
Mwangi Alfred Magu
B.A (Hons) Land Economics
PGD- Development Studies
B63/81324/2012

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF ARTS IN PLANNING
UNIVERSITY OF NAIROBI

OCTOBER, 2014.
DECLARATION

This is my original work and has not been presented for award of a degree in any other university

Signed...........................................Date..................................................

Mwangi Alfred Magu
(Candidate)

This thesis has been submitted for examination with my approval as the principal university supervisor.

Signed...........................................Date..................................................

Maina James Murimi
(Supervisor)
DEDICATION

I dedicate this document to my wife Margaret Wanjiku for her love and patience.

Thanks to the entire family for their support and encouragement.
ACKNOWLEDGEMENT

I acknowledge my dedicated supervisor (Mr. James Maina Murimi) for his insightful guidance. This was a long journey but he constantly guided me tirelessly. His contribution in this study ensured that the purpose of the exercise was achieved.

Gratitude is also extended to Dr. Fridah Mugo, Dr. Musyimi Mbathi and other members of staff who were always there to provide professional, academic and moral support. Great gratitude also goes to the entire staff of the department of Urban and Regional Planning for their support in one way or another in my studies.

Last but not least, I extend my thanks to the people who gave me information for this study particularly property owners, property managers and valuers interviewed who manage properties in zone 3, 4 and 5. Without them, this work would not have accomplished its purpose. The Research Assistants who worked tirelessly to collect field data led by Fred, Evans and William did a wonderful job to ensure this work was completed on time.

I cannot forget to acknowledge my family and friends who in one way or another contributed to the success of this manuscript.
ABSTRACT

The increase in urbanization has seen the demand for land continue to rise. This has resulted in a shift from the previous system of property ownership defined by area (2D cadastre) to encompass the vertical aspect (3D Cadastre). The resultant densification enhances the need to provide title certification to small units owned by individuals above and below the surface.

This study set out to compare the influence of the Companies Act of 1978 and the Sectional Properties Act of 1987 of the Laws of Kenya and their impacts on development control in the Nairobi City Planning Zones 3, 4 and 5.

The objectives of the study were to examine the main drivers of the increased high rise developments in a previously low density residential area. Reasons for the preference by developers to either of the two Acts under scrutiny were also examined. The study also sought to evaluate the infrastructural, social and environmental impacts following the intensive vertical developments and to establish some of the factors affecting implementation of the existing development planning regulations in the study.

The research methodology used included collection of data through interviews with property owners, developers, property managers and key informants from county government of Nairobi and office of the director of physical planning as well as literature review from secondary sources. Data collected from property owners, developers and property managers was analyzed using Statistical Package for Social Sciences (SPSS) and that from key informants incorporated. It was then presented using frequency tables, pie charts, bar graphs, photographs and computer graphics.

The study found out that following the enactment of the Sectional Properties Act (1987) and the shift in zoning policy in planning zones 3, 4 and 5, there has been a dramatic increase in densification and multiple storey high rise developments. The developments were not matched with the necessary service infrastructure evidenced by frequent electric power outages, water shortages, burst sewers, polluted water courses and increased crime among others. Interviewed officers from the county government of Nairobi and office of the director of physical planning concurred with the above findings concerning the
mismatch between the increased developmental activities in the three zones and the necessary service infrastructure.

The main drivers of the overload include poor enforcement machinery of the concerned authorities, weak enforcement of legal and institutional frameworks, political interference, corruption and lack of political will among others.

