UNIVERSITY OF NAIROBI
COLLEGE OF ARCHITECTURE AND ENGINEERING
SCHOOL OF THE BUILT ENVIRONMENT
DEPARTMENT OF REAL ESTATE AND CONSTRUCTION MANAGEMENT

AN INVESTIGATION INTO CHALLENGES OF REDEVELOPMENT AS A TOOL FOR URBAN RENEWAL: CASE STUDY OF BAHATI ESTATE, NAIROBI KENYA

BY
NJOGU JOYCE NJERI
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MAY, 2013
Declaration

I Njogu Joyce Njeri, do hereby declare that this research project is my original work and has not been presented for a degree in any other University.

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Signed

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Date

This project has been submitted for examination with my approval as university supervisor

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Signed

Dr. Luke Obala

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Date
Dedication

To my daughter (Sharlyen Wangechi)
Acknowledgement

I wish to acknowledge the assistance and corporation of all people without whom the completion of this paper would not have been realized.

My sincere gratitude goes to my supervisor Dr. Luke Obala, for his invaluable guidance, constructive criticism and encouragement at all stages of this research project.

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Abstract

Urbanization and urban growth form part of major current issues facing land use in the whole world and especially the developing countries. It is very clear that the biggest development headache is now and future posed by urban areas: unprecedented growth and consequent challenges including inadequate housing and other social and economic facilities.

The research was carried out in Bahati estate. The case study structure was used and the researcher found out that Bahati Estate is on prime land near the CBD ripe for redevelopment. Most of the houses in the area of study were built in the colonial rule and were meant to house African workers. This estate has remained the same with minimal additional development. However the area was well provided with adequate support social and physical infrastructure. Urban planning therefore should be a continuous process to ensure that all urban problems are catered for before they get out of hand. Unfortunately this is not so due to rapid change and the necessity of "doing more with less require".

The study sought to reveal the major challenges of reversing the abandoned land and blighted or deteriorated built up areas to achieve its highest and best use value. This research is innovative because it brings together analysis of various real estate stakeholders' perception towards redevelopment of blighted area and clean-ups of contaminated site and abandoned or wasteland. The study went further to evaluate the level of government participation in redevelopment programs.

Data was obtained primarily by observation, interviews to the residents of Bahati estate and officials of the City Council of Nairobi currently referred to as Nairobi Municipal Board under the new devolved Government. Secondary data was obtained from the extensive emerging literature on urban redevelopment. A review on the wide body of literature suggests that there are challenges to the widespread adoption of urban redevelopment. However the potential benefits of urban area outlined. The researcher recognized that these benefits outweigh the challenges in the long run.

The study finally raised a number of issues and area of debate. Equally important are the proposals of possible approaches that could be adopted to provide decent housing to the people occupying the existing houses as well as creating room for traditional occupants in a harmonious and sustainable way.
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Abbreviations

UNCHS (Habitat) - United Nations Center for Human Settlement (Habitat)

UN - United Nations

UDCs - Urban Development Corporations

CNN City- Council of Nairobi
CHAPTER ONE: INTRODUCTION

1.1 Introduction

Land use decisions made by a community shape its very character and existence. Urban planning itself has its roots in the search for reform of urban environment and it tries to deal with expected problems so as to avoid unwanted problems. Planning is a tool of management which very essential in every sector of the economy. Urban planning therefore should be a continuous process to ensure that urban problems that arise are catered for before they get out of hand. Unfortunately this is not the case in developing countries where Kenya is not an exceptional.

Due to the ever changing nature of the city’s physical and social structure, urban land management procedures put in place became obsolete earlier than anticipated. Effective urban management is needed all over the world, but scarcity of resources and the rapid rates of urbanization in developing countries make the need more pressing. Rapid change and the necessity of "doing more with less" require especially competent urban managers (UNCHS, HABITAT, 1991)

Urbanization and Urban growth therefore form part of major current issues facing land use in the whole world and especially the developing countries. It is very clear that the biggest development headache is now and future posed by urban areas: unprecedented growth and consequent challenges including inadequate housing and other social and economic facilities. Therefore it is the high time the city council of Nairobi and private investors took the opportunities of various decayed estates available and redeveloped them to curb the problems of urbanization such of inadequate housing, urban sprawl and the global challenge of climate change by getting rid of contamination and put these sites into the highest and best use.

One of the major challenges in urban redevelopment process in developing world, not least Kenya, is the consequences of poor land use planning and development for environmental sustainability. Improper land use planning has an impact on the efficiency of socio-economic activities, as well as physical development of the city. The urbanization trend in Kenya portrays a phenomenal growth with an increasing rate over time requiring robust urban management machinery. The challenge here is therefore not how to stop or contain growth but how to marshal
all the available physical, financial, human and technical resources to manage the problems and utilize the opportunities arising from urbanization.

Urban redevelopments start considering the future land use of deteriorated and blighted areas among a wide array of interests/stakeholders and its future use possibilities weighed against other local land use efforts and zoning. The process continues with remediation, redevelopment per se and return to a productive status. Redevelopment delivers a combination of social, environmental and economic objectives. Sustainable development incorporates economic, social and environmental needs and is concerned with reconciling economic demands and social needs with capacity of the environment to cope with the pollution and to support human and other life. In this respect successful brown field redevelopment requires integration of environmental management with spatial and urban planning.

The primary objective of urban redevelopment is not the reuse of the land and the reintegration of the properties into the economic cycle per se. Rather it is regeneration to deliver a combination of social, environmental and economic objectives. This may include regeneration to sustain communities, protect the environment or support long term wealth creation. In this respect successful urban regeneration needs the integration of environmental management with spatial and urban planning policies. Urban regeneration therefore involves a multitude of stakeholders including regulators, land owners, developers, consultants, researchers, educators, technology providers, funders, investors, insurers, lawyers and, perhaps most importantly of all, community groups.

1.2 Problem Statement

The world’s urban population is expected to grow from 3.5 billion in 2010 to 6.2 by 2050 this from about 52% to 67% of the world’s total population and 94% of this growth will be in developing regions (from 2.6 billion by 2010 to 5.1 billion by 2050), (UN, 2011). Given a projected urban population increase by 1.43 billion between 2010 and 2030 and adding to this the existing slum population, the number of people in the most urgent need of housing within the next two decades can be estimated to be at least 2.25 billion. Assuming an average household size of 5 people, 450 million housing units have to be built worldwide to accommodate this
population — that is, 22.5 million units annually or more than 60 thousand units each day, from this very moment.

Examples of physical infrastructure over which individuals have little or no control over, include: - housing, transport, energy and waste collection (Robin and Roberts, 1996). The problem of inadequate housing emanates from the scarcity nature of land for expansion because land is a scarce resource in terms of supply. Greenfield land has become a scarce resource in the densely populated and highly industrialized parts of Nairobi. The reuse of the abandoned and underutilized land is therefore essential. Urban redevelopment can be a strategy to develop sustainable urban communities by promoting sustainable land use and urban revitalization.

Moreover, cities, even with a high density, have potential for increasing green and open areas by, for example, restoring contaminated and blighted urban land sites as parks or redeveloping closed landfills as green areas. Recycling of wasteland and derelict sites and buildings gives an opportunity to clean up contaminated sites, assist environment and social and economic regeneration. Redevelopment will also curb urban sprawl and encroachment into our urban green lands for instance Karura and Ngong forest and the Nairobi National park through utilization of the already available abandoned land. This initiative will meet two goals - sustainable development and shelter for all as captured in the Millennium Development Goals hence a balance is struck.

Private developers however, only compare those costs they will have to incur (private costs) with those gains they expect to receive (private benefits). Unless there is public pressure, they will not be interested in either the costs they might inflict upon the community (social costs) or the benefits which might be gained by the community as a result of the development (social benefits). It is unlikely that the developers undertaking various schemes give much thought to the creation of the additional social costs of traffic congestion and the shortage of resources for other forms of development such as housing or to the social benefits such as increased local retail trade and rateable values.

There is a complex mix of physical, social and economic characteristics of idle land. Urban decayed or blighted areas therefore offer particular challenges and opportunities to national and
regional policy makers in terms of bringing these sites back into beneficial use and simultaneously reducing urban sprawl and loss of green space.

Considering that the developers (both private and public) in Kenya are set to adopt the strategy of urban redevelopment in order to meet the Vision 2030 on sustainable development, the study sets out to evaluate the extent to which the redevelopment of wasteland has so far been adopted in Kenya, and the challenges faced in these redevelopment venture. The study also seeks to document the benefits of urban redevelopment by consolidating the findings of other researchers.

1.3. Research Questions

The research project is based on four major research questions:

1. What is redevelopment and what are its benefits?
2. What are challenges of redevelopment?
3. What is the possible level of land utilization in Bahati Estate?
4. What role can the government of Kenya play to encourage redevelopment?

1.3. Objectives

The study objectives are:

a) Establish the extent to which urban redevelopment has been adopted in Kenya.
b) Evaluate the possible level of land utilization in the redevelopment process of Bahati Estate
c) Establish the likely challenges in urban redevelopment processes; and
d) Propose appropriate recommendations and conclusion.

1.5 Research Hypothesis

Null Hypothesis (Ho): Urban redevelopment programs are not adopted in Kenya due to challenges involved.

Alternative Hypothesis (H₁): Urban redevelopment programs are adopted in Kenya regardless of the challenges involved.
1.6 Research Methodology

The case study approach has been chosen to enable the researcher to get the actual situation on the ground. Data in the study was collected in Bahati Estate situated in Eastlands of Nairobi. The study utilized both primary and secondary data for the analysis. Primary data was obtained by issuing questionnaires to the planning and building sector stakeholders. Secondary data was obtained from a literature search on urban redevelopment.

A reconnaissance survey was conducted to assist the researcher get preliminary findings on the general view of the study area. The questionnaires were used as an opinion poll for determining the extent to which redevelopment programs have been adopted in the building profession in Nairobi. The questionnaires were also used to gather substantive information on what the stakeholders view as the challenges to more widespread adoption of urban redevelopment, and what types of policies and programs would be most effective in encouraging more redevelopment programs initiatives. The stakeholders in this case included; environmental experts, the planners, and developers.

1.7 Study Area and Scope

Nairobi Eastlands, located in the marginalized urban fringe to the east of Nairobi Central Business District, is predominantly low income densely populated area, having been earmarked as such when Nairobi was being planned. Sandwiced between the CBD and railway station in the west, High density low to low medium income residential areas including (Government and institutional housing) in the north and a fast growing belt of informal settlement to the south, the centrally located brownfield sites in Eastlands, Nairobi are the focus in this research because, even though they contain levels of contamination and blight, they have minimal physical constraints, because they are supplied with trunk infrastructure and are located in prime or desirable areas thus have the most redevelopment potential and the greatest economic, environmental and social benefits.
1.8 Assumptions of the study

The study is based on two important assumptions i.e.

i. The area of study chosen is standard and findings can be applied to any other place regardless of such differences as geographical location.

ii. Data collected from secondary sources is accurate and reliable.

1.9. Significance of the study

My research on “challenges of urban redevelopment as a tool of urban renewal in Bahati Estate, Old Eastlands area” is innovative because it brings together analysis of various real estate stakeholders’ perception towards redevelopment and clean-ups of contaminated site and abandoned or wasteland. The study seeks to reveal the major challenges of reversing the abandoned land and blighted or deteriorated built up areas to achieve its highest and best use value. I believe this research can be helpful to the nation as it strives to combat climate change and challenges of inadequate housing as we progress towards Vision 2030 trajectory. I am particularly committed and interested in sharing the results of my analysis with organizations such as the Nairobi City Council, National Environmental Management Agency, UNEP, and Urban Development Corporations in the hopes that my work will not just be an extraction of truths, but will give them information with which they can use for the benefit of this country.

