferred back to the community through some form of "in kind" contribution by the owner of the land who has received the benefit. The contribution may be required by a land developer or it may result in the public sector sharing in all or part of some increase in land values.

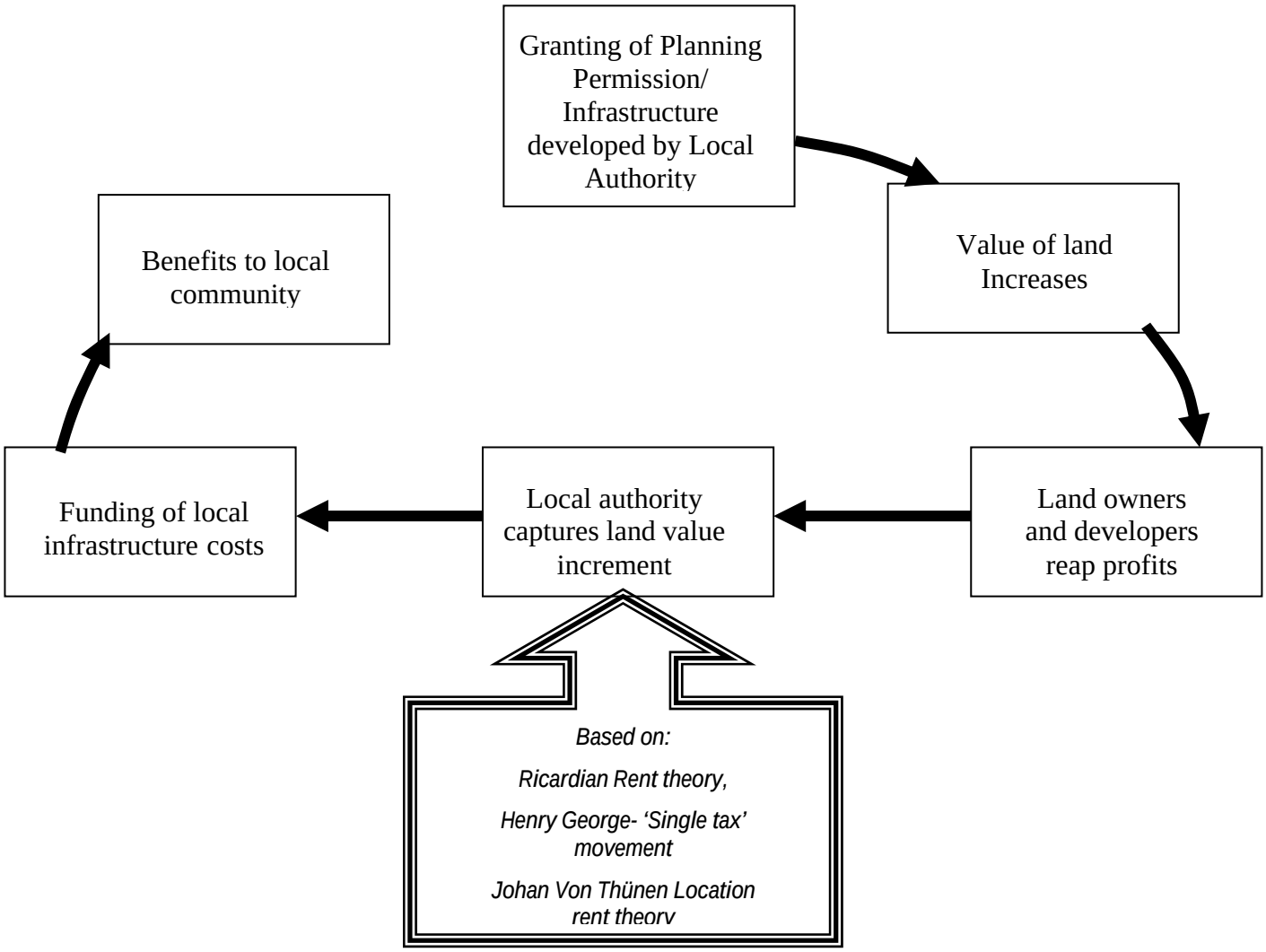
Negotiated forms of capturing value through regulation can occur when, for example, developers agree to return to the community some of the extra gains obtained by changing land use regulations, obtaining special approvals or additional development rights. The changes are presumed to enhance the value of the property either by

[5] from the website "Wealth and Want in 21st Century America" http://www.wealthandwant.com/themes/Infrastucture.html

increasing the value of the final product of the land or bringing it closer to where it may be developed. Either of these leads to a land value that is enhanced over the pre-development value. Development exactions are an example of value capture through regulation where the land owner or developer is required to donate a portion of the land area for the development of infrastructure such as roads, social housing, parks and other amenities. The exaction may also be a requirement to preserve an environmental asset.

2.6 Summary of Theoretical Framework

Figure 2-2: Framework for Land Value Capture. (Source: Author based on literature).



At the beginning of this chapter, it was seen that the value of land increases as a result of public interventions that benefit landowners to the exclusion of the rest of the society. Land value capture provides an opportunity for local authorities to capture these increments and use them to benefit the local community. In addition, it creates an opportunity for local authorities to obtain finances for providing the infrastructure requirements arising from new developments such as the expansion of roads, and the building and upgrading of social amenities. These increments as was described can be captured using both fiscal and regulatory instruments.

The concept of land value capture has been derived from various economic theories based on land rent. The contributions of three economists namely David Ricardo, Henry George and Johan Von Thünen were discussed and each analysed on the basis of its contribution to the concept of value capture.

Land value capture has also been seen as being driven by various motivations such as the deepening of the land tax, the control of land use and the financing of infrastructure. This research is mainly focussed on the last objective. It follows up on the fact that public investments and interventions lead to increments in land value and that it is economically and financially sensible for local governments to adopt value capture strategies that can be used to facilitate the provision of the needed local infrastructure. Various international cases on innovative value capture strategies to finance infrastructure are described below.

2.7 Innovative Infrastructure Financing based on Value Capture

There are several innovative strategies that municipalities the world over use in order to develop infrastructure. Those that make use of the principle of value capture are relevant to this study since the property owners pay for infrastructure through the added value that accrues to their land as a result of a public intervention.

The choice of a particular mechanism would require a local authority to take certain factors into consideration such as characteristics of the development, financial concerns and organizational capacity.

2.7.1 Considerations on Choice of Innovative Financing Mechanisms

Characteristics of Development

Type of Development: Developments can either be infill or Greenfield developments. Infill refers to the development or redevelopment of existing lots with some level of servicing while Greenfield developments refer to the build-out of new areas where services typically do not exist.

Value of the Project: This is the value that the local government attaches to a project. This varies depending on the community's broader planning and social development goals. The local government needs to assess the particular development project in terms of the value it brings to the community and decide on the basis of these assessments the best approach to apply in any given case.

Structure of ownership: The number of property owners involved in a proposed development would be an important factor influencing the choice of a particular tool. A developer-centred approach would be suited to projects involve few property owners while a government-centred approach for a project involving many owners.

Timing of the Works: This refers to the timing of the works relative to the development that is to take place. Different developments have different needs with respect to the timing required of the infrastructure and services. For example, a Greenfield development would require a high level of servicing before the actual development can begin. Other developments will allow services to be provided in phases that stretch over a relatively long period of time. Overall, timing is an important consideration that has cash flow implications for developers and landowners.

Benefit of the Works: The infrastructure required to facilitate new development will vary in each case with regard to benefits received. In some cases, the infrastructure

will be deemed to solely benefit growth, whereas in other cases, the works will be determined to benefit both growth and existing development. In these latter cases, a local authority may decide that a government-centred approach would be the fairest way.

Financial concerns

This includes the financial risks involved in making use of a particular tool and the reliance of the tool on borrowing.

Risk: This refers to the financial risk a local government incurs in using a tool. The risk to a local authority tends to be higher when a tool that is based on cost recovery is used rather than as a source of capital.

Reliance of the tool on borrowing: This is in reference to the local government's need to debt-finance the works. A government-centred approach is likely to rely on borrowing to finance infrastructure services while one that is centred on developers removes the burden from local government.

Organizational capacity

The two main organizational factors influencing the suitability of a particular tool in the area are the impacts of the tools on its officials and the level of expertise required particularly in finance and related fields.

Impact on officials: This refers to the amount of time that elected and appointed officials have to design and implement the tool.

Level of expertise: The level of expertise of the staff in the authority with regard to development and finance matters is also of importance.

2.7.2 Case Studies

Infrastructure financing through value capture is carried out in various ways in a number of countries. These strategies make use of one or a combination of the aforementioned value capture instruments i.e. fiscal and regulatory, so as to raise finances for infrastructure development. Examples have been drawn from the United Kingdom, Canada and the United States.

2.7.2.1 Case 1: Planning Gain/ Betterment in the United Kingdom[6]

The granting of planning permission by a local authority for the intensified use of land or for the conversion of land use from agricultural to urban uses results in an increase in land value. This additional value accrues to the developer or landowner. Planning gain is intended therefore to remove some of these profits so as to benefit the local community.

The so-called Planning Gain is a form of development land tax or betterment applied through the planning system. The tax is used to substantially benefit local communities and to deal with infrastructure requirements arising from the developments, such as building schools and community facilities, access roads and bypasses. This is based on the principle that the burden for paying for capital improvements such as infrastructure

[6] from the article by Kopec, K. 2006, '*LandWrites: Sharing the Profit*', in Urban Land, vol. no. March 2006, pp. 66-68.

should be borne by new development because new residents will be the ones putting pressure on the existing facilities.

Planning gain arises when an application for development is approved and is subject to a legally binding agreement between the local authority and the applicant (developer). It is not a condition of planning approval; rather, it operates alongside any planning permission. It can be applied either during submission of sub-division approvals or building permit approval.

Management of Funds

This system proposes that the money raised should be *ring-fenced*[7] by the appropriate authority in order to benefit the particular local community where the developments are taking place. Rather than place the fund into a central pot which would be used for general expenditure, it has been proposed that the funds be set aside specifically for local infrastructure and development related programmes.

Challenges

The proposed law on planning gain faces a number of challenges in its implementation. Firstly, in the past, several labour governments have introduced taxes or betterment tariffs on the uplift in land value that can occur when planning permission is granted. It is well documented that all these failed mainly because developers were encouraged to sit on their portfolios rather than pursue planning permission in the knowledge or expectation that a different government would abolish the tax.

Secondly, under the previous system local authorities negotiate with developers the benefits which the local community receives on a site-specific basis. Planning gain on the other hand seeks to tie the process of land use planning with the charging of development levies which would ensure that the system works with greater certainty. This would mean modifying the planning system so as to make land use plans more legally binding.

The third challenge is that local authorities may encourage the allocation of more land for development so as to obtain more revenues. This could cause unending feuds with property owners who would not like large scale developments to take place in their neighbourhoods.

Finally, property developers fear a squeeze on their profit margins which they feel are already tight. In their view, the new tax will disincentivise them and landowners from bringing land forward for development.

Conclusion

Planning gain is essentially betterment, the only difference being that the former seeks to integrate this with the land use planning process rather than negotiate on a site specific basis. Such a system works best where the land use planning system is functioning properly and where such plans are created with the input and approval of all stakeholders. It is also well suited in areas with heightened development activity taking place or an area with such potential as this leads to additional revenues for the local authority.

[7] Ring fencing is a term which is used to refer to the isolation of an amount of money from any outside risk

Planning gain is ideal for the development of physical infrastructure such as roads, sewerage and water that can support new development. However, it can also be applied as a tool that benefits an existing population in a case where higher density development is allowed in a previously low density area.

Where a local authority's intention is to avoid risk, the system is best used as a source of capital as opposed to a cost recovery tool.

Finally, the tool requires consultation particularly with developers in order to determine an agreeable rate to be charged on development. Organizational expertise is also required in order to design and implement a good system.

2.7.2.2 Case 2: Density Bonusing- British Columbia-Canada

This is an arrangement in which the local authority allows a developer to exceed maximum density levels in a zoning by-law in exchange for the provision of a public amenity that benefits the community.

This arrangement is purely voluntary for the developer and is designed to be a 'win-win' system for both the developer and the local authority. The developer benefits by being given more floor area in a given project while the local authority benefits from the public amenities secured through the exchange as well as from the higher tax revenues from the increased floor space.

It was first conceived as a way to encourage the creation of low-income housing in multi-family housing projects. However, legislation through the Local Government Act expanded the original intent of density bonusing to allow local governments to use the mechanism to contribute towards the development infrastructure and amenities.

Mechanism

Density bonusing can be implemented using conventional zoning. In this approach the allowed density and the bonus density in addition to the conditions necessary to achieve the bonus are outlined for each zone in the community's zoning by-law. Such an approach gives a level of certainty for developers who know that if the by- law conditions are met, the density bonus must be granted.

It can also be implemented on a site specific basis and on the specific amenities required in the neighbourhood. This approach provides less certainty to the developer than the previous approach.

Challenges

There is the risk that where bonus densities are offered, by-laws could be structured which are equivalent to the original densities. This would not be fair to the developer.

Local governments also need to be careful in ensuring that overall densities do not exceed the ideal levels thereby threatening the livability of a neighbourhood. The local authority should have a comprehensive plan for the area where the limits to extra density are set.

Conclusion

Density bonusing is an ideal strategy for a local authority facing financial constraints for the development of infrastructure. The developer meets the full cost of providing a public amenity and in exchange receives the right to develop to a higher density. For this reason, it is ideal where there is a large development company seeking to

undertake a project requiring maximum densities as it would have the necessary financial capacity to develop a wide range of amenities. Small companies can contribute to the cost of amenities rather than finance their development in full.

Since density bonusing works in a similar fashion to a regulatory instrument, it is ideal for the development of affordable housing and other social amenities. However, it can also be used for the creation of recreational facilities such as parks and other open spaces.

This method can also be used to develop infrastructure in an area already undergoing development as the timing of the development is not tied to the development of the amenities.

Finally, the implementation of such a tool requires consultation with the relevant stakeholders so as to determine what amenities are top priority for a community. It also requires an amount of expertise with the local officials to carry out negotiations during zoning and to deal with the technical issues in the policy.

2.7.2.3 Case 3: Local Improvement Districts in the United States of America

A Local Improvement District (LID) is a specific geographical district formed by a group of property owners who work together to bring needed infrastructural developments such as sidewalks, street lighting, pavements, water and sewer lines. It is a financing strategy available to property owners for the design, construction and financing of such improvements.
The primary attraction of this value capture technique lies in its inherent fairness; that those who benefit from an investment help pay for it. In addition, if the program is well-structured, property owners will gladly participate, since the increased value of their land will more than pay for the infrastructure contributions they must make. The trick, as shown in the description below, is to tie the charges to be paid with the perceived benefit to the property owners. This technique is widely used in several states in the US such as Washington, Seattle and Colorado.

Mechanism

The formation of LIDs can also be initiated by the specific county[8] whose LID programme allows the property owners to form the LID pursuant to the State's legislation which defines the procedures for its creation. It includes a petition, public hearings and an election.[9]

The county staff work with the property owners to define the boundaries of the LID. There is no limit to the size of the LID though it must be of sufficient size to benefit an entire neighbourhood or community.

The infrastructure that needs to be developed is agreed upon through a process of consultations. Construction cost estimates are then developed after which estimates of the assessments for the plots within the LID are worked out to offset the cost of building the infrastructure. These are referred to as *special assessments* and are

[8] The largest administrative unit of a US state immediately below the state wide tier and above the municipal tier where it is created. From http://en.wikipedia.org/wiki/County#United_States.

[9] Based on LIDs in Douglas County, Colorado.
www.douglas.co.us/publicworks/engineering/documentcs/LID_MANUAL.pdf

dependent on the size and location of each property in relation to the improvement along with the expected benefit to the property. The council determines an assessment formula based on a rate per square foot or rate per length of frontage.

Once an agreement has been reached, and public hearings concluded, the local authority obtains the required finances to finance the project. The programme allows for procurement of tax-exempt bonds to finance the cost of the improvements and collect special assessments over a 10 year period to pay for the bond. Property owners continue to pay the normal property taxes and in addition, pay the special assessments. The special assessment is usually shown on the property tax statement and collected at the same time the property taxes are due. In essence, the special assessment is a *tax* that seeks to capture the added benefit that an improvement brings to a specific property through an increase in its value, but only for a limited period of time.

It is note-worthy that different states have different legislation on the administration of LIDs. However, the overall principle remains the same. .