Recommendations to address such weaknesses include strengthening public and community participation in planning, transparent allocation and use of public land, environmental protection, formation of Residents’ Associations to enhance community policing and increased funding in service infrastructure sector among others.
Table of Contents

TITLE PAGE ........................................................................................................................................ i
DECLARATION ...................................................................................................................................... ii
DEDICATION ....................................................................................................................................... iii
ACKNOWLEDGEMENT ...................................................................................................................... iv
ABSTRACT ........................................................................................................................................ v
Table of Contents ........................................................................................................................... vii
List of Tables ....................................................................................................................................... xiv
List of Figures ....................................................................................................................................... xiv
List of Plates ......................................................................................................................................... xiv
List of Maps ......................................................................................................................................... xv
Abbreviations and Acronyms ........................................................................................................... xvi

CHAPTER ONE ................................................................................................................................. 1
INTRODUCTION ................................................................................................................................. 1

1.1 Background of the Research Problem ......................................................................................... 1
  1.1.1 Introduction ............................................................................................................................. 1
  1.1.2 Urbanization and its Effects on Infrastructure ........................................................................ 1
  1.1.3 Development Control in Nairobi .......................................................................................... 2
  1.1.4 Registration of Strata Properties in Kenya ............................................................................ 3

1.2 The Problem Statement ............................................................................................................... 5

1.3 Purpose of the Study .................................................................................................................... 6

1.4 Scope of the Study ........................................................................................................................ 6
1.5 Research Questions ................................................................. 7
1.6 Research Objectives .................................................................. 7
  1.6.1 General objective .................................................................. 7
  1.6.2 Specific objectives ................................................................ 7
1.7 Study Hypotheses ...................................................................... 8
1.8 Justification and Significance of the Study .................................... 8
1.9 Assumptions of the Study ........................................................... 9
1.10 Definition of Terms and Variables ........................................... 10

CHAPTER TWO .................................................................................... 13

LITERATURE REVIEW ........................................................................... 13
  Overview ....................................................................................... 13
  2.1 The Concept of Urbanization .................................................... 13
  2.2 The Concept of Development .................................................. 15
    2.2.1 Development Control ....................................................... 16
    2.2.2 Principles of Development Control .................................... 19
    2.2.3 Development and its Relationship with Development Control .................................................................................. 19
    2.2.4 Analysis of the Degree of Compliance with Development Control Regulations in Urban Areas .................................................................................. 20
    2.2.5 Implications of Poor Development Control and Increased Urban Populations on Infrastructure and Service Provision in Urban Areas .................................................................................. 23
  2.3 The Change from 2D to 3D Cadastre ......................................... 25
    2.3.1 Legal Aspect of Cadastral Objects ..................................... 27
2.4 History of Public Regulation of Private Land, Development Control and Land Tenure in Kenya

2.5 Justification for Public Regulation of Private Land in Kenya

2.5.1 Scarce Nature of Land

2.5.2 Ethical Considerations

2.5.3 Environmental Considerations

2.5.4 Land Planning Needs

2.5.5 Public Responsibility for the Promotion of the Public Good

2.6 Institutional Framework

2.6.1 Policy Framework

2.6.2 Legal Framework

2.6.3 Urban Areas and Cities Management Agencies

2.7 Theoretical and Conceptual Frameworks

2.7.1 Theory of Ownership

2.7.2 Conceptual Framework

2.8 Practical Implications of the Sectional Properties Act and the Companies Act on Development

2.8.1 Economic Implications

2.8.2 Development Challenges in Zones 3, 4 and 5

2.8.3 Incongruous Developments Juxtaposing

2.8.4 Infrastructure Development
CHAPTER THREE ..................................................................................67

RESEARCH METHODOLOGY ..................................................................67

3.1 Introduction ......................................................................................67
3.2 Research Design ..............................................................................67
3.3 Target Population ............................................................................67
3.4 Sample Size and Sampling Method ..................................................67
3.5 Data Collection Methods and Instruments .......................................69
  3.5.1 Direct Observation ..................................................................69
  3.5.2 Oral Interviews and Open Discussions ..................................69
3.6 Data Cleaning and Editing Procedures ..........................................70
3.7 Data Inputting ..................................................................................70
3.8 Data Analysis ..................................................................................70
3.9 Data Presentation ............................................................................70
3.10 Organisation of the Thesis .............................................................71
3.11 Ethical Implications .......................................................................71
  3.11.1 Voluntary participation ............................................................71
  3.11.2 Safety of participants ...............................................................72
  3.11.3 Anonymity and confidentiality ................................................72
  3.11.4 Purpose of the survey and sponsorship ..................................72
  3.11.5 Analysis and Reporting ..........................................................71
  3.11.6 Study Limitations ..................................................................72
3.12 Data Needs Matrix .........................................................................74
3.13 Background of the Study Area........................................................................75