1.10. Definitions of Key terms

**Urban renewal** (similar to **urban regeneration**) is a program of land redevelopment in areas of moderate to high density urban land use. It also refers to ameliorating deteriorated neighborhoods and underutilized areas of the city and improvement of urban environment through private and public innovation or initiative.

**Urban decay** -This is the falling into ruins of structures in urban centers due to lack of maintenance and the functions of the cities (urban areas)

**Urban blight**- It is the deteriorating conditions of a building or an area for lack of maintenance due to external factors e.g. industrial use, pollution, heavy traffic and the like that normally reduce the value of real estate. It also refers to absence of growth and persistence of depreciation
**Urban management**- It is a range of activities aimed at increasing the rate city service dwellings equitable access to services by all segments of the population. It comprises the functions of governance, development, policies investment positions that are aimed and carried out by the public and the community sectors.

**1.11. Organization of the study**

The study is organized in five chapters:

Chapter one is the introductory chapter and it consists of the introduction, problem statement, research question, objectives of the study, hypothesis, scope of the study, significance of the study, justification of the study and some working definitions.

Chapter two consists of the literature review by the researcher which includes literature on the process of redevelopment, benefits of redevelopment, legislative framework covering redevelopment different approaches to redevelopment and has also identified some of the challenge hindering adoption of redevelopment programs. It forms the theoretical basis for the study.

Chapter three covers the methodology and design of the study and a brief discussion of the study area.

Chapter four consists of data collection, presentation and analysis. This chapter critically evaluates facts from the survey. Presentation of the data is form of tables, graphical representations and some in descriptive form.

Chapter five presents the conclusions and findings drawn from the previous chapter. The researcher then advances some recommendations on the strategies for sustainable urban redevelopment. Reference section and appendices follow immediately.
CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

This chapter reviews the relevant literature covering applicable features of urban redevelopment as postulated by various writers, authors and researchers.

The chapter also acts as guide to the evaluation and analysis of the challenges encountered in the endeavor to redevelop an urban area that is decayed. It also brings out the benefits accruing from successful urban redevelopment as an alternative to provide housing and as way of greening the city.

2.2. Redevelopment

This is the process of rebuilding an area that has reached end of its economic life or a blighted area that requires complete renovation and renewal (Abbot, 1987). This is the ultimate tool in renewal where rehabilitation and conservation are unable to bring about the desired state. It involves demolition of the existing buildings and the reconstruction of new building on the area, with new layouts and different designs.

Urban redevelopment has social, physical and economic benefits. Kaara, (1996) explains that physical benefits are those that can be seen and experienced for instance provision of facilities and enhancement of utilities among others. Social benefits involve raising the general standards of living which can be done through provision new schools and recreational facilities, community centre services and welfare services for the old and poor. However the most impressive social advance that redevelopment offers are the elimination of blight and sub standard housing and the provision of new housing stock. Economic benefits are reflected in new employment opportunities associated with economic regeneration programs, and the improved taxation base for the local governments.

Urban redevelopment has been used as an important planning tool to accommodate changes in the cities but at time if not well handled it can turn out to be a controversial public obsolescence. Odero (1988) says that intensification of land use through redevelopment process changes the form and functional characters of an area. The impact of an urban redevelopment has resulted into substantial changes in the physical and social fabric of urban areas (Gibson, 1982).
In Kenya, urban redevelopment has been closely linked with the issue of housing reforms in the low income areas. Most of the recent programmes had entirely a social footing i.e. the provision of better living standards for the residents e.g. Mathare A4 project, disregarding to a certain extent the returns expected from the programme. The key issue in the urban redevelopment is the gap between the quality of accommodation, which working class household can afford, and some notion of minimum acceptable living conditions (Odem, 1988).

The redevelopment process has basically four stages namely: land assembly, relocation, site clearance and construction. Land assembly especially in the central business district is among the major forces hampering institutions efforts of rectifying urban problems more so by the private sector. Government intervention through eminent domain is important. Alternative housing should always be provided to the affected occupants for the project to be successful. The housing provided should meet certain minimum qualifications for this is a very sensitive issue and will in most cases turn political.

2.2.1. Redevelopment Trends

The growth in industrial and commercial activity led to increased urbanization which in turn led to large scale economies within enterprises and agglomeration economies within the cities. Both factors led to further urban expansion which in turn increased the demand for construction activity (Couch 1990). As the size of urban areas grew so did the competition for best located site usually the most central sites. The effect of this competition was to bid up the price of land. As land prices raised it was necessary to increase the intensity of land use whether for production or housing purposes so as to maximize profits. The sites were being used at sub optimal intensity (for instance low buildings densities) would tend to be cleared and rebuilt at higher densities.

A second major force for urban renewal is explained by Couch (1990) as the expansion of the service sector. As trade and industry developed an ever increasing range and sophistication of economic infrastructure was required. These changes led to high levels of profit per area compared with other infrastructure was required. These changes led to high levels of profit per area compared with other land uses and it was necessary to replace other uses in such locations.
(Gaudie, 1974) puts forward a number of reasons for slow rate of housing renewal and improvement during the first half of the 19th century. These are summarized as follows:

1. The dominant economic philosophy of minimum state intervention in the running of the market;

2. There was a low level of knowledge about the nature of the housing problem and about the appropriateness of the solutions;

3. Limited power and leverage of the working class; and

4. The system of states at the level was rudimentary and quite inadequate for the task of regulating and intervening in urban redevelopment.

These impediments were gradually overcome during the century as the state began to develop and refine its role in urban development and renewal process. In the 20th century slum clearance was generally used as a method of dealing with obsolete housing. This policy later changed and rehabilitation and area improvement was adopted. In Kenya however slum clearance began in 1967 and the second phase in 1988 (Murigi, 1998). The latest redevelopment activity in Kenya was the Mathare 4A project which was undertaken by a joint effort of Kenyan and German governments.

Murigi (1998) noted that redevelopment has heavily been relying on government action, private sector seldom motivated to undertake such projects. This scenario is also true in Kenya whereby redevelopment activity in left to the state local government or other corporation such as National Housing Corporation. This has led to very little residential redevelopment. For example in Kenya only three redevelopment works have been carried out in, Kariobangi North, Nairobi City Council Pumwani Majengo, Nairobi City Council and National Housing Corporation and Mathare 4A. It is also worth noting that redevelopment in Kenya has taken a shift from residential to other areas such as commercial. This is because the private sector is normally motivated by the likely return to be realized from the commercial redevelopment projects.

It can also be observed that urban areas are constantly being reconstructed in order to maintain the efficiency of the capitalist system including the maintenance of adequate markets for goods and services
Couch (1990) observed certain events and trends that are crucial in the understanding of the redevelopment trend. First and foremost is the key role played by transport improvements in changing regional economic structures, changes in land use patterns reducing urban densities and facilitating rising housing standards. The second one is the consequences of management deadline and service sector growth in changing the nature of demand land for land and buildings within urban areas. The third one is the increasing difference between central and peripheral regions in terms of economic conditions under which urban renewal are undertaken concurrently. In Kenya, Nairobi urbanization has experienced intermittent redevelopment on a piecemeal basis a reflection of the evolutionary trend in the growth of the city (Odero, 1988). Redevelopment activities have however neither been uniformly spread nor kept pace with the rate of obsolescence.

2.2. Why undertake redevelopment?

In practice, urban redevelopment has meant the displacement of a low-income population, creating space for more profitable office, commercial and residential development, or the provision of transport facilities (Langstaf, 1982). This has seen it criticized by social reformers for a long time. Urban redevelopment has its associated costs and benefits, and its effects and consequences are varied.

Urban redevelopment entails a drastic use of public power and must be carefully exercised. It should be one tool not the only one in the planning process. It should not be employed mainly as a device for increasing taxes, making profits on land operations, or for ousting undesirable people from their shelters. Above all it should be undertaken only after its benefits to the community as a whole justify the impositions it enforces, and it should be launched only after it has received wide public acceptance.

In addition to opening up traffic arteries, providing parking spaces, public improvements, housing and the industrial and commercial buildings, required by the growing economy, an urban renewal program would make it possible to assemble fragmentary parcels, remove the clouds on titles that frustrate improvements and provide a politically acceptable device for selective releases of poverty from the strictures of rent control (Abrams, 1964).
2.2.3. Redevelopment Process

As mentioned earlier redevelopment process is said to involve four activities or stages namely:-
land assembly, relocation, site clearance and finally the actually putting up in structures
(Murigi, 1998).

According to Couch (1990), a problem identification and objective setting have to be undertaken
together for there can be no problem without an objective, for example unfit housing only
becomes a problem when fitness standards have been established.

Rothenberg (1969) argues that difficulty of large land assembly at the assembly stage at the core
of central city is among the major forces hampering private efforts to rectify inefficiencies
associated with slums. Therefore to alleviate this difficulty government intervention seems
necessary particularly through the use of eminent domain to decrease the real cost of large land
assembly.

Relocation stage should not be length otherwise the following consequences may arise; First, it
tends to decrease the re-distributional effects of relocation. Fewer households are therefore thrust
on to the market at any one time and more is available to seek alternative housing in standard
units without appreciably higher rentals. This tends to improve the cost benefit balance of the
projects.

Secondly as relocation proceeds a growing proportion of living space in accumulated structures
becomes and remains vacant and the structures themselves are allowed to deteriorate and hence
resources are wasted (Rothenberg 1969).

After the relocation stage the demolition and site preparation stage comes in. Murigi (1998)
explains that a long period of demolition and preparation of site gives rise only to economic
losses. This is due to the fact that the land is unused and hence wasted. The value of demolished
property is of course a cost of the project and will be included as part of the next project cost.

The last stage is the construction stage. Cloete (1998) says that the construction is critical to the
success of the entire project. If the project is not completed on schedule extra interest cost and
lost rental income could hurt profitability.
In Kenya, most areas targeted for redevelopment are slums and so the same process applies but in the stage relocation sometimes the government fails. This study however focuses on the deteriorated housings that are blighted and have lost value due old, falling of structures in areas where the concept of highest and best use is compromised.

To ensure good principles in carrying out the work Bayer (1958) gives seven general principles which are essential for a proper redevelopment process.

Firstly there should be a provision for adequate local administration legislation and enforcement. There is need to establish adequate minimum standards of health sanitation and safety for dwellings which one to be lawfully occupied. The vigorous enforcement of proper standards will of itself do much to aid in the long run prevention of slum formation and spread. These laws are to include minimum housing conditions under which dwellings are to be occupied. The conditions include the following:

i. Basic sanitation
ii. Light and ventilation
iii. Structure requirement
iv. Sanitary maintenance of the buildings and its facilities

Secondly proper plan for community development should be established. The formulation of an official community plan is basic to the whole programme of urban redevelopment. In those communities where planning is either inadequate or non-existent appropriate agencies must be sit up and a comprehensive community plan development to guide the future physical growth.

Thirdly, a feasibility study on the community’s neighborhood conditions such as traffic and street arrangements, extent of undesirable encroachments, zoning and other elements affecting the neighborhoods.