Benefits

The greatest advantage of making use of an LID is that the cost of the infrastructure is spread among several property owners. This results in a reduction in the cost of the improvements compared to the cost of charging a single property owner. An LID also allows property owners to spread the cost of the improvements over a period of time and may take advantage of the city's ability to borrow funds at lower interest rates than those that are prevailing in the market.

Another advantage of this strategy is that property owners unfamiliar with construction, contracting, engineering and financing details can depend on the municipality to undertake the process for them, acting as an agent in the management of the project.

Challenges

The process tends to be long and complex and may take longer than normal projects due to the requirement to set up public notices, agree on the boundaries of the LID and hold public hearings. A typical LID may take nine to eighteen months. However, for more complex projects involving the installation of streets, storm water drainage and utility improvements, it may take more than 2 years from the time an interest petition is submitted until project completion.

Conclusion

Local Improvement Districts are best suited for a limited geographical area where the works required are not extensive. Examples of works for which it is best suited include street improvements, bridge developments, sewer and water works and park acquisitions and improvements.

LIDs are designed to assist municipalities in *adding infrastructure in already established areas*. Under normal circumstances, it is not the best tool to be used to provide growth-related infrastructure. Where both the existing and new population are the beneficiaries of the infrastructure, charges can be applied to both groups of owners.

Since the charging of special assessments is not dependent on development occurring, local authorities can begin the cost recovery process from the property owners immediately thus reducing the risk levels. This would be a prudent approach for a local authority that faces financial constraints.

2.7.2.4 Case 4: Late Comer Arrangements/ Charges in British Columbia-Canada[10]

This is a charge imposed on properties which connect to or use excess or extended services.

Mechanism

The owner of the land which is to be subdivided or developed provides excess or extended services i.e. facilities that serve properties over and above the land that is being developed. The cost of providing the extended service must be financed either by the local authority or the developer / landowner. The party that absorbs the cost is entitled to some form of compensation from latecomers who benefit from the excess or extended service. This compensation is referred to as the latecomer charge. Latecomer charges are usually used to finance roads, water, sewerage and drainage infrastructure works.

In order to implement a latecomer charge, a local government follows a number of steps. Firstly, it determines the proportion of infrastructure cost which is excess or above the standard or normal cost. Secondly, it determines the benefit of the extended service to each plot that will be served. Thirdly, a latecomer charge is imposed on the benefiting properties in relation to the benefit determined.

Application

Latecomer charges tend to be applied where developers wish to put up developments on incontiguous plots of land. In exchange for granting developer approval, the local authority may require the developer to provide an infrastructure package with enough capacity to serve not only the developer's own site but also future development properties situated nearby.

According to the law in this particular case, developers do not have to apply to receive latecomer payments. The local government may establish a by-law that requires developers to provide a large infrastructure package in respect of the subdivision of the land. If a developer provides infrastructure serving land other than that which is being developed, then latecomer provisions automatically apply.

Benefits

Latecomer processes are optional under state law and many local jurisdictions make no provision for them. Without such a process, a property owner who funds infrastructure ends up subsidizing developers who hook into the new system. The absence of such an arrangement may inhibit the development of property especially in areas that need upgrades in their infrastructure since the property owners will wait for the other owners to move first and give them a 'free ride'. The application of a latecomer process may encourage property owners to form an LID and get the improvements financed by everyone all at once.

Challenges

Developers who agree to finance excess or extended services accept the risk that not all the costs that they incur will be recovered before the repayment period has expired.

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[10]From http://www.cserv.gov.bc.ca/lgd/intergov_relations/library/development_finances_choices00_guide.pdf

Conclusion

Latecomer arrangements allow a municipality to transfer the risk of financing infrastructure development to the developer who then recovers his costs through latecomer charges on future property developments. This charge is justified by the fact that the infrastructure adds value to the properties which then pay according to the benefits received principle.

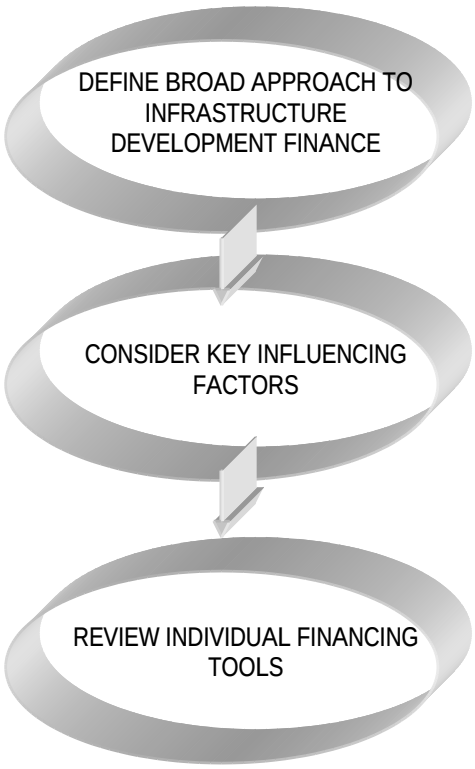
This strategy for infrastructure financing is best suited for the development of growth related infrastructure in Greenfield areas where infrastructure is required before any development can be undertaken. As such it is best suited for works such as roads, sewer, drainage and water supply. As a result, the development company must have the capacity to front-end the works; the company must have the ability to mobilize adequate resources for the development of infrastructure.

The adoption of such a mechanism requires expertise within the local authority to develop the necessary policy framework and administer the system.

2.8 Summary and Conclusion on Case Studies

The case studies on value capture strategies for the financing of infrastructure are all best suited for specific sets of circumstances. Local governments must therefore define a broad approach in the choice of a particular tool or combination of tools in deciding which tool is best suited for a particular situation.(Figure 2-3). In addition, through the study of the various cases, it has been shown that the type and nature of the works, the financial position of the local authority and its organizational capacity are all key in making the right choice.

Figure2-3: Process of choice of financing strategy



In conclusion, the choice of a tool must seek to achieve the universal standards of good government, these being equity, flexibility, integration, accountability, responsibility and certainty.

Equity: The standard of equity requires that the cost of infrastructure should be paid by those who benefit from the works.

Flexibility: Local governments need not handle each development in exactly the same way. They should also be flexible in considering the use of a wide array of tools at their disposal.

Integration: Local governments should be careful not to rely solely on innovative financing strategies to resolve their financial problems. Better results are achieved when a local government's development finance and land use planning processes are integrated.

Accountability: The implementation of different tools must be carried out in a transparent manner. The development community and the public as a whole should be able to understand the policy rationale behind certain choices and the method used to determine costs and charges to be paid.

Responsibility: Local governments need to be aware of the risks involved in the use of certain tools and implement these tools in a manner that minimizes those risks.

Certainty: Developers need to be certain of the development approval process and that these will not change mid-stream. They should also know about and have input into the proposed by-law changes in advance before any changes are made. Local governments should also be predictable and efficient in the implementation of the different financing tools.

Table 2-1: Choice of financing mechanism

Considerations	1. Planning Gain	2. Density Bonusing	3. LIDs	4.Latecomer arrangements
A. CHARACTERISTICS OF DEVELOPMENT				
♦Type and nature of work	Roads, sewer, water, drainage and parks	Landscaping, affordable housing, off-street parking, walkways, open spaces	Small works with limited benefits e.g. paving, street lights	Roads, sewer, water and drainage works
♦ Timing of Works	Works which can be postponed or phased	Timing of development not dependent on timing of amenities	-Where works required prior to development -Where works can be deferred or phased -Application of charges not dependent on development beginning.	Where infrastructure is required in order for development to begin
♦Benefit of works	For works that benefit both growth and the existing population	-Amenities in Greenfield development would tend to benefit growth only - Amenities in infill developments would benefit both growth and existing population	-For works which benefit both growth and existing population - Charges can be applied to both groups of owners	Best used where extra capacity is intended to benefit growth only
♦Value of Project	If the project is incurring a high risk, then the benefit to the community should be long term	Used where value is limited to a specific area	Perceived project value may influence local authority willingness to cost-share	Used for projects where value is confined to a specific area
♦Structure of Ownership	Well suited to developments involving many owners	-Large development firms in search of high densities can provide all the amenities -Small development firms in search of high densities can contribute to the cost of amenities.	Many property owners	At least one large developer should have ability to front-end the works

Considerations	1. Planning Gain	2. Density Bonusing	3. LIDs	4.Latecomer arrangements
B. FINANCIAL CONCERNS				
♦Risk	Risk is higher if the charges are used as a cost recovery mechanism as opposed to a source of capital	-Little(if any) risk to Local Authority	-No significant risk to Local authority -Applied to all parcels that benefit from the works -Application of charges not dependent on development occurring.	- Low risk to Local authority -Assists developers in recovering front-end expenditures made on extended services
♦Reliance on borrowing	Depends on use as a source of capital or cost recovery tool	-Amenities paid for by developers. -No reliance on local government borrowing	-Funds obtained through e.g. internal borrowing from a local infrastructure fund, -Interest on loan recovered from benefiting property owners	- Infrastructure costs financed by developers - No reliance on government borrowing
C. ORGANIZATIONAL CAPACITY				
♦ Impact on officials	Need for consultation with developers and property owners	-Need to examine many policy and technical issues -Need to involve community on amenities required	Need for a legal framework(passing of by-laws) to create LIDs	-Need to examine many policy and technical issues - Require a significant amount of staff and councillors' time
♦Expertise	Needed for design and implementation of the system	-Need for expertise to undertake negotiations during zoning - Need for high degree of staff expertise from Local Authority	Limited expertise required	-Developers require expertise for preparation and documentation on which charges are based, -Need to monitor administration of the system -Not difficult on part of developer. Local authority finances and administers tax collection

Chapter 3: Research Methodology

3.1Thesis structure

This thesis has been organized in six chapters whose contents are described below:

Chapter 1: Introduction:

The chapter begins with an introduction to the thesis topic. A brief background of the city of Nairobi with regard to its structure, growth and development is outlined. This provides a clear understanding of the circumstances leading to the rezoning of three prime low density and primarily high income residential areas in the city. This is then followed with a description of events that have influenced the transformation of these neighbourhoods ranging from socio-economic factors to changes in legislation. It is from this that the problem statement is derived which links the large scale of development to the infrastructural challenges faced in these neighbourhoods. The problem statement thus forms the basis of the research objectives and questions which revolve around financing strategies for infrastructure development through value capture. Justification of the choice of the potential application area, that is Kilimani, is provided. In addition, the relevance of the research is provided in light of recent events that have shown that there is on-going discourse on the topic.

Chapter 2: Literature Review/ Theoretical Framework

This chapter provides the theory upon which the argumentation of the thesis lies. It begins by defining the concept of value capture. It dwells on the theory of land rent developed by both classical and neo-classical economists on which principles of value capture are derived. It then proceeds to outline the main objectives of capturing land values among which is to finance infrastructure development. Several cases on innovative financing cases based on value capture are described together with the circumstances within which each instrument is best suited. This is done through the review of a number of international cases drawn from the United Kingdom, the United States and Canada.

Chapter 3: Research Methodology

This chapter outlines the process the researcher followed in order to answer the research questions and fulfil the research objectives. The research is described as exploratory and the data, qualitative in nature. This research takes four different cases of innovative strategies based on value capture for purposes of evaluating their potential application in Kilimani neighbourhood. The data collection strategy is also described in this chapter which comprises in-depth interviews with various key sources together with studies of relevant policy documents and publications. The scope and limitations of the research are also clearly outlined. Finally, an analytical framework is provided showing the units to be analyzed, the data sources for each and the process of arriving at the conclusions and recommendations

Chapter 4: Kilimani, Nairobi

The neighbourhood within which the various value capture tools have the potential to be applied, i.e. Kilimani is placed within the context of the historical growth and development of the city of Nairobi. The various relevant planning interventions that have shaped the city to its state today are also described. The area is then described in detail showing various relevant details such as demographic profile, infrastructure

development and the property market. The main area of focus is the infrastructure development in the neighbourhood particularly with regard to the challenges faced after the re-zoning policy was effected.

Chapter 5: Research Results

The results of the data collection process are presented in this chapter. These are presented in the same order as the research questions and objectives beginning with the initial strategy for infrastructure development in Kilimani so as to establish a link between infrastructure development and a financing plan and proceeding on to the perceptions of actors, land value changes and finally the institutional framework.

Chapter 6: Summary and Conclusions

This chapter provides a summary and conclusions to the entire research. Its primary area of focus is the learnings that can be drawn from the data collected and analysed in previous chapters. Data from the literature, case studies and field work is summarised and the learnings outlined. Policy recommendations and suggestions on further areas of research conclude the research.

3.2 Research Methodology

3.2.1 Research Process

The first part of the research mainly focussed on identifying the research problem and involved carrying out an extensive literature review on the concept of land value capture in relation to infrastructure development; a process which began in March 2007 in the Netherlands. Cases on innovative infrastructure financing strategies based on value capture used in a number of countries were also studied having been chosen on the basis of their applicability within the local context. Having completed this, a data collection strategy was devised in order to enable the researcher answer the research questions that form the basis of the study.

The second part of the research entailed going out into the field to carry out data collection. This was undertaken in the researcher's home country, Kenya and in particular, Nairobi, the capital city. This part of the research was carried out during the 5 week data collection period during which interviews were conducted with various respondents whose input was considered relevant in answering the research questions. These included key staff involved in policy issues from the Nairobi City Council, members of the policy review team, property owners and developers.

The third and final part of the research involved the interpretation and analysis of the data collected in the field combined with that obtained through the review of literature. This entailed documenting the information obtained during the data collection exercise and arranging it in a logical format. Only the information obtained that was deemed relevant to answering the research questions was presented. This process began during the fieldwork period in the researcher's home country and continued in the Netherlands.

The results of the fieldwork were then linked with the original objectives of the study and the research questions. This enabled the researcher to draw relevant conclusions and make recommendations on areas of further study.

3.2.2 Research Scope and Limitations

This research is limited to a particular time-frame, this being from 1987 when the municipal rezoning policy was passed to the present. This is because the policy change is a key point of departure that sets in motion subsequent events with regard to development and related infrastructure challenges in zones 3, 4 and 5 of Nairobi city.

Given the limited time and resources such as finances, it is not possible to study their applicability in all three zones. It is for this reason that Kilimani has been chosen as the area of study as it has witnessed quite a marked transformation in its character since the policy was passed. However, the conclusions and recommendations made could be applied to the other zones as the circumstances they face are similar.

3.2.3 Criteria for Selection

Three groups of respondents were interviewed. These included key municipal staff involved in policy formulation, the residents of Kilimani neighbourhood and property developers who are active in the neighbourhood.

Information on the strategy for infrastructure development and upgrading and the possible bottlenecks experienced in its implementation will be obtained by interviewing policy makers within the municipality.

As mentioned earlier, Kilimani neighbourhood is the area of research. The respondents targeted for in-depth interviews included residential owner occupiers, commercial property owners and developers. This was one done in order to establish and compare their views on who they regard to be responsible for upgrading infrastructure in the area and what they see perceive as their roles in this process. However, due to the availability of the progress reports containing the views of the same actors, not all respondents were interviewed.

Real estate brokers and companies provided invaluable information particularly on the development profile of Kilimani and potential for development in comparison with other areas in the city. Their knowledge on valuation and active participation on the market was useful to establish the land price movements in Kilimani over the years. The companies that were approached for data included Tysons Limited and Landmark Realtors Limited. Property websites also provided useful data on the property market.

3.2.4 Research type

Due to the nature of the problem and the subsequent research objectives and questions, the research type is said to be exploratory. This is because it does not seek to establish any causal relationships. It only seeks to explore the opportunities for value capture that were brought about by a change of zoning within a residential area and how this can be used to develop and upgrade infrastructure in the area.

The research strategy used is a multiple case study approach of four innovative financing mechanisms that can be applied in Kilimani, a residential area that has seen large-scale developments taking place since the policy was passed in 1987. The data collected from the study will require qualitative assessment.

3.2.5 Research Framework

The following table is a summary of the research framework outlining the strategies to be used in answering the various research questions, the units of analysis, the variables and indicators used and the expected data sources.

Table 3-2: Table summarising the framework of the research.