Fourthly, it should be ensured that the program administered is workable. To activate this type of occupancy and environmental agencies, this will make the required inspection and survey which are to be the basis of the enforcement of the regulatory laws primarily the minimum housing standards. All aspects of the programme should be coordinated for full effectiveness.
The fifth principle is concern with financing of the programme. The community must take into consideration the costs involved in undertaking such projects and work out means of financing it. Included are not only costs of inspection surveys enforcement of codes and the establishment of a community plan with an agency to carry out the necessary planning work but also the consideration of blight/slum clearance and rehabilitation costs from the standpoint of providing and improving community facilities.

The sixth principle concerns the problem of displacing families when the programme is implemented. It can probably be necessary to consider the housing resources of the community as a whole and device a programme before relocation becomes necessary in order that proper housing will be available to those families, which are to be displaced. This may necessitate a piecemeal approach to the basic programme if communities find their existing supply of housing inadequate.

Lastly community participation should be ensured. This should consider Chinese saying about community participation; *Go to the people live among them learn from them start from what they know build on what they have but the best leaders when their task is accomplished and their work is finished the people all remark we have done it ourselves.*

Because the programme is to be a community effort and in order to maintain the long run enthusiasm for successful redevelopment process is carried out and the above principles are applied then the programme will cause less inconvenience to the affected families and be beneficial to them after completion.

### 2.2.4. Benefits of Redevelopment

Urban redevelopment projects do not simply change the amount and the quality of some goods and services; they may bring about extensive changes in the whole pattern of urban living activities.

Urban redevelopment involves "social goods" effects, which are considered not only extensive but also very important foci of the urban renewal. Claire (1973) says that the wide range of benefits to be derived from a redevelopment programme include both obvious and subtle benefits to observe let alone measure. The benefits are social, physical and economic. Kaara (1996)
explains that physical benefits are those that can be seen and experienced e.g. provision of facilities enhancement of utilities street lighting etc. Social benefits involve raising the general standard of living, new schools and recreation facilities, community centre services, programme for the poor and ageing etc. The most impressive social advanced that renewal offers is the elimination of substandard housing and creation of standard housing in standard neighbourhood. Economic benefits are reflected in improved working places and resident, which mean higher productivity.

Page (1970) summarizes the merits of redevelopment under three broad classes as:-

i.) Better allocation of services
   a) Increase in property value
   b) Value of public improvements installed
   c) Aesthetic and cultural value of planned communities

ii.) Social implications of slums clearance
   a) Reduction in crime, disease, fires, and juvenile delinquency
   b) Improvement in housing welfare
   c) Saving in the costs of municipal services

iii.) Improvement in local finances

Murigi (1998) says that although the program has some problems the benefits far much outweigh the problems. Benefits of redevelopment arise on the achievement of the explicit and tacit goals of redevelopment. Redevelopment has had a variety of explicit an implicit aims. The more significant of the aims are as follows;

   a) Links economic vitality with environmental protection
   This is because redevelopment aims at a balance between economic growth and environmental protection. Redevelopment also fosters preservation green space and farmlands because it encourages densification of housing and discourages encroachment on reserved open spaces.

   b) Stimulates economy growth
   Through new investments in housing stock circulation of resources within the economy is ensured through job creation. Redevelopment creates jobs for unskilled labour during the
construction of houses. Redevelopment also returns abandoned or underutilized properties to tax roles with increased rates on improved properties.

c) Values existing infrastructure (decreases costs)
There are areas which are ripe for redevelopment due blight and poor maintenance of existing housing stock but the existing infrastructure is in good condition and underutilized. Social amenities in the area are also underutilized in some cases but with redevelopment the population in the area increases due to increased housing stock in the area. The increased population utilizes the existing infrastructure and social amenities hence decreased cost due to increased marginal utilities of these properties.

d) Fosters sustainable and livable communities
Decent, safe and sanitary housing is provided in redevelopment programmes. This is because these programmes try to improve the situation where there are large pockets unsuitable housing and neighborhoods (Murigi 1998). The end result of such a program is to give every household adequate housing. Health menace due to overcrowding, filth and inadequate sanitary facilities is eliminated.

e) Increases surrounding property values
Redevelopment has positive externalities on the neighborhood since redevelopment aims at improving the physical appearance of an area through elimination of blight.

f) Decreases blight and slums (improves community appearance)
Elimination of blight and slums is considered the major purpose of redevelopment. It can be considered to produce gross benefits only if slums represent an efficient market response. Improvement of community appearance is also achieved when blight is removed.

Slum dwellings are also considered not to be an optimizing response to the normal market forces. This is due to the following:

a) Lack of important neighbourhood effects externalities in land use.
b) Lack of profitability incentives
c) Creation of social costs
According to Murigi (1998) overcrowded unsanitary and unsafe neighbourhoods (prevalent in slums) are a drag in economic progress because productivity is reduced. Eradication of the slums can provide improved opportunities for their residents and enable them to contribute more to the community. Eradication of slums eliminates all that which goes even with it. However, this is not the case in Kenya or even other developing counties. As slums are demolished and replaced with better housing some of the slums dwellers are not able to pay for the higher rents. They therefore group themselves and settle on an idle piece of land. In this respect therefore eradication of slums just gives rise to other slums in a different place.

Bingham (1975) argues that elimination of blight and slums improves living conditions through the following:

i. Improvement in life opportunities for slum dwellers (employment education health etc)
ii. Increase in supply of low cost housing
iii. Removal of physical blight - increase in productivity of land use
iv. Inducement of private investment into renewal
v. Decrease in social costs of slums living

{g) Mitigation of Poverty

Page (1970) argues that urban redevelopment is an attempt to mitigate the evils of poverty. Given that slum inhabitants are poor their slum housing represents extremely low quality occupancy. Making such housing unavailable enable those household obtain higher level housing hence helping the poor. Although redevelopment attempts to mitigate poverty through this way it only works where redevelopment attempts to mitigate poverty through this way it only works where redevelopment is of low quality housing and not addition of high quality stock of housing.

h) Encourages planned growth and discourages urban sprawl

Successful redevelopment project are well planned to ensure conformity with planning standards. It also curbs urban sprawl through densification of an area and creation of more housing stock.
2.3. Sustainable development

When the World Commission on Environment and Development presented their 1987 report, Our Common Future, they sought to address the problem of conflicts between environment and development goals by formulating a definition of sustainable development: they defined sustainable development as development which meets the needs of the present, without compromising the ability of future generations to meet their own needs. According to Harris (2000), in the extensive discussion and use of the concept since then, there has generally been an appreciation of three aspects of sustainable development;

i) Economic: An economically sustainable system must be able to produce goods and services on a continuing basis, to maintain manageable levels of government and external debt, and to avoid extreme regional imbalances which damage agricultural or industrial production;

ii) Environmental: An environmentally sustainable system must maintain a stable resource base, avoiding over-exploitation of renewable resource systems, and depletion of non-renewable resources. This includes maintenance of biodiversity, atmospheric stability, and other ecosystem functions not ordinarily classed as economic resources; and

iii) Social: A socially sustainable system must achieve distributional equity, adequate provision of social services including health and education, gender equity, and political accountability and participation.

Urban redevelopment can be modeled through the principle of sustainable development. The sustainable part of sustainable development can be considered as avoiding the depletion of environmental capital (or concentrating on ecological sustainability), while the development part of sustainable development can be considered to be the meeting of human needs. Sustainable development is a commitment to limit or stop the depletion of the four kinds of environmental capital (See Table 2.1). The upper part of the box summarizes the social, economic and political goals inherent in meeting human needs, while the lower part shows how resources can be used efficiently and effectively to meet these needs.
Today, there is little doubt about the wisdom of sustainable development, yet the world is still far from reaching such a development path. In the environmental field, the challenges range from accelerating climate change to loss of biodiversity and increasing water scarcity. Sustainable development is a vision and a way of thinking and acting. It will not be brought about by policies only; it must be taken up by society at large, as a principle guiding the many choices each citizen makes every day, as well as the big political and economic decisions that affect many. There is therefore the need to create public awareness on sustainable development.

The Kenya vision 2030 sustainable development strategy puts an emphasis on involving citizens and stakeholders. Ultimately, the vision will become reality only if everybody contributes to a world where economic freedom, social justice and environmental protection go hand in hand, making our own and future generations better off than now. We must push ahead together towards changing our societies. We need to produce and consume in smarter ways and discover new, more sustainable ways of growing economically, whilst making sure that everybody benefits from the proceeds of this growth. We need new and cleaner urban built environs, better ways of working with the Earth’s resources, more efficient transport of people and of goods, and a more inclusive global society. One of the ways through which we can achieve these is through adopting redevelopment as tool of urban renewal in our urban areas; and this requires us to embrace sustainable design.

Sustainable design (also referred to as green design) is the philosophy of designing physical objects, the built environment and services to comply with the principles of economic, social and ecological sustainability. It encompasses numerous ways to improve processes and products to make them more efficient from an environmental standpoint (Vallero, 2008). The intention of sustainable design is to eliminate negative environmental impact completely through skillful, sensitive design. Manifestations of sustainable design require that non-renewable resources impact the environment minimally and relate people with the natural environment.

Sustainable design is mostly a general reaction to global environmental crises, the rapid growth of economic activity and human population, depletion of natural resources, damage to ecosystems and loss of biodiversity.
Sustainable design requirements include;

- Energy efficiency: use manufacturing processes and produce products which require less energy.
- Low-impact materials; choose non-toxic, sustainably produced or recycled materials which require little energy to process.
- Quality and durability: longer lasting and better-functioning products will have to be replaced less frequently, reducing the impacts of producing replacements.
- Design for refuse and recycling: Products, processes and systems should be designed for performance in a commercial ‘afterlife’. It is environmentally wise to consider what will happen to a building after it has served its useful life. According to Vallero (2008), Design for Disassembly (DFD) is a view of utility beyond the use phase predicted. This requires post use considerations, such as insisting on the use phase predicted. This requires post use considerations of obsolescence of parts and the entire system.
- Design for adaptability: During the planning phases, the designer can design the structure for adaptability to accommodate occupants as their needs change. This will diminish the environmental impact of future changes by reducing damage to existing components that do not need to be renovated and replaced during maintenance.

The Ministry of Housing in Kenya has intensified the process of identification, documentation, testing and dissemination of appropriate building materials and construction techniques through the Appropriate Building Technology (ABT) Programme. This programme is aimed mainly at improving the quality of housing while minimizing the adverse environmental degradation associated with housing development by burnt bricks. It encourages the use of locally available materials to improve affordability and cultural acceptability of the building materials (Government of Kenya, 2010).

The authority undertaking redevelopment programme should ensure that the construction materials and techniques it adopts in its programme have minimal environmental impacts.
Table 2.1: The multiple goals of sustainable development as applied to cities.

Meeting the needs of the present:

- Economic needs: Includes access to an adequate livelihood or productive assets; also economic security when unemployed, ill, disabled or otherwise unable to secure a livelihood.
- Social, cultural, environmental and health needs: Includes a shelter which is healthy, safe, affordable and secure within a neighborhood with provision for piped water, sanitation, drainage, transport, energy, health care, education and child development.
- Political needs: Includes freedom to participate in national and local politics and in decisions regarding management and development of one’s home and neighborhood within a broader framework which ensures respect for civil and political rights and the implementation of environmental legislation. Without compromising the ability of future generations to meet their own needs.
- Minimizing use or waste of non-renewable resources: Includes minimizing the consumption of fossil fuels in housing, commerce, industry and transport plus substituting renewable sources where feasible and also minimizing waste of scarce mineral resources (reduce use, reuse, recycle, reclaim).
- Sustainable use of finite renewable resources: Keeping to a sustainable ecological footprint in terms of land area on which city based producers and consumers draw for agricultural and forest products and biomass fuels.
- Biodegradable waste not overtaxing capacities of renewable sinks: (e.g. Capacity of a river to break down biodegradable wastes without ecological degradation)
- Non-biodegradable waste emissions not overtaxing (finite) capacity of local and global sinks to absorb or dilute them without adverse effects (e.g. persistent pesticides, greenhouse gases).

2.4. The concept of highest and best use of land resources

Urban redevelopment programs should aim at having the best use of land as a natural resource without compromising the economic, social, cultural and functional aspect of land. As much as the concept of highest and best use is desired in any urban setting, the renewal plans should bring about the least distortion to the current land uses and planning standards. This is necessary to check on the land values that are bound to change and distort the equilibrium levels of supply and demand of land for particular uses.

Land is considered as its highest and best use when it is used for that particular purpose which it has the highest comparative advantages over other uses. This concept usually considers the demand factors of land as well as factors influence the land supply and use. Urban redevelopment programs therefore should take into consideration the man’s natural urge to maximize returns and profits as urban renewal process continues. This can be done through assessing the land capability as regards to the particular use to which land can be put.

Land uses in Nairobi’s Eastlands were influenced by policy decisions set by the colonialists in the early twentieth century. Much of the study area was the central industrial area which due to lack of space for expansion, most industries relocated to Athi River town and along Nairobi Mombasa highway corridor as these places present better infrastructure for industrial production, plus adequate space for expansion. What was left behind is a strong prevalence of running down buildings and streets, abandoned railway lines as well as large underutilized tracts of land.

Planners have to be aware of the opportunities and limitations presented by the characteristics of the land in question. Land varies in size, topography, geology and quality and all this must be considered when drawing up new plans. This way land will be located and used for its highest and best use in the process of urban redevelopment.
2.5. LEGISLATIVE FRAMEWORK OF URBAN REDEVELOPMENT IN KENYA

The built environment in any country controls a large percentage of the gross domestic product directly or indirectly and thus the need to control its use, development maintenance and condition through legislation.

Kenya’s Constitution 2010, has however provided a framework for this. The new constitution establishes fundamental obligations in respect of the environment to the state and to the people of Kenya. The preamble to the constitution commits the people of Kenya to sustaining their environment for the benefit of future generation. Article 43 (b); gives the people access to adequate Housing and standard of sanitation. Articles 42; gives the people of Kenya right to live in clean environment. Article 21 (2); empowers the government to take Policy and legislative measures necessary for implementation of articles 43(b) and 42. Article 69 (1) states that "the state shall ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits." Article 69 (2) further states that "every person has a duty to cooperate with state organs and other persons to protect and conserve the environment, and ensure ecologically sustainable development and use of natural resources." In addition, Article 42 states that "every person has a right to a clean and healthy environment, which includes the right to have the environment protected for the benefit of present and future generations through legislative and other measures." (Government of Kenya, 2010).

Land is a critical resource for the socio-economic and political developments spelt out in Vision 2030. The vision 2030 is the blue print for Kenya’s long term national development. It is anchored on three main pillars:

a) Economic Pillar  
b) Social Pillar  
c) Political Pillar

The Kenya vision 2030 intends to improve Kenya’s capacity for adaptation to global climate change. It states that Kenya aims to be a nation that has a clean, secure and sustainable environment by 2030. It intends to improve pollution and waste management; water and
sanitation delivery through the design and application of economic incentives. Following the current population trends, more than half of our nation’s population is likely to be residing in urban areas by 2030. Therefore the vision for housing and urbanization is an adequately and decently housed nation in a sustainable environment. It is hope that this vision will be achieved through among other things:

a) Legal and administrative reforms in order to meet housing and urbanization demands.
b) Better development and access to affordable housing especially for those living in the slums and the rest of the population.
c) Enhanced access to adequate finance for developers and buyers
d) Pursuit of targeted key reforms to unlock the potential of the housing sector supply potential of the housing sector through private public partnerships.

The legal framework is further provided for in certain sections in various statutes as follows:

2.5.1. The Physical Planning Act of 1996 (Cap 286)

This is an Act of parliament that provides for the preparation and implementation of physical development plans. It aims at making provision for an orderly and progressive development of land in both urban and rural areas and to preserve the amenities on the land. It provides for the preparation and implementation of physical development plans. It is actually the main planning statute currently in force. It empowers each local authority to control the use and development of land and buildings in the interest of proper and orderly development of land within its area.

Section 16 of the Act provides for the preparation of regional and local physical development plans for the purpose of improving the land and providing for proper physical development of such land and securing suitable provision for transportation, public purposes, utilities and services.

Section 23(1) gives power to the Director, by notice in the gazette, to declare an area with unique development potential or problems as a special planning area for the purpose of preparation of a physical development irrespective of whether such an area lies within or outside the area of a local authority.
Section 24(2) states that a local physical development plan may be a long term or short term physical development or for a renewal or redevelopment and for the purpose set out in the third schedule in relation to each type of plan.

Section 30 provides that no person shall carry out development within the area of a local authority without a development permission granted by the local authority. Contravention of this provision makes one guilty of an offence.

Section 31 requires that a developer make a development application to the clerk of the local authority. Such application should be accompanied by the necessary plans and particulars to show the purpose of development, the proposed use and density.

Section 33 requires that a local authority grants or refuse to grant development permission. This is subject to comments made by the director of physical planning on development application referred to him

2.5.1.1. Renewal and Redevelopment Plans

In the Third Schedule part C the Act highlights the purpose of renewal or redevelopment plans to include:

a) Providing a broad land use framework illustrating a co-ordination policy of renewal and guiding both public and private redevelopment activities

b) Providing a road pattern and traffic networks designed to improve vehicular access and parking space and also facilitate segregation of vehicles and pedestrians

c) Providing a basis for determining development application on extensions of leases, extension of users and change of users.

2.5.2. The Building Code of 1967

Provide a means by which a government authority can control construction activity for the purpose of ensuring safety and health in the built environment. In most developing countries the building codes use imported standards and specifications, which cause construction to be costly. To a large extent these regulations can determine the types of building materials, skills and
construction techniques to be used. This can be used to promote the use of indigenous materials, technology and labour leading to cheaper affordable construction (UNCHS, HABITAT, 1985)

Construction and demolition waste is not provided for in most of the Kenyan acts but the Building Code does provide for its handling. Section 239(1) provides that any person who except, either with the prior consent of the council deposits or causes or permits to be deposited any builder’s debris upon any street, shall be guilty of an offence. Section 240(4) states that the owner or contractor shall on completion of the demolition ensure that; all materials and debris not forming part of any remaining structure, or in any way supporting any other structure, are removed from the site and that the site is left in a clean and tidy condition. The gap here is that the law does not provide for disposal of construction and demolition waste, thou section 142(1) says that before a certificate of completion is issued in respect of any building, by the council, the means of refuse disposal shall be completed and the receptacles or containers provided.

The Building Code is indifferent to local experiences, and ignorant of local economic and social conditions. It does not recommend for the use of recycled materials unless with expressed permission from the council. Part III, section 33 of the building by-laws states that second-hand materials are not permitted unless with permission from the council. These by-laws are old and outdated and need to be changed or updated to reflect the introduction of new materials in the market, and the changes in technology.

Buildings and infrastructure are prone to hazards during construction and after occupation, so that it’s desirable to have measures that will eliminate, prevent and control such hazards. Some hazards they seek to prevent or control are: - damage to structure, fire, natural disasters and risk to construction workers.

Building codes are designed to ensure public health and safety. It requires any person intending to develop a building or redevelop to submit a written application to the local authority. The application form should be attached to any plan and document this is done to ensure that the required building complies with the requirements.

Building codes assist greatly in checking developments in local authorities thereby reducing the cases of high urban decay rates in urban areas. Both local and central government should ensure that its efficiency as a tool of planning, land use and as development control measure. Buildings
by laws are designed such that the cover every aspect of the building from inception to demolition. It is therefore an effective tool of controlling development if applied well.

2.5.3. Public Health Act, Cap 242

This is an Act of parliament that makes provision for securing and maintaining health. The provisions of this Act will prevail over those in others Acts which are in conflict or are inconsistent with it, as provided by section 16(2). They are also to be taken in addition to and not in substitution for any other Act, which are not in conflict or in consistent with it. This Act requires the Minister for Local Government to consult with the Minister for Health before approving any by-laws that affect the health and safety of the locals. This shows the importance of health and safety of citizens to the government.

It touches directly or indirectly on issues that may be a threat to the well being of citizens ranging from the handling of food stuffs to the construction and maintenance of buildings. Section 126 deals with construction of buildings, its maintenance and the environment (neighborhood). The Minister of Health has power to confer power and impose duty to magistrates, owners, local authorities, and others in connection with the carrying out or enforcement of the following:

a) Inspection of land, dwellings, buildings and trade premises for securing the keeping of them clean and free from nuisance.

b) Construction of buildings, provision of proper lighting, ventilation and prevention of crowding.

c) Periodical cleansing and treatment of buildings and removal of rubbish from them.

d) Drainage of land, streets or premises and disposal of offensive liquids.

e) Subdivision and layout for land for construction, level of construction, number of dwellings on the land and the direction and width of streets.

f) Inspection by local authorities to ascertain whether buildings are injurious or dangerous to health and to prepare and maintain such records.

Section 126 A (1) requires the local authority to make by laws that the Minister of health may deem fit. The bylaws made may require one to give notices and deposit plans of particular works.
These are made when structural alterations on buildings occur, or where building is not used for originally intended purpose, capacity or where affected by other by laws.

The Act has power to relax requirements on buildings that it thinks are unreasonable. Local authorities can pass or reject plans for proposed works it can remove, alter or cause to remove any works that are in contravention with the provisions of the Act. They are also to take necessary measures to maintain cleanliness and sanitary conditions in all parts of their districts.

2.5.4. National Housing Policy for Kenya Sessional Paper No.3 Of 2004

This National Housing Policy is intended to arrest the deteriorating housing conditions countrywide and to bridge the shortfall in housing stock arising from demand that far surpasses supply, particularly in urban areas. Section 57 of this policy states that lack of proper management and maintenance reduces quality of housing stock and adversely affects the built environment including infrastructural facilities and other services. Communities have not been provided with opportunities to make their own contribution in terms of self-help management and maintenance initiatives; and to develop credible local governance in their neighbourhoods that would be effective tools in solving community problems especially in informal settlements. Moreover there has been a gap in cooperation between the Government and neighbourhood associations. Section 58 highlights that the physical conditions of housing for civil servants and that provided by local authorities have greatly deteriorated over the years due to lack of maintenance.

2.5.7. Environmental Management and Co-ordination Act, (EMCA) 1999

EMCA is an Act of parliament that provides for the establishment of an appropriate legal and institutional framework for the management of the environment and for matters connected therewith and incidental thereto (Government of Kenya, 1999). This is an important legislation for combating climate change in Kenya. Section 87 of this Act prohibits against dangerous handling and disposal of wastes. As encapsulated in section 87(4), every person whose activities generate wastes shall employ measures essential to minimize wastes through practices such as waste treatment, reclamation and recycling. Subsection (5) of the same section observes that any person who contravenes this provision shall be guilty of an offence and liable to imprisonment for a term of not more than two years or to a fine of not more than one million shillings or to
both such imprisonment and fine. In this context, the Act provides for the reduction of solid waste at source level. However, the Act is not clear on how to go about the segregation of such solid waste.