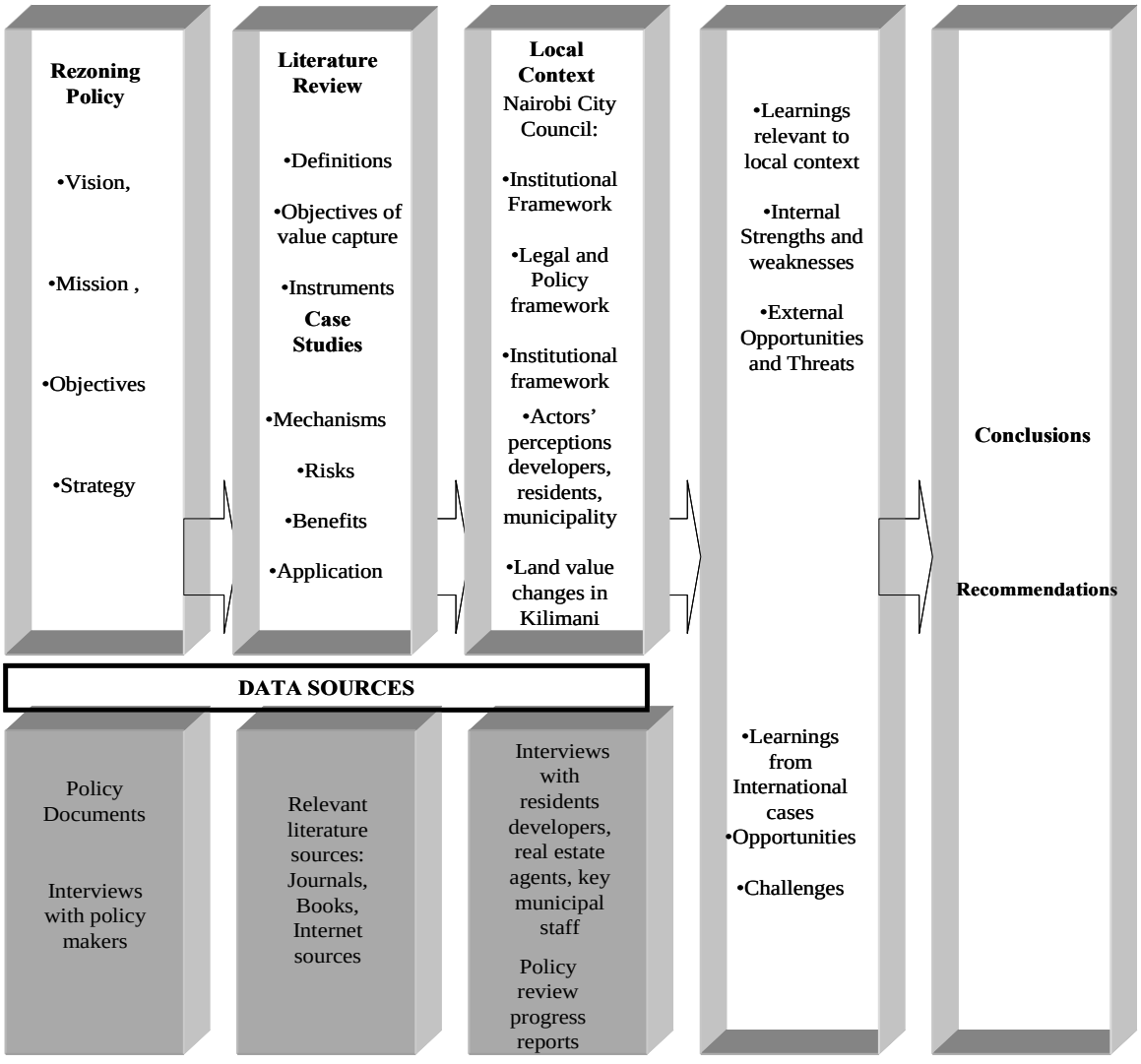
Research question	Unit of Analysis	Variable	Indicators	Type of data	Data sources
1. Strategy for the upgrading and development of infrastructure	1987 rezoning policy, 1993 policy guidelines	▪ Financing strategy ▪ Infrastructure development plan		Qualitative	▪ Policy makers (NCC, City Planning department) ▪ Policy documents
2. Perceived role of residents and developers in infrastructure development	▪ Residents ▪ Developers	Residents and developers' perceptions			▪ Interviews with residents and developers ▪ Newspaper articles ▪ Policy reports and documents
3. Land value changes	Residential and commercial land values	Land price movements from 1987 to date			▪ Literature review ▪ Newspaper articles ▪ Real estate and valuation companies
4. Existing value capture opportunities	Planning laws and regulations	Laws and regulations that are in place to capture land value increments	Existing laws and regulations		▪ Physical Planning Act
4. Cases of innovative infrastructure financing strategies based on value capture	International cases	Innovative approaches	International examples of land value capture mechanisms		Literature Review

3.2.6 Units of Analysis

- 1987 Rezoning Policy and 1993 revised policy (infrastructure development strategies)
- Perceptions of residents, policy makers and developers
- Nairobi municipality

3.2.7Analytical Framework

Figure 3-1: Analytical Framework (Source: Author)



A study of the policy intervention in 1987 in zones 3, 4 and 5 forms the point of departure of this research. Its vision, mission and objectives are established based on interviews with key municipal staff and a study of available policy document. The approach used to deal with infrastructure upgrading in relation to the anticipated increase in densities provides a clear understanding of the weaknesses in the policy approach used.

The main aim of the research is to tie the development of infrastructure to the concept of value capture in relation to the benefit received by property owners and developers on their land values as a result of public interventions. It is therefore quite fitting to

define the concept of value capture as developed through theories of land rent. This concept is then linked to infrastructure development where four innovative cases of its use in various countries are discussed and analyzed. These are chosen based on their potential applicability within the local context. This is done through a desk study with various publications and the internet as information sources.

Having completed this, the local situation is analyzed in two ways. The first is an analysis of the institutional framework of the Nairobi City Council in relation to its ability to apply value capture mechanisms as financial sources. The analysis is broken own into institutional, organizational, behavioural, financial and professional factors. Secondly, the situation in Kilimani is analyzed on the basis of its infrastructure challenges and needs, land value changes since the 1987 policy change and the perceptions of the actors involved in contributing to infrastructure development, that is, property owners and developers. The views of the municipality on this issue are also obtained in relation to possible roles in a rezoned neighbourhood such as Kilimani. The information sources for this are newspaper articles, interviews with each of the actors and the proceedings of the workshops held during the policy review exercise that took place during the suspension of development. This is done in order to develop a case on the applicability of value capture tools as a viable option to upgrade the infrastructure in Kilimani.

Having analyzed the data, the learnings deemed useful to the study are summarised so as to arrive at conclusions and recommendations on the way forward.

3.2.8 Data Quality

Reliability of the data collected is enhanced as data has been be collected from different sources, i.e. newspaper articles, interviews with municipal policy makers and interviews with residents and developers and the policy review progress reports. Real estate developers also provided useful information with regard to the development potential of Kilimani and the land value changes in the area.

3.2.9 Data Collection and Fieldwork

The data collection strategy mainly revolved around the use of interviews. This is because the research is exploratory whose data is analyzed qualitatively. The exclusion of questionnaires as a data collection instrument is due to the sensitive nature of the questions which address issues that touch indirectly on attitudes of residents and developers towards their willingness and ability to contribute to the financing of infrastructure.

The list of interviewees was varied comprising municipal policy makers, real estate and valuation agents, members of the policy review team and residents of Kilimani. An in-depth interview was also undertaken with a firm involved with project management and project finance procurement, Pinnacle Projects. Since their work involved advising a wide range of clients including developers and office and commercial property owners, and given their in-depth knowledge about the projects undertaken in Kilimani in addition to their extensive interaction with their clientele, an in-depth interview with them was useful in gaining a perspective of the situation with regard to perceptions of developers and property owners on infrastructure related issues.

Chapter 4: The Local Context

4.1 Brief Description of Nairobi City

Nairobi has a population of approximately 3 million inhabitants and is the largest city in the country. It was originally a supply depot during the construction of the Kenya Uganda Railway in 1899 after which it grew into a key administrative and commercial centre. It has an area of approximately 684 square kilometres.

Figure 4-1: Map of Kenya (*Source: www.cnn.com*)

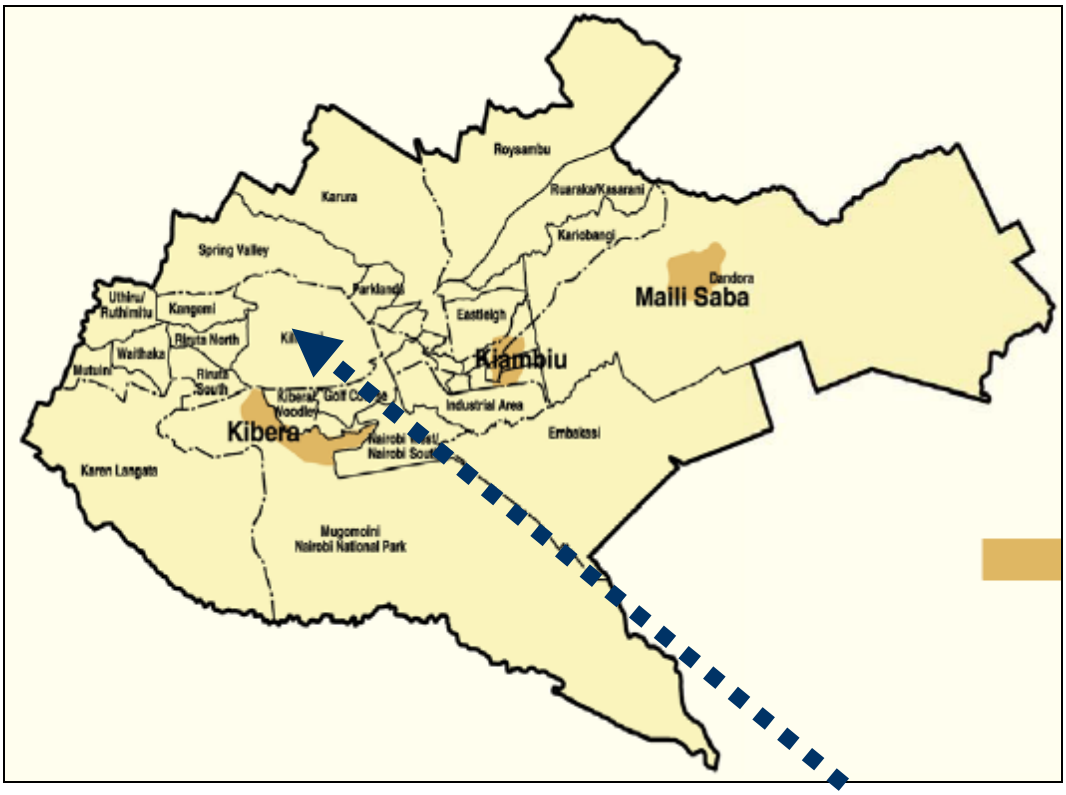


Figure 4-2: Map showing Nairobi's administrative locations

Kilimani location

Nairobi's internal structure has been influenced by settlement trends which began as early as 1900 after the arrival of the colonial settlers. These were characterized by segregative settlement tendencies where Europeans, Asians and Africans occupied different residential areas within the city. By 1963, Africans who formed a major part of the population lived in the eastern part while Europeans and Asians occupied the western suburbs with access to better urban services. This position is reflected today not so much in terms of race but in terms of population densities and income levels.(Mitullah, 2003). The people living in the Western suburbs are generally the high income while the lower and middle incomes dominate the eastern area of the city.

The following is a description of the main residential areas within the city.(Obudho and Aduwo, 1988).

- Upper Nairobi lying to the west and north of the Central Business District (CBD): This is an area of low density, high-income population and comprises many of the former well-known expatriate residential areas such as Woodley, Kileleshwa, Kilimani, Lavington, Bernard, Thomson and Muthaiga.

- Parklands, Eastleigh and Nairobi South: an area of medium income, medium density population and consists of mainly owner-occupier housing (many owned by Asians).

- Karen and Lang'ata, to the south and south-east are also high income, low-density residential areas, typified by large housing, gardens and paddocks. These areas are in transitional phase in that several mid-income estates often owner-occupied by civil servants are growing to absorb the population spilling from the other areas.

- Eastlands in the marginalised urban fringe to the east of and away from the CBD is a low-income densely populated area with the core region of old NCC housing areas and new institutional housing estates.

- Mathare Valley to the east of the city and Kibera to the west form the most famous, largest uncontrolled urban settlements in the city. They are characterised by the uncontrolled, spontaneous mushrooming of squatter settlements.

4.2 Description of Kilimani

4.2.1 Population Profile

Kilimani as earlier mentioned lies in Upper Nairobi to the West of the CBD. In 1999, it had a population of 36,220 inhabitants (Republic of Kenya, 2001) with the current density having increased to an unofficial estimate of approximately 36 persons per hectare.

Kilimani neighbourhood lies within Kilimani location which occupies an area of 1500 hectares. (Figure 4-2). It is situated in zone 4 which was one of the targeted areas for the rezoning of 1987.

Originally the area was exclusively a high-income low-density residential area. Currently, there also exist pockets of middle-income residential neighbourhoods for civil servants and institutional employees.

4.2.2 Land Tenure

The predominant tenure system in Kilimani is private leasehold. This follows the disposal of government properties owned by the government, Nairobi City Council,

and parastatals such as Kenya Railways and Telkom in the late 1990s to private developers. This has also been a large influence on the scale of development activity going on the area since more land was made available for private development.

4.2.3 Re-zoning of Kilimani

The 1987 rezoning policy anticipated that the population in zones 3, 4 and 5 would expand from 180,000 then to 300,000 people in 1989. Any planning interventions put in place were geared towards meeting the needs of this increased population. In addition, the area under review had a wide range of facilities which also served the rest of the city. In terms of social infrastructure, the area had 45 primary schools, 25 of which were privately owned, 7 hospitals, 13 secondary schools and one park i.e. the Arboretum. In terms of physical infrastructure, the following was the condition of the zones:

Sewers

At the time the policy was passed, only part of the area under review was sewered. The sewered areas were designed at an average of 35 persons per hectare. According to the committee's minutes, the sewer engineers indicated that sewers are constructed in phases as demand arises and that the low density design was not to be seen as a constraint to the planned densification.

Roads

The committee recognized that there was a need for the improvement and upgrading of the existing road network in the three zones so as to reduce traffic congestion from some of the major distributors.

Water Supply

The supply of water at the time was able to meet the demand. Certain areas were however experiencing low pressure problems.

4.2.4 Development Profile

The sub-division of plots to smaller units and the development of multi-family dwellings have increased the housing and population density in Kilimani.

The area is primarily residential within zone 4 which stipulates development on the basis of a plot ratio of 0.75 and ground coverage of 0.35.

The latest policy change was approved under minute 24 of the Works and Town Planning Committee meeting held on 13th May 1987. Under this policy, the minimum plot size on sewer was lowered from 1 hectare to 0.05 hectares for one dwelling unit. Unsewered plots remained at 0.2ha for the same. (Annex 7). High rise developments were limited to sewered areas and for plots of 1 hectare and above 10% open space was to be surrendered free of cost to the city council during sub-division.

From the 1980s there has been a high influx of professional offices for private individuals and organizations and other non-residential uses. Whereas some of these are approved a majority of them are illegal conversions.

Ngong' road and Argwings Kodhek road are fast transforming into commercial corridors with centres such as Hurlingham, Yaya centre, Valley Arcade, Caledonia, Adams Arcade and recently Uchumi hypermarket and Nakumatt Prestige Plaza forming some of the retail developments.

The policy review exercise which was undertaken during the moratorium of all change of user applications makes various proposals for more sustainable development in the area. The policy proposals are yet to be fully implemented while others are undergoing further consultation.[11]

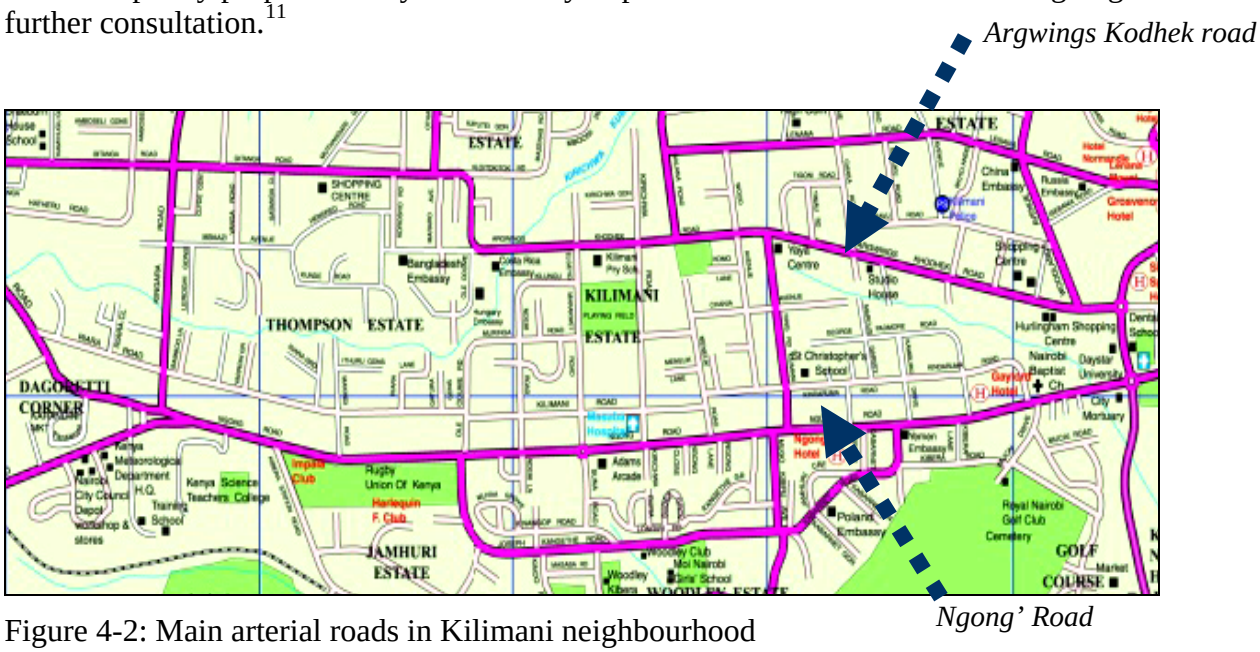


Figure 4-2: Main arterial roads in Kilimani neighbourhood

(Source: www.hassconsult.co.ke)

4.2.5 Infrastructure

Water Supply

The major source of water in Kilimani area is Kabete Water Works via the Hill Tank reservoir. The flow is by gravity. Currently, the supply from KWW is at a maximum with the demand for water exceeding its availability. As a result of this deficit the area experiences inadequate water supplies with low pressure at times. To address this problem a water project known as the Third Nairobi Water Supply Project (Chania Three) was commissioned to increase the water supply capacity for the entire city of Nairobi until the year 2010. This project was undertaken through the joint efforts of the Nairobi City Council and the World Bank. This initially helped to relieve the situation but later proved inadequate.

Sewerage

Plans to construct a sewer line system in Kilimani neighbourhood were conceived in the early 1970s. Sewer reticulation plans were prepared by the Nairobi City Council Water and Sewerage Department and were completed in October 1975. The proposal was to extend the existing Chiromo trunk sewer to cover the Thompson, Kilimani and Hill Area. The project which was carried out on two phases was completed in March 1983. The sewer project was financed partly by the Nairobi City Council and the European Economic Community.

[11] This is based on interviews with a member of the policy review team from the University of Nairobi- Mr. Arthur Munyua Mwaura.

Since this project was undertaken, there has not been additional upgrading despite the increasing capacity that it has had to serve as a result of an increase in development density.

Roads

Roads within the study area were designed to serve the low-density residential development. While these are adequate for this purpose, the same is not true if they have to serve increased traffic flow and additional parking requirements in an area fast changing from low density residential character to multi-family dwellings, office and commercial developments. While most of the access roads are bituminised, a number of roads are not and have no specific carriageway. There are also some undeveloped ring roads which need to be opened up (Nairobi Town Planning Liaison Committee, 1993).

Community Facilities and Social Infrastructure Services.

According to the policy report for zones 3, 4 and 5, (Nairobi City Council, 2006), the increased population brought about by the housing, commercial and office developments has not seen a commensurate upgrading of social infrastructure. This includes parks, market facilities and community centres. Others include education and health facilities, police posts, hospitals, religious centres and sports facilities.

4.2.6 Property Market

Commercial Property Market

These are put up for the sole purpose of realising a return on investment. Broadly, they can be classified as follows office buildings/blocks, retail premises and industrial units.

The demand for offices in Kilimani can be attributed to a number of factors which include the lack of appropriate office space, inadequate car parking facilities, congestion, high rents and noise and air pollution in the CBD. These factors have contributed to the location of offices and other non-residential uses outside the CBD and relocation to the immediate environs such as Kilimani. (Nairobi Town Planning Liaison Committee, 1993).

The trend towards decentralised shopping which began in the 1980s due to problems of traffic congestion and security in the CBD (Njeru, 2005), also continues with the development of large scale retail outlets such as Uchumi hypermarket, and Nakumatt prestige plaza both of which have been constructed in Kilimani area in a span of less than 5years.

Residential Property Market

The residential property market can be grouped into three categories namely, single units, flats/town houses/maisonettes, and up-market apartments. The residential property market in Kilimani is quite vibrant. Residential development land values have risen significantly, resulting in a rise in house prices. This increase has not yet been matched in rental growth, with a consequent tightening of residential yields.(Knight Frank, 2004). According to property market experts, there is currently a strong demand for redevelopment land, especially in the high-income residential neighbourhoods, where planning regulations have been revised to allow for the development of high density housing units like flats and apartments.(Ayieko, 2004). In contrast, the market for stand-alone single family dwellings has been on the decline. Up-market apartments

tend to be in multi-storeyed blocks and share common facilities such as security, swimming pools and generators.

Figure 4-3: Typical single family unit

Figure 4-4: Typical high-rise residential unit

Figure 4-5: New office development

Figure 4-6: Town houses

Figure 4-7: New Commercial development along Ngong Road, Kilimani

4.3 Summary

This chapter began with a brief description of the city of Nairobi within which Kilimani the study area is located. A historical description of the city's origins and development were provided placing focus on the main influencing factors of the city's current internal structure. This was then followed by a detailed description of Kilimani which is regarded as a potential location for the application of value capture strategies to finance infrastructure development. Details on the demographic characteristics, scale and nature of development and existing state of the infrastructure are important particularly in tying the infrastructure needs with a suitable mechanism for upgrading the same in the area.

Chapter 5: Research Results and Analysis

5.1 Introduction

This chapter focuses on the results obtained during the fieldwork period and addresses three of the research questions. The first question seeks to establish the infrastructure development strategy that was put in place when the zoning policy was passed. In seeking to answer this question, information on the overall objective of the policy, were also deemed necessary so as to establish the initial vision for the area. It also seeks to develop a link between infrastructure planning and financing of the same.

The second question deals with the roles of the municipality, developers and property owners in the process of infrastructure development. The municipality's role is important since they lead the policy making process and are charged with making the final policy decisions. Developers and property owners are also very important actors for this research as decisions regarding development have a direct and real impact on them.

The third question whose results are presented in this chapter is on the land value changes in Kilimani between 1987 and 2007. Data on two different land uses, that is, commercial and residential are presented. Emphasis on potential to capture value in Kilimani is placed by comparing these changes with those of another high income residential area in the city known as Karen which was not subjected to the zoning change.

A sub-question dealing with the institutional capacity of the Nairobi City Council (NCC) in the application of value capture tools is presented based on the interviews conducted and a study of existing literature. This is done by analysing the strengths, weaknesses, opportunities and threats (SWOT) in their application.

5.2 Development Strategy for Kilimani

This research question refers to two policy interventions affecting Kilimani. The first is the 1987 rezoning policy and the second looks at the policy guidelines put in place for Kilimani in 1993 by the Nairobi Town Planning and Liaison Committee. The interventions put in place for the development and financing of infrastructure are studied and analyzed. The information is drawn from interviews with key municipal staff and a study of the respective policy documents.

Re-zoning Policy, 1987

Interviews with key municipal staff and members of the policy review team revealed that the three zones were chosen for rezoning in 1987 for a number of reasons. The first was that prior to the rezoning, illegal high rise developments were already taking place in the area which was a clear expression of the demand for development land particularly for residential use. Secondly, businesses were looking for alternative locations away from the CBD. Professionals were particularly keen on locating their offices in areas such as Kilimani and Kileleshwa so as to be close to their client base. It was also revealed that certain landowners in the area with political influence pushed for the rezoning of these areas.

The interviews conducted further revealed that the council considered the three zones as ideal areas for re-zoning due to their well developed infrastructural facilities. This was in contrast to another high-income, low-density zone in the city known as Karen

which was not targeted for redevelopment due to the fact that it was not as well serviced particularly where roads, sewer, and water supply are concerned.

Population

It was considered that since the three residential zones had low densities, they could therefore accommodate higher density development. Zones 3, 4 and 5 were to hold a maximum combined population of 300,000 inhabitants. However, the council did not adequately anticipate and plan for the impact of future developments by making adequate provisions to upgrade the existing infrastructure.

Infrastructure Development

Prior to the passing of the policy, the three zones were regarded as well serviced areas which could accommodate higher development densities. However, in order to avoid overloading the existing infrastructure, high-rise developments were to be limited to sewered areas only. In addition, if a plot of more than 1 hectare was to be sub-divided, 10% of the land was to be donated free of charge to the municipality for the development of infrastructure.

According to the re-zoning policy, minimal upgrading of the existing infrastructure was envisioned since higher density development was to occur only where sewers were available. The city engineers of the NCC further advised that sewers would only be upgraded upon demand. In this regard, the municipality would continue to rely on its regular financing sources, these being property taxes, central government transfers, user fees and donor funding. As such, there was no elaborate strategy that was put in place to expand and upgrade the infrastructure.

Development in Kilimani after 1987

The 1987 rezoning policy allowed for change of user from previously single family residential to multi-family residential and commercial uses. The ensuing development that has occurred in these zones does not match the initial vision for its development. It was established that there is overdevelopment taking place within the zones where developers are exceeding the stipulated ground coverage and plot ratios. In addition, commercial developments have spilt over from their designated zones forming ribbon developments along Ngong' road and Argwings Kodhek. As expected, this has placed a huge strain on the infrastructure.

In 1993, the NCC through the Nairobi Town Planning and Liaison Committee (NTPLC) sought to develop new guidelines for rational development in Kilimani. This committee was constituted in April 1991 by the authority of the Office of the President following a recommendation by the National Co-ordinating Committee on Urban Land-use planning and Development which the then president had appointed in July 1998.

During its initial sittings, attention was brought to the committee on the pressure for development on Hill[12] and Kilimani areas of Nairobi. Of particular concern were the rapid changes of user that were taking place without adequate planning guidelines in those areas. Such changes required guidelines to facilitate harmonious development and ensure provision of adequate infrastructure to support development.

[12] A formerly low density residential zone whose character has also been changed significantly from low density residential development to high rise office blocks.

In light of this a task force comprising some officers of the secretariat of the Nairobi Town Planning and Liaison Committee was appointed to study the two areas and formulate guidelines for the development in the area.

Infrastructure Development Strategy

The Nairobi Town Planning and Liaison Committee analysed the existing developments in Kilimani in relation to the infrastructure. Several recommendations were made for the promotion of rational development in the area. These included the containment of commercial, office and apartments within four service centres i.e. Hurlingham, Yaya centre, Caledonia and Valley Arcade and the requirement that all commercial development to provide basement parking facilities for own use and on site parking for patrons.

Pending the completion of the Chania Three water project, the NCC advised that developers putting up high rise buildings should have adequate water storage facilities underground from where they could boost the water to high level storages for supply to the top floors. The Water and Sewerage department was also required to review and update the sewerage and water situation periodically taking into account the changing development trends, increasing population and intensity of development. A requirement was also put that stated that a developer intending to put up a new development should meet the construction cost for the water and sewer reticulation up to the connection point.

With regard to the expansion of the roads, it was recommended that a comprehensive road network and widening programme to be instituted. This would entail carrying out work such as the widening of roads, indication of vehicular and pedestrian circulation networks, set backs, building lines and sewer way-leaves. In addition, it was recommended that undeveloped road links be opened up in order to ease congestion and promote traffic flow.

Parking was to be catered for in line with the existing requirements and guidelines which were to be provided by the City Planning and Architecture Department of the NCC. It was also noted that this could only be achieved once the road reserves had been fully surrendered and acquired. Table 5-1 below summarises the key issues addressed within the policy changes and development guidelines.

Table 5-1: Table showing policies impacting on development in Kilimani

POLICY ISSUES	CRITICAL ISSUES	POLICY OBJECTIVES	POLICY RECOMMENDATIONS	REMARKS
REZONING OF ZONES 3,4AND 5(1987)				
Choice of the three zones	*- Increasing population (overall)* *-Push by elitist groups* *-Push by Kenyans in the Diaspora* *- Push by companies seeking to re-locate away for the CBD.*	*-maximize development of prime low density areas of the city* *-areas well serviced but underutilized*	*-Allow for high rise construction* *-Reduction on minimum plot sizes* *-allow for change of user*	*-Was also a response to illegal developments already beginning to take place in these areas*
Infrastructure development strategy	*-zones well serviced with physical and social infrastructure*	*-infrastructure should meet the needs of the residents*	*-Minimal upgrading required* *- Limit high rise construction to sewered areas* *- Donation of 10% of the land for infrastructure during sub-division of plots of 1 hectare and above.*	*-Sewers designed to cater for density of 35 persons per hectare*
Population	*-Low density zones therefore low population in comparison with other areas in the city*	*-Allow for increase in densities to a level where existing infrastructure can cope*	*-maximum population for the three zones set to 300,000*	*Based on 1999 census figures*
DEVELOPMENT (POST 1987)				
Resultant developments	*-Irrational change of user* *-Increase in sub-divisions* *-Influx of professional offices* *-Increased high-rise construction* *-overdevelopment* *-Development not in accordance with initial plan and vision for the area*	*-Ensure that development is carried out in a rational manner in line with planning policy*	*-Devise rational planning approach for the 3 zones* *- Formulate planning policy to accommodate existing development, control development and future development guidelines* *-Preparation of a development plan* *-Indicate vehicular and pedestrian circulation networks, road widening, set backs, building lines and sewer way-leaves.*	*- Policy recommendations passed by Nairobi Town Planning Liaison Committee in 1993 for Kilimani*

POLICY ISSUES	*CRITICAL ISSUES*	*POLICY OBJECTIVES*	*POLICY RECOMMENDATIONS*	*REMARKS*
Infrastructure	*-Breakdown of existing infrastructure,* *-Insufficient social facilities e.g. parks and open spaces, community centres, etc.*	*-Ease traffic congestion* *-Accommodate increased traffic flows* *-accommodate needs of inhabitants both current and future*	*-Water and sewerage expansion project (Chania 3)* *- Widening of existing roads* *-Commercial developments to provide basement parking and on-site parking for patrons.* *- Road links to be to be opened up and developed* *-A comprehensive road network and widening programme to be instituted.* *-Water and sewerage department to review and update the water and sewerage situation periodically.*	*-Policy recommendations passed by Nairobi Town Planning Liaison Committee in 1993 for Kilimani*
Infrastructure financing strategy	*-Need to source adequate funding to upgrade infrastructure and acquire land for expansion of facilities*	*-Expansion of infrastructure to meet future demand*	*-Donor assisted expansion of water supply and sewerage project (Chania 3).* *-Contribution of finances from rates, fees and charges and grants* *-Developers to meet the cost of water and sewerage connection to the point nearest to the development.*	*- No elaborate financing strategies put in place to cover cost of infrastructure expansion* *-Over-reliance on rates as a source of finances*

Sources: Interviews with key municipal staff (see list of interviewees in Annex 5), Minutes of the Works and Town Planning Committee (Nairobi City Council, 1987) and Report on the Proposed Re-Planning and Rezoning of Hill and Kilimani area (Nairobi Town Planning Liaison Committee, 1993).

5.3 Roles and Perceptions of Actors in the Development of Infrastructure

This section addresses the second research question on the perceptions of various actors on their roles in the development of infrastructure in Kilimani. It begins by outlining the current roles of the different actors after which their perceptions are presented which mainly focus on possible roles of each of the players. The three main players dealt with are the NCC, developers and property owners. The last group is composed of residential and commercial property owners.

For each of these actors, details on their current role in the process are studied after which their perceptions on other possible roles are provided based on information obtained during the fieldwork period.

Information on this is drawn for the interviews with each of these actors and in addition the progress reports of the 2006 policy review exercise in which are documented the views of various stakeholders on the issue.

5.3.1 Local Authority's Role in Infrastructure Development

Current Role

Local authorities in Kenya under the Local Government Act of 1963 Chapter 265 of the Laws of Kenya are charged with the responsibility of providing and maintaining a wide range of public services. These include:

a. Establishment and maintenance of hospitals, clinics and health centres within the local authority of jurisdiction,

b. Establishment and maintenance of primary and nursery schools within respective areas of jurisdiction,

c. Establishment, maintenance, letting and management of public markets and market buildings,

d. Provision of clean and treated water to its residents,

e. Provision and maintenance of public roads, footpaths and bridges within its boundaries,

f. Establishment and maintenance of cultural and social facilities such as parks and recreational areas within its boundaries,

g. *Provision and maintenance of street lights*. (Franzsen and Mccluskey, 2005).