2.6. APPROACHES TO URBAN REDEVELOPMENT

2.6.1. Public-private partnerships

This is a legal relationship existing between two entities contractually associated as joint proposals in a business or any undertaking. It is a contractual agreement formed between public and private sector parties. An essential character of PPP is the cooperation between the government and the industry. The arrangement typically involves the government contracting a private party to renovate, construct, operate, maintain and/or manage a facility, in whole or in part that provider a public service.

Urban management has to a large extent been the exclusive task of the government. However, the emergence of PPPs as a strategy of urban redevelopment has served to highlight issues and demonstrate the complex problem of revitalizing urban areas (Kohnstamm, 1993). The government has taken a decreasing role in the provision of renewal projects and cities have become more dependent on the investment by the private sector.

The increasing budgetary problems faced by national and local authorities have highly contributed to the growth of PPPs. The funds and expertise of private investors are very much needed for the construction of shops, offices and houses. PPPs facilitates the realization of urban plans, thus it is essential to include them in the initial stages of the plan design, where possible. However, there are some sensitive projects that need the control and regulation of the state, or the local government and may be unsuitable for PPP.

In addition, the large scale developments, investment and projects involve large-scale risks since these are long term in nature. For such projects, the central government is usually better placed to initiate, maintain and spread the risks that arise from such projects (Konyimbih, 2000). However local authorities have a major role in the success of PPPs. Mostly, they provide the administrators with expertise and knowledge in the field of physical planning, infrastructural works and municipal services.
The private sector is better placed to provide the necessary market intelligence and conduct feasibility studies that are more comprehensive. It provides funds and professional expertise throughout the life of the project. The contractual arrangement formed transfers responsibility to the private sector and certain risks associated with the project are assumed by the private sector. They act as intermediaries between future users and long-term investors and financiers with respect to the projects to be developed.

Each party in this collaboration has its own set of expectations, from the other party, apart from overall objective, which is achieved by the partnership itself. The public sector expects: Professionalism from the private partner, reduction of risks for the public with respect to sustaining and upgrading total spatial quality, funding towards non-profitable parts of the project and continuity and upholding of all rights and entitlements of the local authority. On the other hand the private sector will expect: Continuity and consistency in conduct and regulations of authorities, clear and rapid decision making, financial contribution to risks in the non-profitable parts of the project and political stability.

PPPs can be effective in addressing urban management problems. The co-operation agreement formed by the two parties creates a favorable climate for urban redevelopment or any other function. For the collaboration to be successful, there are vital ingredients that must be present:

i. Intensive starting discussions are extremely important, as targets are defined at this stage. A basis of trust is imperative. Every project undergoes periods of difficulty due to the changing environment it operates in. These setbacks have to be overcome and new solution found to handle changing circumstances. Risk management makes complex projects economically and socially successful.

ii. Pooling of information and the financial involvement of all parties is mandatory to its success. All must be involved in all stages of the plan design. Division of the plan into small parts reduces arising from duration and scale of the project.

iii. A decision making framework that focuses on the main issues has to be laid down. It must outline how final decisions will be arrived at and who are responsible for this. Cleary defined targets and limiting conditions greatly reduce organizational problems and help find a balance conflicting interests between the two parties. Founding a legal
construction, in which the parties concerned participate and have freedom of action, will help check the conduct of each party.

Fiscal incentives for property investments in urban areas can considerably increase the feasibility of projects. Deductions in profit tax or deductions for value increase due to inflation may be considered.

Each party in this collaboration has its own set of exceptions from the other party apart from the overall objective of the project which is achieved by the partnership itself. The public sector expects professionalism from the private partner; reduction of risks for the public with respect to sustaining and upgrading total spatial quality and continuity and upholding of all rights and entitlements of the local authority. On the other hand, the private sector will expect continuity and consistency in conduct and regulations of authorities; clear and rapid decision making; financial contribution to risks in the non-profitable parts of the project and political stability.

2.6.2. Community Participation

It is vital to engage the community and gauge their views on the future direction of major redevelopment activity. The issues generate by previous process of urban renewal prompted a wide range of attempts to facilitate public engagement. Public engagement process allows a thorough deliberation of various urban renewal issues and can help to negotiate these issues with residents. Public participation in the redevelopment process can be achieved through public engagement into city, district or area panning process. Public participation means citizen’s of the future development is taken into account in planning of renewal programmes.

Careful study, taking into the unique characteristics of the community must be a guide in determining renewal strategy for any city. According to Murayama (2005), there has been a paradigm shift in the practice of urban planning and regeneration from top to down technobureaucratic approach to a bottom up collaborative approach in Japan. In fact, after the revision of City Panning Act to require municipal governments to prepare urban master plans through citizen participation process in 1992, Great Hanshin-Awaji Earthquake in 1995 and the establishment of Law to promote Specified Nonprofit Activities in 1998, activities of non-profit organizations as well as citizen participation to policy-making process have become very active in many cities, accelerating the paradigm shift. There are recent cases of participatory urban
planning and "Machizukuri" (community-based activities for better environment) in Japan and this presents a potential framework of governance for sustainable urban regeneration in the contemporary Japanese context.

Demberel (2010) declares that existing residents may object development proposals, even if it is planned to improve their neighborhood therefore communications with community groups are important and necessary. In their study they advised involvement of community based organizations to avoid problems from residents. Residents are typically very concerned about gentrification, displacement and overloaded community facilities that result from infill development.

Citizen participation is accepted as a vehicle to bring about changes in the way resources are allocated and policy decisions are made in favor of the urban poor. Significant attempts have been made in allowing for increased public participation in governance in Kenya particularly in determining how development resources are utilized. The Local Authority Service Delivery Action Plans (LASDAP) allows citizens to prioritize their development agenda with local authorities. The programme has, among others, assisted in boosting local infrastructure and pro poor resource allocation (Government of Kenya, 2010). When citizens are allowed to participate in urban development processes, they own the process and thus sustainability is more probable.

A development plan based on community goals is important. Reviewed initiatives and experiences by all stakeholders would be useful for the City Council planning to avoid inappropriate development, public anger and disruption of redevelopment projects. It is important to include the participation of all stakeholders, especially the target beneficiaries, in a redevelopment program to enhance affordability and general acceptability of the project.
2.6.3. Urban Development Corporations

These are public agencies, controlled by the state, that are charged with specific objectives, operating in a clearly defined environment. UDCs being single-minded agencies with specific objectives, achieve regeneration quicker than by providing the local authorities with the necessary resources, as they are concerned with much broader responsibilities.

Rapid increase in natural population and urbanization in developing countries coupled with the dwindling financial and administrative resources in the public sector necessitates more efficient urban management practices. Every authority has a role to play in this process. To start the urban redevelopment process, it is first necessary to generate enough local renewal agency may be a specially created regeneration agency, an authority. It is the responsibility of this agency to develop a broad general outline of what urban renewal may be expected to accomplish (Anderson, 1964).

In essence, it is considered that a more effective and sensitive guidance of growth could be exercised by market forces compared with the planned intervention of the state. Therefore, private sector is encouraged to take the lead in urban redevelopment with the public sector acting in facilitating capacity. Public agencies in form of UDCs directly controlled by the state are a more appropriate mechanism to assist in leveraging private sector investment (Parkinson, 1990).

UDCs are semi-autonomous bodies that adopt administrative procedures to facilitate the speedy implementation of projects. They are established by the central government or the county government through legislation and are charged with regeneration of the designated area by bringing land and buildings into effective use, encouraging development of existing new commerce; creating an attractive environment and ensuring that housing and social facilities are available to the working population of the area (Bintley, 1993).

2.7. Conclusion

There is extensive emerging literature on urban redevelopment. These include books, academic journals, industry publications, conference notes, presentations, research by international professional bodies and annual reports. This chapter has reviewed the existing literature on redevelopment that is relevant to the topic of study within the limits of the research objectives. A
review of this wide body of literature suggests that there are challenges to the widespread adoption of urban redevelopment across the world. Key legal and social issues affecting the adoption redevelopment tool of urban renewal in Kenya have also been identified. Some of these issues act as challenges while others actually emphasize on the need to adopt redevelopment.

However, the potential benefits of urban redevelopment are well recognized. In the body of the chapter, an effort has been made to consolidate the findings of earlier researchers on the various benefits of redevelopment. A review of this literature also reveals that it is possible to redevelop the blighted area and incorporate the new aspects green technology to save on energy consumption unlike the previous designs that did not incorporate these aspects of green technology. Causes of urban decay/ deterioration of an urban area have also been revealed in the above piece of literature.

The literature review also reveals that the means for ensuring sustainability has been achieved using redevelopment as tool of urban renewal. The need for public awareness programs has also been recognized. The chapter closes with a discussion on the future of redevelopment in Kenya in light of accelerating urbanization and continued population growth, which has created both a unique opportunity and a significant policy challenge.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

Chapter two has gone a long way in helping the researcher to document the benefits of urban redevelopment and has also highlighted some of the challenges encountered in undertaking this process. Research methodology is a way to systematically solve a research problem. The research process involves making two important decisions: what research questions (problems) you want to find answers to and how to go about finding their answers. The research process begins with formulating of a research problem followed by extensive literature review from which objectives of the study are developed. The researcher then prepares the research design including sample design. Next there is collection and analysis of data. Finally, there is interpretation of the analyzed data followed by making of suitable recommendations.

This chapter describes the methodology of this research project including detailed description of study area, the research strategy and the sampling design. The chapter also includes the data collection instruments, data collection method and data analysis methods.

3.2. The Study Area

Bahati is located in the eastern part of Nairobi within Makadara Division of Nairobi. It lies approximately 2.5 kilometres east of the City Centre. It is bounded Shauri Moyo, Jamhuri and Donholm Estate and Nairobi River. Bahati falls under zone 8 with ground coverage of 50% and plot ratio of 75%

3.2 1. Locational Map

Plate 3.1: Bahati and its surrounding Estate
Source; Google earth (May, 2013)

**Historical Background**

The history of Bahati provides insights into the planning and design concepts that were applied in creating this residential environment. Bahati was built in 1951 specifically to cater for the African native population that was increasing in Nairobi during colonial rule. The scheme was meant for African employees who were earning Ksh.9.50. The first residents who settled in Bahati were squatters relocated from the neighbouring Pumwani area. This was to create room for clearing this squatter's settlement since it was supposedly harbouring political dissidents. The government was not in favour of the mushrooming of squatter settlements in the City. But at the same time did not commit itself to providing adequate housing for the African workers.

Upon declaration of the state of emergence in 1952, by the Colonial Government, residents were forcefully moved and camped in Bahati because of their involvement in political activities. This led to the majority of the residents of Bahati to belong to one ethnic group; the Kikuyu, who
were in the forefront of the freedom struggle. Stringent measures were taken to regulate their entry into and exit out of the Bahati "camp". As a result, Bahati was not seen as a residential area by the residents but as a kind of detention camp. This concentration of one community in this particular residential area could have some implications when considering a framework for the creation of the residential area could have some implications when considering a framework for creation of residential environment for the residents of this area at present.

Bahati public rental housing residential area consists of 1965 single room dwelling units. Housing units are grouped into courtyards formed by unit blocks. The various types of blocks include unit block of two, three, four, six and eight housing units. The courtyard became the central activity area for all the residents because of the shared facilities like toilets, showers and water tap.