Local authorities undertake these functions through committees which are usually constituted under Part VI of the Local Government Act, Cap 265 of the Laws of Kenya.

In Nairobi, the provision of water and sewerage was taken over in August 2004 by a subsidiary company of the NCC known as the Nairobi Water and Sewerage Company (NWSC) from the council's water and sewerage department. The company is wholly owned by the NCC and regulated by the Nairobi Water Services Board (NWSB). (Amran, 2007).

Local authorities principal financing source of own revenue is from taxes on landed property. Landed property in Kenya can be owned by an individual, group of individuals, company or public authority. Within the NCC, property rates contributed

37% of the total revenue sources in the 2006/2007 financial year.(Republic of Kenya, 2007). Most of the finances are however used to finance operational costs and recurrent expenditures such as salaries which account for 73% of revenues collected. The NCC barely has sufficient revenues for capital expenditures such as the development of infrastructure for the city.

The NCC in its responsibility for infrastructure delivery, faces a number of constraints.(Dirie, 2005):

- Maintaining and replacing existing infrastructure
- Expanding the network of services
- Improving revenue collection to boost funds for infrastructure spending
- Exploring alternative methods of raising funds for capital expenditure

Legal Provisions for Infrastructure Financing through Value Capture

The Physical Planning Act No. 6 of 1996 (Republic of Kenya, 1996a) provides a legal framework allowing local authorities to make use of a number of value capturing mechanisms to raise finances for infrastructure provision as follows:

- With regard to the sub-division of private land in urban areas, one of the factors considered by the local authority officials when commenting on the sub-division plan is the *surrender of land required for public utilities such as open spaces to the government free of charge and the widening of existing access roads.*

- According to the objectives for approving sub-divisions within the Physical Planning regulations of 1998, the Central Government or the respective local authority is allowed to *share in the enhanced value that arises out of a subdivision.*

The Local Government Act also allows local authorities to seek ways of raising finances for their expenditure assignments. However, any new source of funding must first receive approval for the Ministry of Local Government and the necessary by-laws and regulations passed to legalize this.

Possible Role in Kilimani

Interviews with key NCC staff revealed that Kilimani is regarded as an area with high development potential due its ideal location and relatively good level of services. However, recent developments in the area have continued to out pressure on infrastructure that has not been upgraded to match these developments. Due to the municipality's inability to raise adequate funds to upgrade the infrastructure, various views were presented on how funds can be raised for this purpose.

Firstly, it was established from the interviewees and reports that detail the proceedings of the workshops held during the policy review exercise that the municipality expect the burden of infrastructure financing in zones 3, 4 and 5 to be borne by both developers and residents or property owners. One of the reasons cited with regard to the developers was that the 'polluter pays' principle needs to be applied to development as it imposes a cost on the infrastructure. In their view developers should contribute to the cost of upgrading the infrastructure that would be required to support the new development.

One of the mechanisms suggested during the exercise was the charging of a 1% development levy on construction cost on all new developments to help fund

infrastructure upgrading. Also suggested was a method of apportioning cost to new development based on frontage and area of the development.

In July 2007, the NCC introduced a new directive for the payment of a 1% development levy to fund water and sewerage costs. This levy was to be paid to the council once development plans have been approved and the levy paid together with approval fees. (Ayieko, 2006b). However, this was put on hold following protests from private sector developers citing lack of adequate consultation on the matter.(All Africa, 2006).

It was also established that the municipality views the residents as playing an important role in contributing towards infrastructure development. This they viewed in two ways: through lobbying and payment of taxes. The municipality appreciates that residents through their representative bodies have an important role to play particularly with regard to participating in the formulation of policies that have an effect on them. The need to integrate residents' associations in the system of approvals and planning was acknowledged. Emphasis was laid on the recognition by law of stakeholders in any planning process as stipulated in the Physical Planning laws. However, it was felt that residents need to organize themselves appropriately in order for the process of engagement to be workable.

Property owners were also viewed as playing an important role through what was referred to the payment of an improved site value rating. This is a tax that takes into account both the land value and the improvements on the land. Land rent theories however disprove the application of such taxes as they discourage development since buildings and other types of development are the product of labour, investment and capital[13]. The municipal staff revealed that property owners are reluctant to pay their fair share in terms of taxes on their property as witnessed in the recent rejection of the revaluation of their properties to reflect market rates.

5.3.2 Developers' Roles in Infrastructure Development

Current Role

Private developers in Kenya participate in the financing of local infrastructure in the following ways:

- The responsibility for on-site infrastructure rests with the developer and constitutes 2-4% of the total project cost. This variation is due to differences from one project to another in finishing standards and the size of the infrastructural facilities.[14]

- Certain conditions imposed under planning laws place part of the burden of off-site infrastructure development on the private developer. Under the Physical Planning Act for example, developers are required to surrender 10% of the land during sub-division of plots of 1 hectare and above for the development of infrastructure.

The focus of this research is however on the financing of off-site works and not on-site infrastructure.

[13] Refer to 2.2.2 The Single tax Movement by Henry George

[14] From an interview with Alexander Mwaura, project manager, Pinnacle Projects.

Possible Role in Kilimani

During the fieldwork period, various perceptions on the developer's role in contributing towards infrastructure development were established. An interview with a key staff member of a project management and finance company[15] revealed that developers are willing to participate in infrastructure development and financing. This also emerged during the stakeholder consultative workshops of the policy review exercise. Developers are generally dissatisfied with the state of infrastructure in Kilimani as this results in additional project costs which are incurred in such undertakings as the installation of water storage tanks, borehole drilling, private sewer extensions, booster pumps and increased maintenance costs of on-site infrastructure due to poor drainage and sewerage systems. It was also established that developers place the responsibility of infrastructure financing on two parties: the central government and themselves.

The central government was regarded as responsible for creating an enabling legal framework through which infrastructure is to be developed. In addition, it was felt that they should allocate a fair share of revenues to local authorities to enable them develop infrastructure.

Their willingness to participate was brought out in two ways: lobbying and financing. Developers recognized that an association for developers is an essential to lobby the NCC for their interests. Residents associations were also mentioned as useful partners in carrying out this role. These in their view should partner with the council in the financing of infrastructure as is done in other countries around the world.

With regard to financing, it was established that developers are willing to contribute towards an infrastructure development fund. It was proposed that the council comes up with appropriate structures for such a fund. In addition, the determination of their contribution should be arrived at in a rational manner. It was also proposed that such funds be ring-fenced for the development of infrastructure in the benefiting areas and managed jointly by all stakeholders to ensure transparency. This proposal was raised as it was felt that currently the council is not accountable for the rates it collects and would therefore not be suited to the management of the fund.

5.3.3 Residents Roles and Perceptions in Local Infrastructure Financing and Development

Current Role

Residents primarily contribute to infrastructure financing through the payment of property taxes. These are however expended on general local authority expenditure assignments and as previously described; the largest portion goes to recurrent expenditures as opposed to capital expenditures such as infrastructure development.

Possible Role in Kilimani

Aside from the payment of property taxes, property owners and residents primarily regard their role as revolving around lobbying the local authority to provide infrastructure and services. Kilimani neighbourhood does not have an active residents'

[15] Pinnacle Projects

association. An interview with a Kilimani resident[16] established that the Kenya Association of Residents' Associations (KARA) which is the umbrella body for all residents' associations in the city is the lobbying vehicle available for membership by residents of Kilimani neighbourhood. According to the policy reports, residents regard the neighbourhood associations as important vehicles for engaging with the council in development matters but whose potential has not been fully exploited.

Residents feel that the property taxes paid to the council are an important revenue source for the council to upgrade infrastructure in the area. However, the perception is that the council does not put the funds collected to proper use resulting in the poor state of the infrastructure, not just in Kilimani but in Nairobi as a whole.

During the policy review exercise, some of the residents expressed the view that developers were in part to blame for the state of the infrastructure. The residents perceive the new developments as putting a strain on an already over burdened infrastructure network thus worsening the situation. In their view, developers have an important role to play in ensuring that there is adequate infrastructural support for their developments. A proposal for the payment of an infrastructure levy at the point of submission of the plan by developers was put forward by the residents.

[16] Interview with Mr. F. Masinde, resident and property owner in Kilimani

Table 5-2: Summary table of perceptions and roles of actors

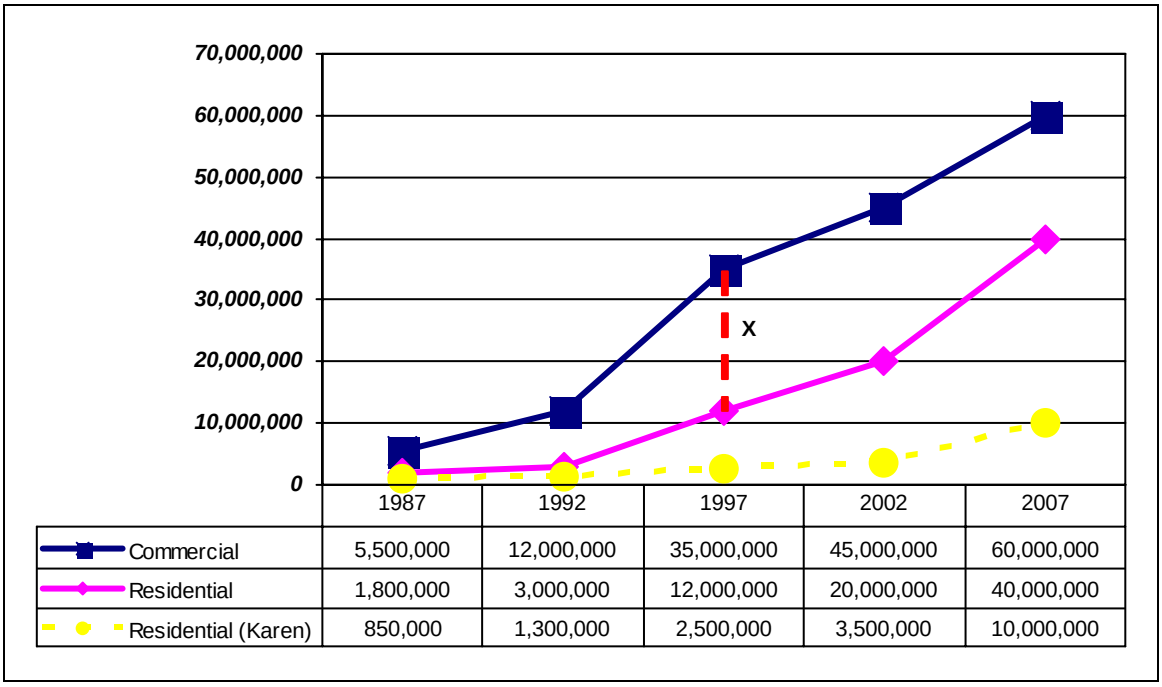
Roles and Perceptions	Municipal Policy Makers	Property Owners	Developers
▪ ***Financing Role***	*-Developers: Application of the 'polluter pays' principle to developers* *-1% of construction cost as development levy* *-Infrastructure cost apportionment* *-Property owners: payment of an improved site value rating tax*	*-Developers: should finance on-site infrastructure* *-Commercial property owners willing to 'adopt' streets*	*-Developers: developers' contributions* *-central government- allocate fair share of revenues to the city for infrastructure*
▪ ***State of Infrastructure***	*Level of development has exceeded infrastructure capacity*	*-Deteriorating state of infrastructure* *-Increasing congestion and traffic jams* *-Increasing cost to property owners*	*-Deteriorating state of infrastructure increasing maintenance costs to developments e.g. clogging of drains, provision of tanks and booster pumps for adequate water supply*
▪ ***Possible sources of funding***	*-Developers contributions through development levy, improved site value rating, infrastructure cost apportionment* *-Revaluation of properties to widen property tax base*	*- Property taxes if prudently managed* *-Provision of tax waivers to property owners willing to invest in infrastructure* *- Development bonds* *-Developers contributions*	*- Infrastructure development fund from stakeholders' contributions* *-developers' contributions* *- contributions from central government* *(rational method of arriving at developers' contribution should be devised)*
▪ ***Lobbying role***	*Developers and property owners should organize themselves in order to be involved in the policy making process*	*-Kilimani property owners to establish a body to engage with the council in the development of an infrastructure plan*	*- Developers associations have an important role to play in lobbying for own interests* *- need for legislation to institutionalise participation of both residents' and developers' through representative bodies*
▪ ***Management of funds***	*-Municipality to manage funds*	*- Ring fenced infrastructure fund jointly managed by all stakeholders*	*- Ring fenced infrastructure fund jointly managed by all stakeholders* *-Willingness to partner with NCC*
▪ ***Development Potential/ Neighbourhood quality***	*A city location with relatively good infrastructural facilities.* *-high investment level in the area*	*-Relatively well serviced* *-Deteriorating quality if infrastructure*	*-Ideal for both commercial and high-end residential development* *-relatively well serviced location*

Source: Interviews (see Annex 5 for interviewee list),(Nairobi City Council, 2006)

5.4 Analysis of Land Values Changes

There has been an upward trend witnessed in the land market in Kilimani particularly for serviced land which is suited for redevelopment which can either be commercial or multi-family residential development. Land values tend to vary even within similar time periods due to differences in site characteristics such as plot configuration, location, and accessibility. Despite these variations, it was possible to identify trends in average land values for different uses between 1987 and the current year 2007 as shown in figure 5-1.

The graph also presents the land value changes within the same time period of 1 acre of serviced land within another residential neighbourhood in Nairobi known as Karen, located in zone 12 of the city's residential zones. (Annex 9). This neighbourhood is situated to the South West of the city centre and is also a high income neighbourhood. This zone was not targeted for rezoning mainly due to the fact that most of the plots in the area are not sewered and rely on septic and conservancy tanks. The presence of a strong neighbourhood association (Karengata) also lobbied against any policy change that would alter the desired low density character of the area. In addition, its distant location relative to the CBD made it a less desirable redevelopment zone in comparison with zones 3, 4 and 5.



	1987	1992	1997	2002	2007
Commercial	5,500,000	12,000,000	35,000,000	45,000,000	60,000,000
Residential	1,800,000	3,000,000	12,000,000	20,000,000	40,000,000
Residential (Karen)	850,000	1,300,000	2,500,000	3,500,000	10,000,000

Figure 5-1: Graph showing average land values per acre of serviced land between 1987 and 2007. [17]

[17] From Nzau, B. M. 2003 *Modelling the Influence of Urban sub-centres on Spatial and Temporal Urban Land Value Patterns: Case Study of Nairobi, Kenya,* Thesis, International Institute for Geo-Information Science and Earth Observation, Enschede, The Netherlands.,

Kimeu, P. K. 1996, *A Brief Overview of Nairobi's Property Market.*

Kwama, K. 2006 '*High Rise Revolution*', The Standard, 15th June 2006, pp 4.

Interviews with valuers and real estate companies (see full list in annex 5)

70 Kenyan shillings(Kshs)= 1 US dollar, 90 Kshs= 1 Euro

The land value gradient for Kilimani's residential and commercial uses is comparably steeper between 1992 and 1997 and in the period from 2002 to date. There are many possible reasons behind these changes. Between 1992 and 1997, the country had just emerged from an election period during which time the currency was significantly devalued. In addition, inflation rates were quite high going as high as 29.6% in 1992, increasing to 45% in 1997 (Nation Team, 2000). This had the effect of increasing overall prices of commodities and property.

The period between 2002 and 2007 was characterized by increased development activity in the area due to improved macro-economic conditions in the country. Lower interest rates reduced the cost of borrowing thus making development funds more accessible. Increased competitiveness among the mortgage finance institutions also led to a reduction in interest on mortgages. In addition, increased confidence that was brought about by a peaceful political transition in 2002 led to increased remittances from Kenyans in the Diaspora for investment in property.

The graph shows that the average land value per acre in Karen is lower than that in Kilimani. However there is also a steady increase in values over the years. This lower land value per acre could be attributed to the lower development potential of the land due to the fact that it retained its low density character with less developed infrastructure in comparison with Kilimani. As mentioned earlier most of the plots are not serviced with sewer. The minimum plot size in the area is 1 hectare and only 1 unit per plot is allowed. Flats and maisonettes are not allowed in accordance with the development guidelines. This has the effect of lowering its development potential in comparison with an area like Kilimani thus affecting the demand for the land and hence the lower land value per acre.

A serviced plot, and in particular one that is sewered, is regarded as prime re-development land whose use can be changed for multi-family or commercial use depending on the highest and best use of the land.

A comparison between the land value per acre for residential land and the value per acre of commercial land in Kilimani shows the potential increment in value that would result from change in use as represented by 'x' on the graph (figure 5-1). This gain which accrues to the land owner is quite significant and shows that there is potential to capture land value in the area.

5.5 Strengths, Weaknesses, Opportunities and Threats in the Application of Value capture Mechanisms.

The application of value capture tools for financing infrastructure in Kilimani requires an assessment of the institutional capacity of the council to adopt such strategies. As a result, a SWOT analysis was carried out based on interviews and review of available literature. A report on the systems, policies, procedures and practices in the operations and management of the Nairobi City Council (NCC) undertaken by the Kenya Anti-Corruption Commission (KACC), Directorate of Preventive Services (DPS) in 2007 was a key source of information for this analysis.[18]

[18] Kenya Anti-Corruption Commission 2007,*Examination Report on the Systems, Policies, Procedures and Practices of the City Council of Nairobi.*

Internal strengths and weaknesses consider a number of factors related to the capacity of the council in applying value capture mechanisms, these being behavioural, organizational, professional and financial.

External opportunities and threats take into account factors outside the organization that have an impact on its functioning. These have further been categorized into behavioural, organizational, institutional, professional and financial factors.

Internal Factors

Behavioural: The strengths in this category include increasing openness to new ideas particularly on new ways of improving the financial base to enable effective delivery of urban infrastructure. This was particularly seen during the stakeholder workshops where the council encouraged stakeholders to come up with mechanisms on infrastructure provision. The willingness to share information was also witnessed during the data collection period where respondents were readily available and freely shared some of the challenges faced by the Council. The main behavioural weakness of the council centres on corruption which has resulted in a loss of integrity in the eyes of the public and also hampered effective service delivery.

Organizational: Organizational issues revolve around the policy and legal environment, general management and administration, human resource management and capacity, records management, enforcement capacity and inter-departmental co-ordination. The strengths in this category include improving working conditions due to salary increments, and an improving work ethic. The weaknesses are numerous and a major challenge to be overcome by the council. Some of these include poor management of records, lack of autonomy from central government to manage its funds, and out-of-date by-laws last reviewed in 1978.

Professional: Professional staff at the high tiers of the organization are highly skilled with several years of work experience and post-graduate training. During the fieldwork period, the researcher met several key staff who had received some form of training at the Institute of Housing and Urban Development Studies (IHS). Unfortunately the council displays a bottom heavy work force where only 5.4% of the staff have professional qualifications. As a result, some of the unskilled staff end up working in a professional capacity and yet do not have the appropriate training. The department of planning for example has only 12 planners out of an established requirement of 60. This results in serious capacity constraints, which means that it is not possible to oversee and supervise development in the entire city. This also means that some vital functions of planning are not being carried out effectively, particularly enforcement of by-laws.

Financial: The willingness of stakeholders to become more involved in development of new financing mechanisms for the delivery of urban infrastructure is a positive sign. However, the Council has major weaknesses impeding efficiency transparency and accountability mainly due to failure to institute basic internal controls for the management of finances. In addition, the lack of an Information Technology (IT) policy limits financial operations such as cash collection. The NCC is also highly indebted to the tune of Kshs. 10 billion in liabilities which has lowered its credit rating and limited its ability to borrow funds.

Table 5-3: Summary of Internal Factors: Strengths and Weaknesses

	Strengths	Weaknesses
Behavioural	*-Increasingly open to new ideas* *-Willingness to share information* *-Increasing commitment to improving work ethic*	*-Low staff morale* *-Corruption* *-Conflict of interest (elected officials also property owners in Kilimani)*
Organizational	*-Improving working conditions* *-Increase in wages* *-Increasing efforts in promoting transparency* *-Increasing culture of engaging/ partnering with stakeholders*	*-Inadequate human capacity* *-Lack of adequately and adequate qualified staff* *- Few training opportunities* *-Poor information management system* *-Manual land records system* *-Bureaucracy* *-Poor records management* *-Lack of autonomy from central government to raise finances from new revenue sources* *-Inadequate enforcement of rules and regulations* *- lack of a human resource policy* *-Unused potential of existing laws on value capture*
Professional	*-Qualified personnel at high tiers of the organization* *-Increasing level of professionalism*	*- threat to professionalism from elected officials without commensurate education level* *-shortage of skilled staff only 5.4% fall under the professionals category*
Financial	*- Potential for additional finance from existing value capture mechanisms* *-Willingness of stakeholders to share in infrastructure costs* *-Reduced mismanagement of funds due to reforms and anti-corruption efforts*	*-Poor financial management* *- History of misuse of funds* *-High level of indebtedness* *- Poor credit rating limiting access to loans* *-Large share of revenues used for recurrent expenditures* *-Lack of accountability in the use of funds* *-Poor linkage between planning and budgeting*

External Factors

Behavioural: Opportunities for the application of innovative financing mechanisms by the council are manifested through an increased desire by stakeholders to become more involved in the process of policy making that has an effect on them. The policy review exercise attests to this where there turn out was representative of all relevant stakeholders in the infrastructure development process. On the other hand, the council is under threat from these very same stakeholders who have in previously opposed any interventions by the Council to raise additional finances. A case in point was the appeal against the revaluation of properties in the city in 2005 to reflect their true market values which the council had to withdraw. This displays an inability of the citizenry to link service delivery with the payment of necessary contributions.

Table 5-4: Summary of External Factors: Opportunities and Threats

	Opportunities	Threats
Behavioural	*-Increasing involvement of stakeholders with regard to policy issues* *-Residents desire to seek sustainable solutions for infrastructure development in Kilimani* *-Increasing public scrutiny*	*-Public resistance to council efforts to increase revenues (resistance to recent efforts to re-value properties, 2001)* *- Incomplete implementation of Policy Review recommendations* *-Low public awareness on link between taxes and infrastructure development* *-Lack of public trust in the city council*
Organizational	*-Policy review exercise*	*- Conflict between elected officials and the administration*
Professional	*-Increasing involvement of professional associations in the policy process* *-Collaboration with the academia*	*-Inadequate level of participation of professionals and professional bodies in seeking innovative solutions*
Institutional	*- Public sector reform initiatives* *-Kenya Local Government Reform Programme* *-Presence of interest groups and associations willing to participate in the policy making process*	*- Lack of autonomy from central government to raise finances from new revenue sources* *-Lack of political will* *-Time consuming participatory mechanisms*
Financial	*-Willingness of stakeholders to contribute to an infrastructure fund* *-Examples of successes in residents' involvement in the management of ring-fenced infrastructure funds (Runda and Karen-Lang'ata areas in Nairobi)*	*- lack of trust in the municipality by stakeholders to manage an infrastructure fund* *-weak Local Government Loans Authority* *-Poor co-ordination with other agencies and stakeholders*

Organizational: The policy review exercise which took place between March and June 2006 revealed the opportunities that working with a wide range of stakeholders bring to improve capacity of the council. Within a relatively short time period workshops were held and after which proposals for future policy guidelines for the council were prepared.

Professional: The willingness of professionals to provide their input during the policy review exercise created an opportunity for increased involvement of this group of citizenry in the policy making process. However, professional associations are still not as involved as they should be in an effort to seek sustainable solutions to infrastructure development.

Institutional: The current efforts in reforming the public service provide an excellent opportunity for the council to review its service delivery efforts. In addition, other programmes such as the Kenya Local Government Reform Programme (KLGRP) and the Local Authority Service Delivery Action Plan (LASDAP) process are all indicators of the recognition of the need for reform in the Council. With regard to institutional threats, the presence of several agencies and ministries in the delivery of services creates an overlap of functions thus affecting accountability. Additionally,

participatory mechanisms tend to be time consuming thus delaying the ratification of policies.

Financial: The willingness of stakeholders to contribute to infrastructure financing emerged as a key issue during the policy review exercise. This provides a great opportunity to shift some of the financing burden from the Council. Also the fact that two residential communities (Runda and Karen-Lang'ata) have already set up ring-fenced funds for service delivery in their communities attests to the workability of such proposal. The lack of trust by the public in the municipality presents a threat to the application of innovative financing mechanisms as they are not willing to entrust additional finances with them.

5.6 Summary and Conclusions

The strategies for the development of infrastructure in Kilimani both in 1987 and 1993 point to many missed opportunities for the mobilization of finances for its upgrading. The sole financing mechanism that made use of value capture was the requirement that 10% of the land be donated free of charge to the council during sub-division for the development of infrastructure.(Nairobi City Council, 1987) The impacts that the rezoning would have on the existing infrastructure were not adequately anticipated. It is also quite clear that even in 1993 during the development of policy guidelines for Kilimani, when the effects of the developments were already seen to be impacting on the infrastructure, no elaborate financing mechanisms or proposals were put in place to effect some of the development guidelines put in place for the Hill and Kilimani areas.

Efforts to review the development policy in zones 3, 4 and 5 showed the value of involving stakeholders in the development process. The partnership developed between the Council and other agencies improved the capacity of the Council to develop a wide range of policy guidelines covering environmental issues, infrastructure financing mechanisms and proposals on development control.

Based on the willingness of the relevant stakeholders to participate in the financing process and the land value changes in Kilimani, a clear financing opportunity based on value capture is presented that exploits these two factors. The proposed value capture mechanisms discussed in chapter 2 all require the involvement of the municipality, developers and landowners for their successful application.

The choice of an appropriate mechanism for infrastructure financing finally hinges on the institutional capacity of the NCC to apply such tools with regard to both internal and external factors. The SWOT analysis revealed that the Council faces major challenges with regard to organizational reform. In addition, the perception of the public on the Council's ability to be accountable for finances is very low and would therefore impact on the choice of an appropriate financing approach.

Chapter 6: Conclusions and Recommendations

The point of departure of this research is a policy change that was passed by the Nairobi City Council's (NCC) Works and Town Planning Committee in 1987 that allowed for high density development in three predominantly high income and low density zones of Nairobi city. Subsequent years have seen single family dwellings replaced with high rise blocks for both residential and commercial use. In addition, a reduction in the minimum size of a plot has further led to increased development density. This has had the effect of overburdening the infrastructural facilities which have not been upgraded to match the developments.

Following the suspension of development activity in the three zones in November 2005, a policy review exercise was conducted for the purpose of revising the development guidelines. Among the many issues addressed was the need to create a financing mechanism for the development and upgrading of infrastructure in the three zones. In line with this, the main objective of this research is to explore innovative financing mechanisms based on value capture for the development of infrastructure which can be applied in these areas. This attests to the timeliness of such a study. Kilimani neighbourhood is specifically focused on as it has witnessed quite a dramatic transformation in its character within a relatively short time period.

An examination of land rent theories provides the theoretical framework which shows how land value is created and why it makes economic and financial sense to capture land value increments to finance public obligations. Henry George's single tax concept proves to be the most relevant theory as it justifies the taxing of this land value increase as a more than adequate source of public finance. Further on, the various types of instruments used to capture value are described after which follow the various objectives of land value capture.

Case studies of innovative infrastructure financing mechanisms used in various countries were then studied. Four types of instruments stood out as having the potential to be applied in an area like Kilimani. Each tool has been analyzed showing the circumstances within which each tool is best applied and the risks and benefits associated with each of the tools.

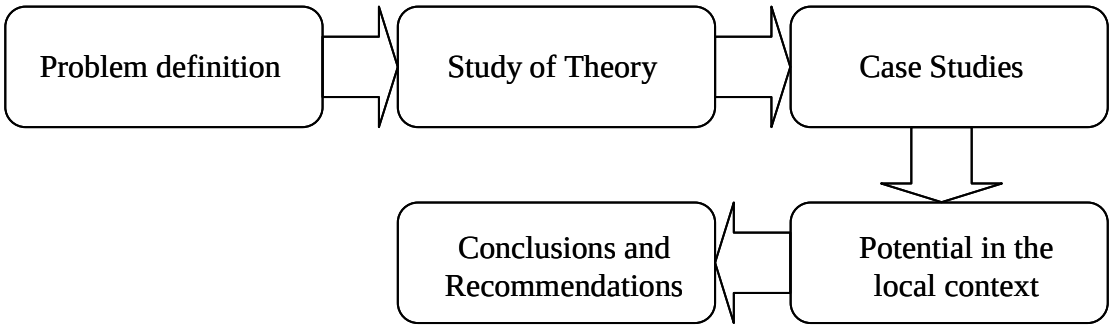
A description of the local situation is quite apt if the right development approach is to be used. For this reason, Kilimani area is described in detail in terms of its demographic characteristics, nature of the property market and state of its infrastructure. Further on into the local context is an examination of the infrastructure strategies put in place after the rezoning of the neighbourhoods in order to establish a link between infrastructure development and a financing plan. This is followed by an analysis of the willingness of the municipality, developers and property owners or residents of Kilimani in participating in infrastructure finance and development. This draws from the interviews conducted and the reports on the stakeholder workshops held during the policy review exercise. In addition, the changes in land value in Kilimani are presented so as to show the potential that exists to capture value. Finally an analysis of the institutional capacity of the NCC in applying innovative value capture based financing mechanisms is undertaken.

This chapter is a presentation of the conclusions arrived at on the basis of the specific research questions posed. It therefore addresses pertinent issues on the link between infrastructure planning and finance, learnings from the theories and case studies and

the potential application of value capture mechanisms based on the existing local context in Kilimani and the institutional framework of the municipality.

This finally culminates in recommendations on the way forward for the municipality where the application of value capture mechanisms is concerned. Considerations on potential areas of further research are then outlined.

Figure 6-1: Research process



(Source: Author)

6.1 Link between Infrastructure Development Planning and Financing

An analysis of the strategies put in place for the upgrading of infrastructure in the three zones revealed that there was inadequate forward planning to anticipate that the policy change would lead to higher density development and therefore the need to upgrade infrastructure accordingly. The policy guidelines prepared for development in Kilimani in 1993 point to the recognition that development was taking place without adequate infrastructural support. Again, no link is made between the proposed guidelines and a financing strategy.

Based on an analysis of the institutional framework of the municipality, this poor link could be attributed to poor interdepartmental co-ordination; in this case between the finance department and the city planning department. The 1987 and 1993 policies both reveal the non-participation of this department during the rezoning and preparation of planning guidelines.

6.2 Learnings from Theories

The land rent theories showed how land value is created and that this is not dependent on any intervention or investment by the land owner. Public interventions such as infrastructure development, changes in zoning regulations and increase in population are what lead to land value increase. Inherent in this is the fixed supply of land which shows that land value is demand derived as developed by David Ricardo. Given that the charging of a tax on land does not reduce the land available for development neither does it negatively affect the decision to develop the land, then it is perfectly logical for a government to capture the increased value of land to obtain public revenues.

6.3 Roles and Perceptions of Actors

The research results revealed that the main actors in infrastructure development and financing are willing to participate in ensuring that infrastructure in Kilimani is

upgraded. Developers and residents expressed a willingness to contribute in two ways: lobbying and financial contributions.

The introduction of a 1% betterment charge on all developments was carried out without adequate engagement with the relevant stakeholders. Though developers expressed a willingness to contribute, they stressed the importance of arriving at such a percentage in a rational manner. In addition, their contribution to such a fund was pegged on the creation of a separate infrastructure fund that would be managed jointly by all stakeholders. This has therefore been put on hold pending further consultation.

Residents and property owners in Kilimani seemed to identify their main role as that of lobbying the Council to provide the necessary infrastructure. They also felt that the municipality and developers are best placed in ensuring that infrastructure is developed. However, this study has shown that their participation can be taken a step further than this. The LID mechanism for example requires more than just a lobbying role but also contributions from property owners towards the developments.

During the research, other actors also seemed to play an important role though not in the direct sense. The participation of the academia from the local universities and professional organizations such as the Architectural Association of Kenya (AAK) and the Institute of Surveyors of Kenya (ISK) revealed a previously untapped resource in the provision of ideas and expertise not only on infrastructure financing but other development and planning issues as well.

The partnership created between the University of Nairobi and the Nairobi City Council was a positive step in the building of institutional collaboration between the two institutions. It is expected that this partnership will continue particularly during the preparation of other city plans such as the Nairobi Metropolitan Growth and Development Strategy.

6.4 Institutional Framework

The institutional framework under which value capture tools are to be implemented was analysed in depth by carrying out a (Strengths, Weaknesses, Opportunities and Threats) SWOT analysis of the NCC to establish both internal and external factors that would either promote or hinder their application. The analysis was broken down into various categories these being organizational, professional, social, financial and institutional.