3.3. Research Strategy and Design

This research study sought to establish the extent to which urban redevelopment has been adopted in Kenya, and the challenges experienced to widespread adoption of this concept. This information is not well documented as revealed by the literature. The researcher was therefore required to conduct a field study to collect the relevant information by enquiring directly from the relevant stakeholders.

Research strategy simply means a general orientation to the conduct of social research (Bryman, 2008) According to Leedy and Ormrod (2001), the nature of data sought dictates the research method to be used by the researcher. This research adopted the quantitative and qualitative research approach. Quantitative research includes the design, techniques and measures that produce discreet numerical or quantifiable data (Mugenda and Mugenda, 1999). According to Marczyk et al., (2005), quantitative research involves studies that make use of statistical analysis to obtain their findings. Key features include formal and systematic measurement and the use of statistics. In quantitative research, everything that forms the research process - objectives, design, sample and the questions that the researcher plans to ask respondents is predetermined or structured. In qualitative research, by contrast, there is flexibility in all these aspects of the process. The quantitative approach is more appropriate to determine the extent of a problem,
issue or phenomenon, while the qualitative is more appropriate when the researcher wants to explore the nature of a problem (Kumar, 2005).

Research design is a plan, structure, and strategy of investigation so conceived as to obtain answers to research questions or problems (Kerlinger, 1986:- as cited in Kumar, 2005). Selltiz et al., (1962:- as cited in Kumar, 2005), on the other hand, defines research design as “the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.

A case study design was chosen as the research methodology. Kothari (1990) describes a case study research as a method of in depth rather than breath and thus it places more emphasis on the full analysis of a limited number of events and/or conditions and their interrelations. It is essentially an intensive investigation of the particular unit under consideration. The choice of a case study research was necessary because of the in depth nature of the research where the triangulation of data collected was needed. The case study was Bahati Estate in Old Eastlands Area of Nairobi city. It was selected because there are a few redevelopment projects being undertaken in its surroundings and the researcher seeks to investigate the challenges that have been experienced and evaluate whether these challenges discourage developers to be vigilant in adopting redevelopment in these areas where demand for more housing is high.

The researcher will use a survey method to collect data. The survey collected data in respect to the research objectives related to the research title on redevelopment challenges. The survey will take cognizance of the fact that redevelopment involves the interaction of numerous stakeholders; the general public, private sector, residents and regulatory institutions who play a critical role towards sustainable development.

In order to achieve the objectives of the study, physical survey will be conducted to scan the situation on the ground and get the visual impression on the ground. Oral interviews and questionnaires to the residents and proponents or developers will be used to obtain information on redevelopment challenges.

The data will be analyzed qualitatively and quantitatively. The qualitative data will be presented in form of photographs as well as written text. The quantitatively analyzed data will be presented in the forms of tables and figures.
3.4. Sampling methods and procedures

Population

Population refers to the aggregate number of objects or events, not necessarily people, which vary in respect of some variable of interest (Kingâoria, 2004). According to Marczyk (2005), population is all individuals of interest to the researcher. In this research study, the population consists of architects, engineers, contractors, developers and other sustainable building consultants. According to Marczyk (2005), researchers are unable to study the entire population and this necessitates the need for sampling. It is important that the sample be representative of the population from which it was selected, hence the need for a sampling frame from which the researcher can derive a sample size.

Sampling

Sampling is the process of selecting a sub group of a population to represent the entire population (Mugenda, 1999). Kumar (2005) defines sampling as the process of selecting a few (sample) from a bigger group (the sampling population) to become the basis of estimating or predicting the prevalence of an unknown piece of information, situation or an outcome regarding the bigger group. Wangui (2006) argues that deciding on the sample or the segment of the population that is to be selected for investigation is imperative in any large population, if the validity and reliability of the research is to be achieved. In most cases, it is not possible to undertake an enumeration of the whole population due to time or financial constraints.

Besides, sampling remains the best way to allow for more accurate measurement. Each member in the sample is referred to as the subject. Inferences drawn from the data collected from the sample are deemed to be attributable to the whole working population. The researcher used a sample of residents of the study area, the City Council of Nairobi and developers. The sample sizes were derived from the respective sample frames as discussed below.

Sample size

According to Mugenda and Mugenda (1999), there isnât a minimum or maximum sample size. The sample size should enable the research reasonable precise generalization with confidence (Sekaran, 2003). Precision refers to how close the researcherâ estimate is to the true population
characteristics. Confidence denotes how certain the researcher is that his/her estimates will really hold true for the population. In statistics, this requires the use of confidence levels or limits. Confidence limits provide the limits to a confidence interval or zone in which we may be confident, at a given level, that the true population parameters lie (Lucey, 2002). From the table of critical values for t in any statistics book, we know that:

The confidence level chosen for this study is 90%. This means that the estimated error is 10% or 0.05 of the true value. The study area has a population of 1965 legal housing units. According to Mueller (1961), the sample size necessary to reach the selected level of precision in the estimation of a population proportion is computed by the formula:

\[ n = \frac{3.84pq}{e^2} \]

\( n \) = Sample Size

\( p \) = the proportion in the target population estimated to have the characteristics being measured (confidence level).

\( q \) = 1 - \( p \)

\( e \) = acceptable error (\( e = 0.05 \), since the estimated error of this research is 5% of the true value)

The study assumed a population proportion of 0.9 and a maximum error of 10% which resulted into a sample size of 34.

**Sampling frame**

Sapsford and Jupp (1996) define a sampling frame as "whatever is being used to identify the elements in each sampling unit and could be anything at all provided that it exhausts the total population." A sampling frame can also be defined as a listing of all the elements in the population from which the sample is drawn (Sekaran, 2003). Though the population frame may be available, in many cases it may not always be entirely correct or complete.
3.5. Data Collection Instruments

These are the tools by which data is collected. This study utilized several instruments: an observation guideline, oral interviews, questionnaires and secondary data.

The observation guideline was meant to guide the visual survey of the accessible parts of the building. The guideline was used to collect data about the building materials and state of maintenance of the roof, walls, floors, windows and doors.

An interview is a conversation between two people (the interviewer and the interviewee) where questions are asked by the interviewer to obtain information from the interviewee (Wikipedia, 2013). The researcher conducted in-person interviews with a few developers in Bahati to find out how they acquire the land in the place and the challenges they faced in redeveloping their respective plots.

A questionnaire consists of a set of questions presented to a respondent for answers. The respondents read the questions, interpret what is expected and then write down the answers themselves. There are three basic types of questionnaire: closed-ended, open-ended and combination of both. The residents’ questionnaire (appendix A) used a combination of multiple choice and open ended type of questionnaires for the Nairobi City council (appendix B) mostly used open ended questions. The literature review guided the development of the questions according to the objectives of the study. The questions were kept short and simple and were grouped according to the sub-topics.

Secondary data-literature review was the main source of secondary data and its outcome is the subject of the entire chapter two. The data was obtained from books, academic journals, industry publications, conference notes, presentations, research by international professional bodies and annual reports.

3.6. Data Collection Methods

In order to achieve the objectives of the study both primary and secondary data collection methods were employed. In this section the methods used in data collection have been discussed.
First, the researcher carried out a comprehensive literature review to collect secondary data. This involved systematic identification, location and analysis of documents containing information related to the research problem under investigation, more particularly the published and unpublished literature was reviewed to develop a conceptual framework on the challenges of sustainable housing redevelopment. The findings of the literature review aided in the development of the theoretical framework hence the questionnaires that were used to collect primary data.

The researcher then carried out site visits to Bahati Estate to observe the general outlook of the estate and the design of house and the new upcoming flats. In addition the researcher established the building materials used to construction of flats. In addition the researcher made observations of the residents as they went about their daily activities.

Another method used to collect data was the administration of questionnaires to Bahati estate residents and the Nairobi city council.

3.7. Data Analysis Methods

Data collected was analyzed manually using two methods. For qualitative data descriptive method using text was employed while for quantitative data, simple statistical methods which include the computation of frequencies, percentages, tables and graphs was employed. The analysis enabled deeper discussions and interpretation of the environmental, social, governance and economic issues in redevelopment. The data findings are presented in form of text, simple percentages and tables depending on the type under consideration and the intended output.

3.8. Limitations of the Study

First, there were constraints of the time and money that was available to carry out the study. Due to this, a more detailed study was not possible small sample size used was relatively small.

Another limitation was the reluctance of many residents, others were suspicious and some were even hostile when asked to fill in the questionnaires. However, after being assured that the research is for academic purposes only, some agreed but others adamantly refused claiming that the too many researches have conducted out in the area yet they did not benefit from them. Also
due to insecurity of the area, the researcher had to be escorted by a local elder for security reasons.

3.9. Conclusion

The techniques employed to collect data were successful although not all the targeted population responded. However, adequate data for the research was collected as will be shown in the next chapter.
CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION

4.1. Introduction

The data collected was quantitative data thus the researcher used descriptive method to analyze the data. This method usually looks with accuracy of the phenomena at the moment and then describes precisely what the researcher sees, Leedy (1996). Recording of the facts resulting from the field was done in form of tables for data presentation. Frequencies and percentages scores were also used in the data analysis.

The data collected was from the questionnaires administered to the residents and officials from the city council department. The questionnaires were supplemented by interviews held with residents, developers and city council officials.

The following is the general response rate for the questionnaires

Table 4.1 General response rate

<table>
<thead>
<tr>
<th>Questionnaires sent</th>
<th>Questionnaires returned</th>
<th>Response rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>42</td>
<td>76</td>
</tr>
</tbody>
</table>

Source: Research study, March 2013

The table below illustrates the response rate from the specific categories.

Table 4.2 Response rate of the Questionnaires issued

<table>
<thead>
<tr>
<th>Category</th>
<th>Questionnaires sent</th>
<th>Questionnaires returned</th>
<th>Response Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents</td>
<td>45</td>
<td>34</td>
<td>76%</td>
</tr>
<tr>
<td>Officials of the City Council</td>
<td>10</td>
<td>8</td>
<td>80%</td>
</tr>
<tr>
<td>Total</td>
<td>55</td>
<td>42</td>
<td>76%</td>
</tr>
</tbody>
</table>

Source: Research Study, March 2013

Mugenda and Mugenda (1999) propose that while administering questionnaires, a response rate of 50 percent is adequate for analysis and reporting. He further suggests that 60 percent is good
while 70 percent is very good. The researcher therefore considers the response rate very good and sufficient for data analysis, reporting and drawing conclusions.

4.2. Data Presentation and Analysis

Descriptive analysis has been used with most of the data being presented in form of tables showing totals and percentage scores and by way of describing the responses to various questionnaires. The results obtained were then analyzed to give a basis for drawing up conclusions. Data analysis is done for each of the key issues that were raised in different questionnaires issued. These include the following:

4.3. Current conditions of the Estate

4.3.1. Services and infrastructure

Bahati is under the jurisdiction of the City Council of Nairobi. Therefore, it is the responsibility of the City Council to provide the area with adequate services and amenities. Eastlands has experienced exponential growth in population and high urbanization growth rate in the recent past and has put a high level of strain on the infrastructural services in the area where Bahati is not an exception. A field study carried out in the area however revealed that the available infrastructure if well maintained would cater for bigger population in case of redevelopment programme that includes more housing units in effort to curb the problem of housing we have in Eastlands. It was also noted than in case of redevelopment of this area some infrastructural facilities would be outstretched with time. The various infrastructural services have been divided in the following categories:

4.3.1.1. Road Network and Drainage

The main access road is fairly good. The road network in Bahati estate is about 6.1km. This road network provides access to the dwelling units. The field survey revealed the deplorable state of the interior road network including the storm water drainage which is in poor state or repair. This often leaves the roads flooded after a heavy downpour. Culverts are non-existent in the area and little maintenance is carried out on the existing drains

Plate 4.1: State of roads in Bahati
From the field study the researcher found out that most of the feeder roads have numerous extensions on the road reserves.