Internally, based on the researcher's experience during the interview process, there appeared to be a willingness to share information and discuss new ideas. This was also the case during the policy review exercise where the benefit of involving a wide range of stakeholders in the review process yielded a number of innovative suggestions for infrastructure financing. The participation of the academia from the University of Nairobi contributed quite significantly on suggested financing approaches. Despite these recommendations, an in-depth study or justification of their use was lacking. Organizational capacity stands out as the biggest weakness as regards human resources, records management and administration.

According to the Physical Planning Act (PPA) Cap 286, the planning process must involve the participation of stakeholders. The institutionalization of this process is a good opportunity in ensuring acceptance and legitimacy of land use plans and policies. This would then create an appropriate opportunity to tie the land use plans with development financing though a variety of value capture mechanisms.

The low level of trust that the public has in the municipality threatens any of its efforts in its search for additional financing. This is due to the reputation it has as a corruption riddled institution. It is hoped that the on-going reforms such as the Kenya Local Government Reform Programme (KLGRP), Local Authority Service Delivery Action Plans (LASDAP), and national anti-corruption campaigns will help in turning the municipality into a more accountable institution.

6.5 Case Studies: Potential Application

The following is an assessment of the learnings garnered from the study of each financing tool in relation to the situation in Kilimani with regard to the willingness of developers and property owners to participate in the process, development potential and the capacity of the Council. This is done in order to determine the potential of each tool's applicability in the local situation. The suitability of each tool is analysed on the basis of the broad approach which considers the following:

- Expected growth in the future
- Existing infrastructure
- Who benefits from the works and who should pay for it (equity principle)
- Community priorities and needs
- Capacity to bear risk

Planning Gain/ Betterment

During the policy review exercise, it was proposed that developers pay a betterment tax on new developments for the upgrading and development of infrastructure in the three zones. The tax was to be a percentage of the construction cost of which 1% was regarded as a fair percentage. However due to the low level of trust that the public has in the municipality, it was suggested that these funds be placed in a ring-fenced fund that should be managed jointly by all stakeholders rather than the Council alone.

In July 2006, the council introduced this tax for financing the development of water and sewerage which would be paid to the council. This led to opposition from private developers who felt that their proposals on a ring-fenced fund had been ignored. As such the proposal was shelved pending the development of appropriate modalities for the system.

Given that this method is implemented through the planning system, the Council would have to ensure that the land use planning process is participatory and reflective of the current situation. In addition, land use plans would need to be legally binding as allowing for negotiation would promote corruption. This would also create certainty within the local authority of the available sources of revenue and thus plan for expenditures accordingly. Local communities would also need to be in agreement with regard to the type of infrastructure that they would like in their respective communities. Similarly, developers and investors need to know in advance and with a fair amount of certainty the cost to be incurred on a project.

Given the high development potential and activity in Kilimani, this system would be a befitting way of capturing the profits being made by the developers for raising finances for infrastructure development. Also, due to the financial constraints faced by the municipality, developers can carry part of the burden of financing infrastructure upgrading in the area.

Finally, the ability to defer the works or carry them out in phases is possible with this tool. The municipality can accumulate the funds collected through betterment levies and use these as a source of capital to carry out substantial works in the future.

Local Improvement Districts (LIDs)

LIDs work best where the infrastructure to be developed is not of a large scale. This means that it is best suited for an area which already has the infrastructure in place but requires additional amenities.

Kilimani is regarded as a location with relatively good level of infrastructure development in comparison with other city locations. However, this has been overburdened due to increased density of development without commensurate upgrading.

LIDs would be useful in upgrading works such as paving and street lighting. However, given the required expansion of the existing infrastructure with regard to road widening and water and sewerage upgrading in the area as detailed in the previous chapter, such a mechanism may not achieve the required impact.

LIDs can however, act as a means of lobbying the government to provide the required infrastructure. This is in light of the fact that Kilimani has no representative body with regard to a neighbourhood association.

For the required expansion in Kilimani it would be best to consider a different or additional financing mechanism. However, LIDs would still be a useful tool that would allow for small scale improvements on a regular basis.

Should the Council wish to adopt such a mechanism, it would have to consider that it may be necessary to borrow funds to front-end the works. Given that the council is highly indebted, this may not be the best approach.

Density Bonusing

This is another method which ties the land use planning or zoning process with a mechanism for the provision of local infrastructure. As in the first case that is the planning gain method, the land use planning must be current and developed in a participatory manner.

The original development vision in Kilimani has not been achieved and in many cases, overdevelopment has occurred with regard to plot ratio and ground coverage. The Council can take the opportunity to allow certain zones to exceed their original densities and in exchange receive an infrastructure package such as a park or recreational ground, a much needed amenity in Kilimani.

Since Kilimani is mainly for the high income, this mechanism can also be used to achieve a social objective by requiring a developer to construct low-cost housing in the area. The combination of amenities should however be a reflection of the community's priorities.

This developer centred approach would also be ideal for the Council as it shifts the financing burden from the municipality to the developer. This is ideal in light of the financial constraints faced by the municipality.

Latecomer arrangements

This is a developer centred approach in which the financing of the amenities is shifted to the developer. However, the municipality may be required to finance the works as well depending on the agreement reached.

This research revealed a requirement that property owners donate 10% of their land for infrastructure development during sub-division. This appears to apply a similar concept only that instead, the other land owners that benefit pay for the excess infrastructure upon submission of development approvals. The two methods can however be applied hand in hand depending on the situation or agreement.

Latecomer arrangements are usually applied on a voluntary basis and are best suited where a large development company is involved which can develop excess infrastructure. It would be an ideal tool to be applied in combination with other financing approaches.

Summary

The cases presented above display the wide variety of financing tools that can be applied in Kilimani. It is evident that each tool is best suited for a particular circumstance which means that the council has the option of making use of a combination of tools to achieve different objectives.

6.6 Summary of Opportunities and Challenges

In conclusion, the following is a summary of the opportunities and challenges of making use of value capture tools in Kilimani based on the case study learnings, institutional framework and willingness of actors to participate in the financing process.

6.6.1 Opportunities

Scale of Development in Kilimani

The high development activity in Kilimani attests to the potential for financing through value capture. Additionally the high rate at which change of user is taking place is an indication of the high development activity in the area. This means that the potential exists to make use of tools to capture land value increments through the variety of mechanisms described previously. This implies that there is great potential of exploiting these developments by making use of developer-centred financing approaches such as betterment and latecomer charges.

Rising Land Values

The changes in the price per acre of serviced land in Kilimani that have occurred between 1987 to date show a marked increase in values. This presents an opportunity to capture these land value increments. However, owing to the resistance of property owners to have their properties revalued to reflect market rates, innovative value capture mechanisms allow such values to be captured indirectly as opposed to the use of the conventional property tax system. In addition, these mechanisms have the benefit of being applied specifically for local improvements in the areas that created these benefits in the first place.

Willingness of Actors

The tools studied for the financing of infrastructure all require the participation of developers, property owners and the municipality for their successful application. An assessment of the willingness of property owners and developers to contribute to infrastructure development reveals the potential to adopt a number of mechanisms, such as planning gain, LIDs and density bonusing.

Policy Review Exercise

The just concluded policy review exercise provided a good opportunity for the council to consider the adoption of innovative financing mechanisms. Some of the resultant proposals on financing options made use of value capture principles. Even though these options have not yet been developed in detail, the fact that there has been discourse on them is a good starting point for the municipality to take the proposals even further and assess their potential applicability.

6.6.2 Challenges

Public Perception

The municipality is dogged by a reputation of corruption and financial mismanagement. This has created a perception within the public domain that the council cannot be trusted to make use of public revenues in a transparent and accountable manner. However, efforts are being made to change work practices so as to change this perception. Continuous engagement of the public in the policy process and demand for accountability are key in ensuring that full reform is achieved and that public trust is restored.

Institutional framework

The municipality faces numerous challenges with regard to its financial management capacity, human resource policy, and professional capacity among others. The value capture tools described require a high level of organizational capacity and expertise for the creation of appropriate policies and also capacity to administer them is required. This would require training of officials or partnering with other organizations.

6.7 Recommendations

- **Set up an appropriate legal framework**

An appropriate legal framework is required to allow the local authority to apply a range of value capture tools depending on the particular situation. This would require adequate consultation with all relevant stakeholders and ratification of the relevant by-laws by the Ministry of Local Government.

- **Consider the broad objective**

The municipality for example, may decide to promote social objectives and therefore adopt a tool that would best achieve this objective such as the development of social amenities. Also, given the high level of segregation in the city where there are zones predominantly for the high and middle income and those for the low income, tools of this nature could serve to promote a higher level of integration, for example through the creation of a requirement to build low cost housing units in the area.

Where the municipality's objective is environmental restoration, a tool such as density bonusing can be applied where the requirement for additional density is the creation of a park or the restoration of a degraded environmental asset.

- **Develop appropriate infrastructure and services.**

Inappropriate application of value capture tools may lead to the development of unnecessary services or the provision of infrastructure that does not meet the benefits principle when it is expected to do so by the design of the tool or specific policy. The municipality must take care to avoid a situation where it builds overly high quality services that are not directly related to supporting growth related services or community priorities.

- **Consider the setting up of a local infrastructure or improvement fund**

A local improvement fund would contain all the monies required by law to be deposited in the fund. Such funding sources could be from special assessments, betterment charges and other contributions. Such a fund should be held apart from the Council's public revenue sources and accounts. The funds should be ring-fenced in that they should be expended only on infrastructure projects for the specific locality, in this case Kilimani and managed by a board drawing representation from all relevant stakeholders, e.g. developers' associations, residents associations and property owners in the area. The fund could also provide loans to the municipality which would then be paid back with interest.

- **Consider the adoption of a phased approach**

This is recommended where the local authority seeks to carry out major infrastructure upgrading such as the widening of Ngong' and Argwings Kodhek roads. This is due to the huge capital outlay that would be required to front-end such works of which all of the required finances may not be available in the initial stages.

- **Use appropriate tools depending on the situation**

The works to be carried out will each have different characteristics based on the scale of the development, the urgency of the works, the level of expertise and the financing required. Each of these needs to be assessed before making use of particular tools whether alone or in combination with others.

- **Build partnerships with other organizations and stakeholders**

The municipality stands to gain a great deal in the formation of partnerships with developers associations, neighbourhood associations, professional bodies and the academia This will ensure that policies are passed with the approval of relevant stakeholders thus giving them legitimacy and increasing their potential to be sustainable. In addition professional bodies and the academia will provide the much needed professional capacity as and when required particularly during project management.

- **Promote participatory processes during planning**

Continuous engagement with various stakeholders is necessary so as to ensure that their needs are accommodated and ideas incorporated in the resultant plans. The public should be educated on the need for their participation in the process since the plans will have a direct impact on them. The Karen-Lang'ata residence association has been able to actively partner with the Council in this regard.

- **Improve the Council's public image**

The Council needs to adequately tackle its tainted public image so as not to be viewed as a corrupt institution. This would increase the level of public trust in the organization and enhance the willingness of stakeholders to entrust their finances to the council for infrastructure and service delivery. The Council should undertake public relations exercises where the community is made aware of the progress being made to improve infrastructure and service delivery. This would create a greater willingness of communities to partner with the Council in the infrastructure development process.

- **Create a link between infrastructure needs and financing**

Past policy guidelines developed for Kilimani point out to the need for infrastructure and upgrading but not to the finances that would be required to achieve these goals. Any future infrastructure development plans should be developed hand in hand with a financing plan showing the cost of the improvement, the expected implementation date, and the project duration. Projects should be prioritized on the basis of immediate and long-term needs.

- **Promote principles of good governance**

Whatever approach is used, local governments should ensure to abide by the principles of good governance, these being, equity, transparency, flexibility, accountability, responsibility and certainty.

6.8 Areas of Further Study

This research focuses on a range of innovative infrastructure financing tools that make use of the concept of value capture. These are by no means the only available tools that can be used in an area such as Kilimani. The potential application of other approaches such as Public Private Partnerships would be a useful continuation of this research particularly since both approaches require partnerships and participatory processes in their use.

References:

Wealth and Want: An Inquiry into the Cause of the Increase of Poverty with the Increase of Wealth, [Online]. Available: http://www.wealthandwant.com/themes/Infrastucture.html

All Africa, 2006, *City Hall Delays New Levy on Construction*, [Online]. Available: http://www.highbeam.com/doc/1P1-128309272.html

Amran, A. 2007 '*Water Shortage Persists Four Years on'*, The Standard, 17th June 2007, pp 3.

Ayieko, F. 2004 '*Boom in Apartment Blocks Transforming Nairobi Suburbs'*, The East African 25 October 2004, pp 14,17.

Ayieko, F. 2006a '*Ban cost building industry $135 million'*, The East African, July 17th 2006, pp 4.

Ayieko, F. 2006b '*City Slaps New Tax on Upmarket Estate Developers to Finance Water and Sewerage'*, July 17, 2006, pp 4.

Dirie, I., 2005, *Municipal Finance: Innovative Resourcing for Municipal Infrastructure and Service Provision*, [Online]. Available: http://www.clgf.org.uk/userfiles/CLGF/File/Municipal_Finance_Paper.pdf

Evans, A. W. 2004, *Economics, Real Estate and the Supply of Land*, Blackwell Publishing, Oxford.

Franzsen, R. C. D. & Mccluskey, W. J. 2005, *Land Value Taxation: an Applied Analysis*, Aldershot: Ashgate

George, H. 1879, *Progress and Poverty*.

Kenya Anti-Corruption Commission 2007,*Examination Report on the Systems, Policies, Procedures and Practices of the City Council of Nairobi*.

Kimeu, P. K. 1996, *A Brief Overview of Nairobi's Property Market*.

Knight Frank 2004,*Southern and East Africa Report*.

Kopec, K. 2006, '*LandWrites: Sharing the Profit'*, in Urban Land, vol. no. March 2006, pp. 66-68.

Kwama, K. 2006 '*High Rise Revolution'*, The Standard, 15th June 2006, pp 4.

Lichfield, N. & Connellan, O. 2000, *Land Value and Community Betterment Taxation in Britain: Proposals for Legislation and Practice*, Lincoln Institute of Land Policy. Working Paper.

Mill, J. S. 1848, *Principles of Political economy with some of their applications to Social Philosophy*.

Mitullah, W., 2003, *The Case of Nairobi, Kenya,* [Online]. Available: www.begakwabega.com/documenti/Nairobi-HabitatReport2003.pdf.

Mokua, D. 2006 '*Boom That Never Was'*, The Sunday Nation Newspaper, pp 15,19.

Mulama, J., 2006, *Buildings, buildings everywhere and not a drop to drink,* [Online]. Available: http://www.ipsnews.net/news.asp?idnews=32552

Nairobi City Council 1987, *Minutes of the Works and Town Planning Committee*.13th May 1987.

Nairobi City Council 2004, *A Guide of Nairobi City Development Ordinances and Zones*, Unpublished Report: Department of City Planning, City Council of Nairobi.

Nairobi City Council 2006,*Local Physical Development Plan, Nairobi. Policy Review for Zones 3,4, and 5. .*

Nairobi Town Planning Liaison Committee 1993,*Proposed Replanning and Rezoning of Hill and Kilimani Areas-Nairobi*.

Nation Team 2000 '*Joy as Interest Rate Bill Passed'*, The Daily Nation, November 30th 2000, pp.

Njeru, K. 2005 '*Suburban Nairobi goes on a shopping spree'*, The East African Standard, Monday, March 7th, 2005, pp.

Nzau, B. M. 2003 *Modelling the Influence of Urban sub-centres on Spatial and Temporal Urban Land Value Patterns: Case Study of Nairobi, Kenya*, Thesis, International Institute for Geo-Information Science and Earth Observation, Enschede, The Netherlands.

Obudho, R. A. 1992, '*Urbanization and Planning the City of Nairobi, Kenya'*, in African Urban Quarterly, vol. 7, no. 1 and 2 February and May, 1992, pp. 1-248.

Obudho, R. A. & Aduwo, G. O. 1988, *The Role of Metropolitan Nairobi in Spatial Planning in Kenya: Towards a Planning Alternative. .*

Reiss, D. A. 2006, '*Dialogue Partnerships: Infra-Investment'*, in Urban Land, vol. no. July 2006, pp. 28-33.

Republic of Kenya 1996a, *Physical Planning Act, 1996,* Government Printers, Nairobi.

Republic of Kenya 2001, *1999 Population and Housing Census: Population Distribution by Administrative Areas and Urban Centres,* Central Bureau of Statistics/ Ministry of Finance and Planning, Nairobi.

Republic of Kenya 2007,*Local Authorities Transfer Fund (LATF) Annual Report 2006-2007*.

Smith, J. J. & Gihring, T. A. 2006, '*Financing Transit Systems Through Value Capture: An Annotated Bibliography'*, in American Journal of Economics and Sociology, vol. 65, no. 3 Juy 2006, pp. 751.

Smolka, M. O. & Ambroski, D. 2000, *Value Capture for Urban Development: An Inter-American Comparison*, Lincoln Institute of Land Policy. Working paper.

Sullivan, A. M. 1990, *Urban Economics*, Richard D. Irwin, U.S.A.

Thunen, J. V. 1826, *The Isolated State*.

Annex

Annex 1: Interview Questions for Municipal Policy Makers

Name of Organization :…….

Name of the person interviewed :…….

Position within Organization :…….

Department :…….

Date and Time of Interview :…….

INTRODUCTION

I am a Masters student at the Institute of Housing and Urban Development Studies in the Netherlands pursuing a degree in Urban Management and Development with my area of specialization being Housing.

I would like to thank you for taking the time to participate in this interview which should not take more than 1 hour of your time. The purpose of this interview is to share information on potential tools for financing local infrastructure. In particular, I would like to study the potential for the use of various tools for capturing increased land values particularly after a zoning change for the financing of infrastructure in such areas. For this reason, my interview will focus on Kilimani, a rezoned neighbourhood.

I hope that through this interview, we could have an exchange of ideas on the opportunities and challenges of applying value capture tools within the municipality.

I would like to assure you that all information obtained during this interview is purely for academic purposes and will be treated with utmost confidentiality. Once the research is completed, I will avail to you my final report of the study.

Rezoning Policy

1. What was the council's vision for the development of zones 3, 4 and 5 as envisioned in the rezoning policy passed in 1987?
2. Why did the municipality choose these three areas for re-zoning?
3. To what extent do the current developments in Kilimani match the original vision for its redevelopment?

Infrastructure Development

4. Was there a strategy linking the rezoning to an infrastructure development plan? If yes, could you provide details of this strategy?
5. Has this strategy been implemented? If not what are some of the challenges experienced in its implementation?

6. What is your reaction to some of the comments that have been made by Kilimani residents about the state of the infrastructure in their neighbourhood? For example, in one of the local dailies one particular resident mentions the emergence of potholes on the roads and an increase in traffic jams as a result of congestion.
7. What challenges does the municipality face in raising the required finances for the development and upgrading of infrastructure in rezoned areas like Kilimani?

Opportunities and challenges in the use of value capture instruments

8. International experience has shown that value capture is a useful tool for sharing the cost of infrastructure provision between the local government and other parties. Has its use been considered as a potential tool to meet the infrastructure needs in rezoned areas like Kilimani?
9. To what extent are the existing value capture tools provided for within the legal framework utilized for the provision of infrastructure? In your view, what is their potential and what are the challenges in their application?
10. In your view what challenges are faced by the municipality in the application of value capture tools as a means of financing infrastructure development, particularly after a zoning change?

Institutional capacity

11. Given that there are various value capture tools that exist within the local laws in addition to other mechanisms from various international cases which have the potential to be applied by the local government, what in your view would be the main institutional bottlenecks in their implementation?
    a. Administrative capacity
        i. Updating the cadastre/ land records system
        ii. Collection
        iii. Coverage
        iv. Valuation
    b. Political will
    c. Legal and regulatory framework
    d. Participatory process
    e. Financial management/ expertise

Annex 2: Interview Questions for Developers

Name of Organization :…….

Position within Organization :…….

Department :…….

Date and Time of Interview :…….

INTRODUCTION

I am a Masters student at the Institute of Housing and Urban Development Studies in the Netherlands pursuing a degree in Urban Management and Development with my area of specialization being Housing.

I would like to thank you for taking the time to participate in this interview which should not take more than 1 hour of your time. The research being conducted focuses on potential strategies for financing the development of infrastructure. The area under focus is Kilimani, a neighbourhood which has seen a large scale of developments taking place in the last 10 years.

Through this interview I hope you can shed some light on your experiences in the development process in Kilimani particularly with regard to infrastructure development. The results of this interview could form a point of further discussion with the residents and municipal authorities on how their roles in infrastructure provision can be enhanced particularly in Kilimani neighbourhood.

I would like to assure you that all information obtained during this interview is purely for academic purposes and will be treated with utmost confidentiality. Once the research is completed, I will avail to you my final report of the study.

General

1. How long have you been in business?
2. What segment of the market are you mainly involved in?
    a. High Income
    b. Middle Income
3. What types of developments are you mainly involved in?
    a. Commercial
    b. Residential
    c. Office
4. Do you belong to any association of developers?
5. How long have you been an active developer in Kilimani neighbourhood?
6. How would you rate the development potential of Kilimani in comparison with other areas within the city?

Infrastructure

7. What do you typically need to invest in terms of on-site infrastructure for any one of your developments?
8. What is your opinion on the state of infrastructure in Kilimani with regard to:
    a. Road network
    b. Water supply and sewerage
    c. Drainage systems
    d. Street lighting
    e. Parking
    f. Fire fighting facilities
9. In your opinion is the state of infrastructure in Kilimani improving or getting worse? Why?
10. What is your opinion about some of the comments that have been made about the state of the infrastructure within the neighbourhood? For example, in one particular local daily, it has been said that "it is a mistake for the [municipality] to permit the development of flats in the neighbourhoods which were formerly low density residential areas without making an adjustment in infrastructure provision in those places"

Perceived roles on infrastructure upgrading and development

11. Who in your view is responsible for ensuring that infrastructure in Kilimani neighbourhood is up to the required standard?
12. Do you think that you have any role to play in ensuring that infrastructure in Kilimani is up to the required standard? Please explain in detail.
13. Do you think that the developer's association has any role to play in ensuring that infrastructure in Kilimani is up to the required standard? Please explain in detail.
14. Do you think that the residents of Kilimani have a role to play in ensuring that infrastructure is up to standard?
15. Do you think that the municipality is able to address the infrastructural requirements within the neighbourhood? Please explain in more detail.
16. Where should the municipality obtain finances for the development and upgrading of infrastructure?
17. Do you have any other suggestions on how infrastructure can be better developed within the neighbourhood?

Annex 3: Interview Questions for Owner Occupiers in Kilimani

Date and Time of Interview :…….

INTRODUCTION

I am a Masters student at the Institute of Housing and Urban Development Studies in the Netherlands pursuing a degree in Urban Management and Development with my area of specialization being Housing.

I would like to thank you for taking the time to participate in this interview which should not take more than 1 hour of your time. The research being conducted focuses on potential strategies for financing the development of infrastructure. The area under focus is Kilimani which has seen a large scale of developments taking place in the last 10 years. The state of infrastructure within the neighbourhood has been of major concern especially among the residents who have raised numerous complaints on the issue.

Through this interview I hope you can share some of your views on this issue. The results of this interview could form a point of further discussion with developers and municipal authorities on how their roles in infrastructure provision can be enhanced particularly in Kilimani neighbourhood.

I would like to assure you that all information obtained during this interview is purely for academic purposes and will be treated with utmost confidentiality. Once the research is completed, I will avail to you my final report of the study.

General

1. How long have you lived in this neighbourhood?
2. Why did you choose to live in this neighbourhood as opposed to any other neighbourhood within the city? Do you see any advantages of living in Kilimani as opposed to other neighbourhoods within the city?
3. Do you belong to a neighbourhood association?

Infrastructure in Kilimani

4. What is your opinion with regard to the state of the infrastructure in Kilimani neighbourhood with regard to:
    a. Road network
    b. Water supply and sewerage
    c. Drainage systems
    d. Street lighting
    e. Parking

5. Would you say that the situation with regard to infrastructure is improving or getting worse? Why?
6. What is your opinion on some of the comments that have been made by residents of Kilimani with regard to the state of the infrastructure? For example, there have been complaints highlighted in the media about the development of potholes on the roads, increasing congestion, and the overall strain of the new developments on the existing infrastructure.

Perceived roles on infrastructure upgrading and development

7. Who do you think is responsible for the state of the infrastructure in the neighbourhood?
8. Do you think you have a role to play in ensuring that the infrastructure in your neighbourhood is up to the required standard? Could you give details on what you perceive this role to be?
9. Do you think that the neighbourhood association has a role to play in ensuring that infrastructure in the area is up to the required standard?
10. Do you think that the municipality and property developers have a role to play in ensuring that there is adequate infrastructure in Kilimani neighbourhood? Please explain in more detail.
11. Where should the municipality and property developers obtain the finances for the development and upgrading of infrastructure?
12. Do you have any suggestions on how infrastructure can be better developed within the neighbourhood?

Annex 4: Interview Questions for Commercial Property Owners in Kilimani

Name of Organization :…….

Date and Time of Interview :…….

INTRODUCTION

I am a Masters student at the Institute of Housing and Urban Development Studies in the Netherlands pursuing a degree in Urban Management and Development with my area of specialization being Housing.

I would like to thank you for taking the time to participate in this interview which should not take more than 1 hour of your time. The research being conducted focuses on potential strategies for financing the development of infrastructure. The area under focus is Kilimani which has seen a large scale of developments taking place in the last 10 years. The state of infrastructure within the neighbourhood has been of major concern especially among the occupants who have raised numerous complaints on the issue.

Through this interview I hope you can share some of your views on this issue. The results of this interview could form a point of further discussion with developers and municipal authorities on how their roles in infrastructure provision can be enhanced particularly in Kilimani neighbourhood.

I would like to assure you that all information obtained during this interview is purely for academic purposes and will be treated with utmost confidentiality. Once the research is completed, I will avail to you my final report of the study.

Choice of location

1. For how long have your premises been located within this neighbourhood?
2. Why did you choose Kilimani as a location for your premises?
3. How do other locations in the city compare with Kilimani?
4. Do you belong to any association of property owners in the neighbourhood?

Views on the state of infrastructure in Kilimani

5. What is your opinion on the state of the infrastructure in the neighbourhood with regard to:

    a. Road network
    b. Water supply and sewerage
    c. Drainage systems

d. Street lighting
e. Parking
f. Fire fighting facilities

6. Is the standard of infrastructure adequate for your needs? Please explain.
7. Would you say that the situation with regard to infrastructure is improving or getting worse? Why?
8. What is your opinion on some of the comments that have been made by the residents of Kilimani with regard to the state of the infrastructure? For example, there have been complaints highlighted in the media about the development of potholes on the roads, increasing congestion, and the overall strain of the new developments on the existing infrastructure.

Perceived roles on infrastructure upgrading and development

9. Who do you think is responsible for the state of the infrastructure in the neighbourhood?
10. Do you think you have a role to play in ensuring that the infrastructure in the neighbourhood is up to the required standard? Could you give details on what you perceive this role to be?
11. Do you think that the association has a role to play in ensuring that infrastructure in the area is up to the required standard?
12. How, if at all, does the association interact with the municipality especially with regard to infrastructure development and upgrading within the neighbourhood?
13. Do you think that the municipality and property developers have a role to play in ensuring that there is adequate infrastructure in Kilimani neighbourhood? Please explain in more detail.
14. Where should the municipality obtain finances for the development and upgrading of infrastructure?
15. Do you have any suggestions on how infrastructure can be better developed within the neighbourhood?

Annex 5: List of Interviewees

- **University of Nairobi (UON):** Arthur Munyua Mwaura, Dr. Tom Konyimbih
- **Nairobi City Council, (NCC)**: Ruth Muroki (Mrs.) Assistant Director, City Planning, P. Kibinda, Director of City Planning, S.K. Gatimu, Assistant Director, Urban Design and Development
- **Office/ Commercial property owner**- Mr. Kimanthi Mutua, Managing Director, K-Rep Bank.
- **Pinnacle Projects Ltd**.- Felix Miano (Project Manager), Alexander Mwaura (Project Manager)
- **Kilimani Resident and property owner**-Frank Masinde
- **Real estate and valuation companies**- Bernard Ochieno (Landmark realtors), S.O. Omengo (Tyson's Ltd.).

Annex 6A: Newspaper Article 1

THE STANDARD
OUTSTANDING EVERY DAY

Propertywatch
High-rise revolution

New investors with affordable mortgages put up apartments to change the face of formerly exclusive leafy suburbs writes Kenneth Kwama

One of the highrise buildings that have replaced the bungalows that once dotted upmarket Nairobi suburbs.

Taking a walk through the leafy suburbs of Kileleshwa, Lavington and Kilimani, you will notice a revolution. The old colonial bungalows that were once the mark of opulence are being replaced with high-rise apartments.

For property management companies in Nairobi, the boom could not have come at a better time. On paper, it is one of the busiest periods in the property business as record number of investors buy and sell houses.

"Old single-hold houses are being demolished and replaced by multi-storeyed apartments, which are considered more economically viable," says Mwenda Makathimo, the director Vidmerck, a property-consulting firm that buys and sells property in the city.

The new development follows the revision of the Nairobi City master plan, which was drawn by the city council in the early 1970s. It classified Kileleshwa and Lavington as single-dwelling zones, barring residents from constructing high-rise buildings there.

In the revision, the NCC took into account several factors, among them the realisation that the population had grown since the last plan was drawn and that more apartments were needed to accommodate extra numbers. It also considered a principle in land economics, which holds that land should be put into its best possible use.

"It holds that land is in its best use when it has been put into a development that is economically viable, physically possible and legally permissible," says Makathimo.

Although the single dwelling units were legally permitted and looked beautiful, they failed the economics test.

Annex 6B: Newspaper Article 2

The EastAfrican

| The Daily Nation |

Business
Monday, October 25, 2004

Boom in Apartment Blocks Transforming Nairobi Suburbs

Currently, the demand for flats and apartments is so high in the affluent neighbourhoods that there are cases of potential buyers paying the whole an for a flat purely on the basis of an approved building plan

By FRANCIS AYIEKO
SPECIAL CORRESPONDENT

THE look of several high income residential neighbourhoods in Nairobi is set change drastically due to the gradual decline in the demand for stand-alone houses such as bungalows and maisonettes in favour of flats and apartments

Property market experts say that currently, there is strong demand for redevelopment land, especially in the high-income residential neighbourhood where planning regulations have been revised to allow for the development o density housing units like flats and apartments.

Fuelling the demand for flats and town houses (modified apartments) are sec concerns among Nairobi residents and the easy access to home loans now offered by mortgage finance companies and a number of local commercial ba

And many developers, keen on making a quick buck, are busy converting old bungalows in those areas into flats or apartments, which they finally sell to re and eager buyers, whose numbers seem to increase by the day.

"We are knocking down bungalows and maisonettes in some upmarket areas where land is ripe for redevelopment and putting up apartments and flats in th place," Kaggillos Peter, property manager at Villa Care Ltd – a valuation and estate management firm, which is also involved in property development – to *The EastAfrican* . "Many property developers feel they would rather put up a of flats and sell them as single units to optimise on income than have only on bungalow or a maisonette standing on the same area of land."

Currently, there are blocks flats coming up in Kileleshwa, Kilimani, Parklands Milimani and Westlands, where planning regulations allow for the constructio multi-family units (flats/apartments).

However, flats are allowed only in some parts of Lavington.

Annex 7: Development Guidelines for Zones 3, 4 and 5

Zone	Areas Covered	Ground Coverage %	Plot Ratio %	Type of Development Allowed	Min. Area (Ha)
3	**Parklands** ▪ Commercial ▪ Residential	 50 35	 100 75	 Commercial/ Residential	 0.05
	City Park Estate/ Upper Parklands	35	75	(High-Rise flats)	
	Westlands ▪ Westlands CBD ▪ Westlands/ museum Hill ▪ Block 1 Commercial ▪ Block 2& 3 offices and high rise residential ▪ Block 4 offices ▪ Block 5 Commercial/ Residential Hotels	 80 35 80	 200 80 200	 Commercial/ Offices/ Residential (High-Rise flats) Four storeys max.	 0.05
4	Spring Valley Riverside Drive Kileleshwa **Kilimani** Thompson Woodley	 35(s) 25 (u)	 75 (s) 25 (u)	 Residential (Apartments allowed on sewer only) 4 storeys max	 0.05
5	Upper Spring Valley Kyuna Loresho Lavington/ Bernard Estate On sewer (s) Unsewered (u)	 25 35 25	 25 75 25	Low density Residential One family house	 0.2

Annex 8: Problem Tree Analysis