4.3.1.2. Water and Sanitation

The area is served with piped water from the city council. Housing blocks are organized around a central courtyard. In every courtyard shared facilities provided included toilets, showers and a water tap. Sixty one percent (61%) of the respondents assessed their water supply system as in good condition. About twenty seven (27%) of the respondents said that their water supply system is in good condition while the remaining twelve percent (12%) answered that in a poor condition.

Table 4.3: Residents assessment of the water supply

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>21</td>
<td>61</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>9</td>
<td>27</td>
</tr>
<tr>
<td>Poor</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>100</td>
</tr>
</tbody>
</table>
However residents sited the sanitation of the area as poor and poorly maintained since the toilets are in a very poor state and are communally used. The estate is connected to the water borne system that serves the city.

**Plate 4.2:** State of the toilets and bathrooms

Source: Field survey, (March 2013)
4.3.1.3. **Solid Waste Management**

Solid wastes management is the responsibility of the City Council. A field survey in the area reveals that the council has not been efficient in provision of this vital service since from the responses I got in the field is that the residents have come up with their own private ways of garbage collection.

4.3.1.4. **Electricity**

The estate is well served with electricity although the extensions have illegal connections. This serves a good consideration for future improvements.

4.4. **Social amenities**

The social facilities provided include the following:-

Three health facilities; Bahati Health centre with a maternity section, Bahati clinic and Jerusha well clinic.

Four primary schools and several baby care centres where by the study found that ninety five percent of the pupils came from Bahati. There is one city council community centre which the Area Chief highlighted that it has been overtaken by events. There exist commercial centre situated to the east and west end of the estate. There lacks adequate open recreation areas for sports within Bahati.

4.5. **Willingness to Relocate**

This data was to assess the habitability, affordability and the satisfaction of the residents with regard to the current state of the estate. Ninety seven percent of the residents were not willing to move out to another estate even with salary increases. Oral interviews carried out showed that the unwillingness to move is social because most respondents mentioned that moving to new places is not easy to cope with new people, making new friends and

4.6. **Plot Sizes**

Plot sizes an indicator of intensity and direction of growth and they also give an indication of where the council can move in and stop further subdivision into small uneconomical sizes. They
also have an impact on development planning because smaller plot sizes mean the area is being occupied by more people and therefore more services are demanded.

The city council has specified the minimum area to be covered by each plot in the area. This is represented by the table below:

**Table 4.4 Plots ratios in the area**

<table>
<thead>
<tr>
<th>Zone</th>
<th>Areas covered</th>
<th>GR (%)</th>
<th>PR (%)</th>
<th>Type of Development allowed</th>
<th>Min Area (Ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Bahati</td>
<td>50</td>
<td>75</td>
<td>These largely constitute old City Council housing</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Source: Nairobi City Council, Planning Department

### 4.7. Land Tenure

Land tenure refers to the collection of rights, which influence ownership and management of land. Land tenure types existing in an urban area affect development patterns of an area. Freehold land tenure offers challenges to urban management as compared to leasehold land tenure. This is because freehold land tenure confers upon the land owner wide powers in the "quite enjoyment of property or land rights". However, Section 2 of the Physical Planning Act States that the Act "shall apply to all parts of the country" whether freehold or not. Therefore, all areas are subject to the planning function and freehold land owners should be sensitized on the need for planning control so that they are not in for surprises when intervention occurs and illegal developments are demolished by the government.

### 4.8. The Existing Land Utilization Levels

Land utilization analysis is based on two main indices that are used by local authorities to control development. These are the plot ratio (PR) and the plot coverage (PC). The plot ratio as described above is the ratio of total built up area to the plot area. This ratio determines the number of floors (i.e. the vertical expansion) that can be built. The plot coverage on the other hand is the total plinth area to the plot area expressed as a percentage. This index determines the horizontal expansion.
Bahati has a built up area of 5 hectares (Nairobi City Council records and Researchers Survey, 2001). This gives plot coverage of approx. 12%, which is far below the stipulated maximum plot coverage of up to 50% according to the zoning regulations of the area. The study shows that out of the 34 households studied 27 had extensions. The study also revealed that out of the 27 households 12 have rented out while 15 have not rented out. Those who have rented out charge rents between Kshs.2000- Kshs.2500 per single room.

4.9. Response from developers

The researcher in her field survey came across several newly redeveloped plots along the major access road to Bahati Estate. The developers sited almost similar challenges which include;

1. Long procedures in approval of building plans due to a lot of bureaucracies since there too many authorities involved for instance the planning department, the NEMA authorities,
2. The cost of construction currently is too high – cost of acquiring materials is currently very high
3. High interest rates hence cost of capital is very high
4. Disposal of debris of the demolished building since they are required by the building standards not to reuse the materials

They cited that displacement of tenants was not a major problem since they gave a three months notice as required by the law.

They also cited that there no incentives local authorities and they referred to the council as "enemies of redevelopment"

Photographs of upcoming redeveloped and residential flats;

**Plate 4.3 Redeveloped plot in Bahati**
CHAPTER 5: FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

The researcher sought to establish the challenges of adoption of redevelopment as a tool to increase housing stock in Nairobi Eastlands- Bahati. In the process of identifying these challenges, the researcher first sought to establish the extent to which the government has been involved in redevelopment programmes and the viability of redevelopment in Bahati Estate in Eastlands. The researcher further sought to highlight the benefits of green buildings, and this was successfully done in chapter two and four.

The literature reviewed in chapter two, and the data analyzed and presented in the previous chapter forms the basis of the summary of findings, conclusions and the recommendations presented in this chapter. This is in the light of the study objectives, as well as the research problems and assumptions made by the researcher.

5.2. Findings

The main findings were as follows:

5.2.1. The study has raised a number of issues and area of debate. It has demonstrated that the residential land in Bahati is underutilized. Therefore redevelopment of this area would increase the housing stock by a significant margin if the land is put to effective use.

5.2.2. Most infrastructures in the area is enough to support a bigger population therefore in the occasion of redevelopment, reuse of infrastructural and social facilities within the area, while some are in good state of repair.

5.2.3. There is unwillingness to move by the local residents. This due to fear of displacement and unwillingness to change the social pattern created within the current neighborhood.

5.2.4. The current building standards of durability of construction and the high construction cost will result to high selling or letting prices of the units making them unaffordable to the low income residents.

5.2.5. The redevelopment of urban areas can be very expensive and hard to accomplish, often requiring the involvement of local governments if the depressed areas within a community are to be redeveloped. This is because it has been observed that
redevelopment process is a length process which has several stages involved in which each of them has cost implications.

5.2.6. The role of private developers in acquiring and redeveloping old properties in the area of study is quite limited. This is because residential buildings in this area are owned by the City Council hence transaction costs of redevelopment could be very high. To manage these risks, developers do not normally seek to comprehensively redevelop a large area, but rather small sites.

5.2.7. The City Council has not partnered with other organization such as the private sector and community based organizations that would avail the funds and resources that are needed to implement the redevelopment programme.

5.2.8. Redevelopment projects are normally executed for rental purposes. The study observed that the past performance of the Nairobi City Council in revenue collection is poor. If a loan was pulled to fund a redevelopment project then it would be difficult to repay on time and funds for further redevelopment of similarly dilapidated housing estates will not be realized.

5.3. Hypothesis Testing

This research study had two hypotheses namely;

a) Null Hypothesis (H₀): Urban redevelopment programs are not adopted in Kenya due to challenges involved.

b) Alternative Hypothesis (Hₐ): Urban redevelopment programs are adopted in Kenya regardless of the challenges involved.

From the research findings, the biggest challenge identified is budgetary constraints yet funds are a prerequisite for such social housing programmes. Other predominant challenges are rent payments on new redeveloped houses since the target group in this estate is in informal employment which will make it difficult since defaulting of monthly rent payment will lead to the collapse of the revolving fund meaning that the implementation of other phases which will depend on this fund is not possible. Redevelopment can only take place in phases to avoid economic loss of demolishing an entire estate. Rising of construction costs due to the current
building standards which are too high and the unwillingness of the residents to relocate to other places makes it difficult for relocation stage.

From these survey findings therefore, the researcher accepts the null hypothesis that urban redevelopment programs are not adopted in Kenya due to challenges involved; and rejects the alternative hypothesis that urban redevelopment programs are adopted in Kenya regardless of the challenges involved.

5.4. Conclusions

Redevelopment is a complex process. For a redevelopment programme to be effective a comprehensive approach should be adopted to address all the environmental, socioeconomic, and technical and governance issues involved. The objective of the study was to establish the challenges that hinder effectiveness of redevelopment of blighted and underutilized areas like Bahati Estate by examining the gradual process of redevelopment and alongside establishing government involvement in implementing redevelopment programmes.

It has been observed that poor maintenance of the existing houses by the city council is as a result of poor management of the estate which is also attributed to by the little funds collected being inadequate to execute all the services that the council is bound to offer. Land use is underutilized warranting the need for redevelopment. Densification can be adopted through putting up flats that are within planning regulations and the redevelopment in the long run will result in minimal displacement and provision of better housing and associated infrastructure will be achieved.

The migration patterns showed that that there has been low rate of movement of the residents’ population. The scenario could be attributed to residents’ attachment of great value to this neighborhood. The analysis revealed that the residents are prepared to pay more for extra space in order to reduce crowding in their current housing units. This was found to be more critical to those households with families. The current densities are very low and yet the residents live in overcrowded conditions. There is therefore need to increase the number of units to reduce the overcrowding and also increase the densities since this estate should be a high-density area.
The location of the estate near the Central Business District and industrial area makes it more attractive to majority of the city dwellers. It is also easily accessible since it is well situated a few kilometers off the highway (Jogoo Road) considering the population growth of the city, undoubtedly there is increasing need to utilize this land more effectively.

The researcher faced a number of problems during the study. This is due to the fact that the study was carried out at a time when was a controversy surrounding the redevelopment issue of Eastlands where Bahati is one of the estates lived for the exercise. There was therefore a problem of suspicion both from the Nairobi City Council staff and the residents. However, after discussion with them, they gave out the required information.

Another problem is that the questionnaires took too long to be filled and this delayed the research analysis.

5.5. Recommendations

One solution for a deteriorating neighborhood or slum is to have the government intervene and use the power of eminent domain to initiate urban renewal. However, in reality, urban renewal is not always well received. Given that private redevelopment is relatively limited and slow, the government should intervene to lower the transaction cost. Based on the literature reviewed and findings of the field research, the researcher recommends that the following strategies be adopted by the city council to counteract the challenges of redevelopment and increase the effectiveness of their residential redevelopment programmes:

i. Redevelopment plan proposal

The City Council should come up with a redevelopment plan for Bahati because the study has revealed that the area is underutilized. The study also revealed the proximity of the estate to the city centre, industrial area coupled with all types of infrastructure makes this particular land very prime for redevelopment. In light of the above observations and in order to optimally utilize residential land in the inner city areas of Nairobi, there is also need to come up with appropriate revised indices. These include plot ratio and plot coverage. The revised indices besides giving more land for residential; they will eliminate the problem of illegal extensions and hence avoid the problem of overstretching and overloading the infrastructure.
ii. Involvement of the Target Beneficiaries

Citizen participation is widely acceptable as a vehicle to bring about changes in the way resources are allocated and policy decisions are made. For citizen participation to be transformative, citizen education and empowerment are critical components. The residents target beneficiaries should be involved in most stages of the redevelopment programme such as during the socio-economic survey, through incorporation of their opinions in the designing the houses, by providing unskilled labour during the construction of the houses and by guarding the redevelopment sites. A survey should be conducted to capture the existing data on the following: population, age structure, sources of income, income levels, tenancies/landlord, current house rents and public facilities. The aim of the survey will be to identify the target beneficiaries of the redevelopment scheme. The incorporation of the views of the target beneficiaries during the planning and implementation of residential redevelopment is useful to avoid inappropriate development, public anger and disruption of the projects. During the planning stage the beneficiaries will agree on house types that will permit for flexibility of use.

iii. Better Cost Recovery Methods

The study also revealed that majority of the dwellers is in informal employment. Therefore if the current residents are to be considered after the redevelopment, therefore care should be taken on rent collection since their income varies from time to time unlike ones in formal sector whose income is constant every month.

iv. Redevelopment Legislation

There should be a framework of legal powers and procedures which govern the various steps in the redevelopment process. It provides the context, both of opportunities and constraints, within which public redevelopment authorities can act parliamentary legislation, should be passed to govern the definition of blighted areas, justifying demolition, acquisition of property for redevelopment and allocation of the newly-built units. The legislation should also outline the indication of obligations of each of the stakeholders in the whole process.
v. **Revision of Building Standards**

The design adopted and the materials for constructing houses should take into consideration the affordability to the target group. Building standards and zoning regulations should bear minimum and a wide range of designs should be adopted to accommodate different cultural and social orientation. Building codes should recommend local resources and materials.

vi. **Partnership with Other Organizations**

Residential redevelopment which leads to the mass production of social housing should not be an exclusive domain of the government authorities. The City Council of Nairobi should consider partnering with state corporations, private developers and even civil society organizations in their redevelopment projects.

Public-Private partnerships (PPPs) can be used to solve the budgetary problems faced by government authorities with regard to important housing projects. In such a partnership, the role of the public authority is to provide the expertise and knowledge in the field of physical planning, land provision, housing, infrastructural works and municipal services; provide a channel of communication with the residents; and give subsidies and guarantee for the exploitation of unprofitable projects. On the other hand, the private sector contributes to knowledge of the market, undertaking feasibility studies and market research studies; making available professional expertise and money; and acting as an intermediary between future users and long term investors and financiers with respect to projects to be developed.

In Kenya, many parastatals own large tracts of land and housing estates while civil society organizations are involved in the direct provision of urban services particularly in the informal settlements. The City Council should partner with the main housing authority; the National Housing Corporation and other organizations that will provide expertise advice and management while they provide the funds for the projects.

vii. **Fiscal Incentives**

Fiscal incentives for property investments in urban areas can considerably increase the feasibility of the projects. This instrument has been effectively utilized in the United States of America, the United Kingdom and Ireland. The mechanisms that have been used include early write-offs of
property investments in specific locations appointed but national governments in urban renewal areas; making parts of the profit tax deductible; deduction of value increase due to inflation; creating tax increment districts and availing special bonds for redevelopment.

viii. Heritage Conservation

The City council should take into consideration the architectural or historical significance of an area when planning for redevelopment. The council should consider rehabilitating the old-type houses using the same material design in order to keep the original outlook of the settlement and sense of identity especially among the long-term residents of the place. Conservation has the economic advantage of availing the ‘new accommodation’ in a much shorter time. This, in effect reduces the effect of inflation on building costs. The lives of the residents could then be improved through renovating or upgrading the services of water supply, electricity and sanitation facilities.

5.6. Logistical Framework Matrix

This is the implementation strategy based on the recommendations as shown in the table below;

Table 5.1: Logistical Framework Matrix

<table>
<thead>
<tr>
<th>Activity</th>
<th>Objective</th>
<th>Verifiable results (outcome)</th>
<th>Responsibility</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redevelopment plan proposal</td>
<td>To ensure highest and best use of land</td>
<td>Increased better housing hosing stock</td>
<td>City planning, Residents, Non-governmental organizations</td>
<td>Short term (2 years)</td>
</tr>
<tr>
<td>Involvement of the Target Beneficiaries</td>
<td>To ensure acceptability and affordability of the programme</td>
<td>Satisfaction of residents</td>
<td>The City Council, residents</td>
<td>Short term (1 year)</td>
</tr>
<tr>
<td>Better Cost Recovery</td>
<td>To raise enough money</td>
<td>Ensure no delays in implementation of new</td>
<td>The City Council, residents</td>
<td>6 months</td>
</tr>
<tr>
<td>Methods for implementation of other phases</td>
<td>To guide redevelopment activities</td>
<td>Smooth implementation of redevelopment process</td>
<td>Legislature (parliament)</td>
<td>18 months</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>----------------------------------</td>
<td>-----------------------------------------------</td>
<td>------------------------</td>
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</tr>
<tr>
<td>Revision of building standards</td>
<td>To provide housing according to the socio economic status of the target group</td>
<td>Enhanced affordability of housing</td>
<td>Ministry of Housing</td>
<td>2 years</td>
</tr>
<tr>
<td>Partnership with Other Organizations</td>
<td>Increased availability of subsidized funds</td>
<td>Implementation of redevelopment plan</td>
<td>The City Council, The National Housing Corporation</td>
<td>1-5 years</td>
</tr>
<tr>
<td>Fiscal Incentives</td>
<td>To increase private investment in public redevelopment projects</td>
<td>Enhanced mass redevelopment projects</td>
<td>The Ministry of Finance</td>
<td>1-5 years</td>
</tr>
<tr>
<td>Heritage Conservation</td>
<td>To upgrade the settlement while preserving its original outlook</td>
<td>Maintain cultural identity of a place</td>
<td>The City Council of Nairobi</td>
<td>1 year</td>
</tr>
</tbody>
</table>

Source: Author
5.7. **Areas of Further Study**

1. How redevelopment can be used for smart growth in Kenya.
2. How mixed-income housing projects can be used to solve the problem of housing shortage in Kenya.
3. Impacts of redevelopment on property values of neighboring estates.
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APPENDIX A

QUESTIONNAIRE TO RESIDENTS OF BAHATI ESTATE

This Questionnaire is for research purposes only and we do not intend to identify any individual who makes a return.

1 (a) (i) House Number: 
………………………………………………………………………………………………

(ii) Name of the Interviewee (Optional):
………………………………………………………………………………………………

(iii) Age: 
……………………………………………………

(iv) Marital Status

(v) Educational Level

- Illiterate
- Primary
- Secondary
- University/College

(b) Occupation

- Paid employment
- Informal Employment
- Unemployed

2. Indicate the number of people living in this house as appropriate:

- Below 5 years old
- Between 6-10 years old
- Between 11-15 years old
- Between 16-20 years old
- Between 21-25 years old
- Over 25 years

3. (a) How much rent do you pay?.................................

(b) What proportion is this to your income?

(c) Up to what amount can you afford as rent, if the housing condition can be improved?

4. (a) How did you gain access to this house? (Tick one)

- Inheritance
Allocation by City Council

Staying with relatives
Other means (specify)

(b) For how long have you stayed in this Estate?

(c) Do you have intentions of changing your location in the near future? (Yes/No)

(d) If Yes give reasons

5. (a) What are the special reasons for living in this area?

(b) If your salary increases, will you continue staying in Bahati? Yes/ No

6. (a) Is the extension on the veranda part of your house? Yes/No

(b) If yes, do you rent it out? Yes/No

(c) If rented, how much do you charge as rent?

7. How are the following provided for you?

- Toilets    Private  .    Communal  é
- Water      Private  .    Communal  é
- Bathrooms  Private  .    Communal  é

8. (a) Do your children attend schools within the estate? Yes/ No

(b) If no, give reasons.

9. Comment on the general condition of the estate.

Thank You
APPENDIX B

QUESTIONNAIRE TO THE NAIROBI CITY COUNCIL

This Questionnaire is for research purposes only and we do not intend to identify any individual who makes a return.

1. (a) When was Bahati Estate Built?.................................................................
   (b) Which group of income was it meant for?.................................................
   (c) What is the approximate size of the estate (Ha)?........................................

2. (a) Who owns the land where the estate is built? (Tick one)
   - N.C.C. (Nairobi City Council)
   - Government
   (b) If 2(a) is N.C.C., what are the arrangements? (Tick one).
      - Leasehold (specify the duration)
      - Freehold
      If leasehold, how much is the annual ground rent?........................................

3. Fill in the table below to show the categories of dwellings in the estates, the number of units in each category and the rent paid in each category.

<table>
<thead>
<tr>
<th>Category Description</th>
<th>No. of units</th>
<th>Rent paid</th>
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<tbody>
<tr>
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</tbody>
</table>


4. In your opinion, what is the condition of the estate in relation to the facilities named below. (Write either adequate, not provided, fairly adequate, poor or any other comment)

   i. Size of rooms
   ii. Solid waste disposal methods
   iii. Recreational and open spaces
   iv. Health facilities
   v. Water supply
   vi. Educational facilities

5. (a) What is the current zoning regulations for Bahati Estate?

   (b) In relation to 5(a) above, what are the requirements for the following:

   i. Plot ratios
   ii. Plot coverages
   iii. Minimum distance to plot boundaries

6. (a) Are you aware of the existence of the extensions on the verandas of the houses?

   ...........................................................

   (b) Do they have approval from the councils? (Yes/ No)

   é é é é é é é é é é é é é é é é é é é é é é é é é é 

   (c) What is your reaction to the upcoming of the extensions?

   (d) What do you attribute to the mushrooming of the extensions?

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   é é é é é é é é é é é é é é é é é é é é é é é é é é é é é é é é

7. (a) Is the estate developed to its highest potential? (Yes/No)

   (b) Given free choice, what according to you would be the best land use for the land occupied by the estate?
8. (a) What is the rent collection rate by the Council?

(b) How does the Council use the income to manage the estate? (e.g. in terms of repairs and maintenance)

9. Is there proposed redevelopment plan for Bahati Estate? (Yes/No)

10. What would be the challenges of implementing a redevelopment plan in the area in your own view?

I.  
II.  
III.  
IV.  
V.  

Thank You
APPENDIX C

CHECKLIST

This is to guide the researcher in the observation of the case study in order to establish the existing condition of the estate.

1. HOUSING EVALUATION
   a) Type of the house
   b) Building materials and finishes used
      - Floor
      - Wall
      - Roof
      - Doors
      - Windows
   c) Comment on the general physical condition of the houses

2. WATER SUPPLY
   Nature of water supply

3. WASTE DISPOSAL
   Method used for
      - Solid waste disposal
      - Liquid waste disposal

4. OPEN SPACES
   Development of the open spaces and facilities and facilities provided on the open spaces
   Comment on the condition of open spaces

5. HEALTH FACILITIES
   Number of clinics in the estate
   Equipment of the clinics

6. ROADS AND TRANSPORT
   Number of roads
   Conditions of the roads
Parking spaces provision

7. **SCHOOL**
   Number of nursery schools
   Number of pupils
   Number of primary schools
   Number of pupils
   Any other education facility

8. **OTHER FACILITIES AND SERVICES**
   Social hall
   Post office
   Police station
   Any other