3.13.1 Location and Geography ...........................................................................75

3.13.2 Climate .........................................................................................................76

3.13.3 Population Dynamics ..................................................................................77

3.13.4 Dynamics of the City since the Colonial Period .............................................77

3.13.5 Increasing Motorization Rates ......................................................................80

3.13.6 Current Settlements .....................................................................................80

CHAPTER FOUR ......................................................................................................82

STUDY FINDINGS ..................................................................................................82

Overview ................................................................................................................82

4.1 Respondents Background ..................................................................................83

4.2 Development Trends within Zones 3, 4 and 5 ....................................................84

4.3 The Change from 2D to 3D Cadastre ................................................................85

4.4 Property Developments Prior to and After the Policy Review .........................87

4.5 Property Ownership ..........................................................................................88

4.6 Preference of Sectional Properties Act to Companies Act .................................92

4.7 Preference of Companies Act to Sectional Properties Act ................................95

4.8 The Impacts of High Density Developments in Zones 3, 4 and 5 ......................97

4.8.1 Infrastructural Impacts .................................................................................97

4.8.2 Traffic Congestion .........................................................................................99

4.8.3 Power Outages .............................................................................................99

4.8.4 Bursting Sewerage Systems .........................................................................99
4.8.5 Water shortages........................................................................................................99
4.9 Social and Environmental Impacts ............................................................................102
4.10 Comparison of the Study Findings across the Planning Zones..............................105
  4.10.1 Types of Developments across Nairobi Planning Zones 3, 4, 5 .........................105
  4.10.2 Property Transformations as a Result of Policy Change towards Densification .........................................................................................................................106
  4.10.3 Infrastructural Challenges associated with High Density Developments....110
  4.10.4 Social and Environmental Impacts of High Density Developments ..........111
4.11 Factors Contributing to the Poor Implementation of Development Planning
  Regulations ..................................................................................................................113

CHAPTER FIVE ..............................................................................................................114

CONCLUSION AND RECOMMENDATIONS .................................................................114

Overview ......................................................................................................................114

5.1 Purpose of the Study, Data Collection Methods and Analysis Procedures ..........114
5.2 Main Findings of the Study......................................................................................115
  5.2.1 Development Trends in Zones 3, 4 and 5 .............................................................115
  5.2.2 The Shift towards High Density Developments As Result of the Policy Change ..............................................................................................................................115
  5.2.3 Preference of Sectional Properties Act Over Companies Act ......................116
  5.2.4 Preference of Companies Act over Sectional Properties Act ....................116
5.3 Conclusion ..............................................................................................................120
5.4 Recommendations .................................................................................................121
5.4.1 Measures to Mitigate Upon the Development Challenges Identified by the Study

REFERENCES

APPENDICES

Appendix 1: Introduction Letter
Appendix 3; Key Informant Interview Guide
Appendix 4; Research Budget
Appendix 5; Research Schedule
Appendix 6: Social impacts experienced across the three zones
Appendix 7: environmental impacts experienced across the three zones
Appendix 8: property transformation in Nairobi zone 3, 4 and 5
Appendix 9: Shifts towards High Density Developments
Appendix 10: Reasons for Preference of Sectional Properties Act to Companies
Appendix 11: Reasons for Preference of Companies Act to Sectional Properties Act
Appendix 12: Summary of Infrastructural Challenges across the Three Zones
Appendix 13: Social and Environmental Impacts of Development in the Study Area
Appendix 14: Past Development Policy for Zones 3, 4 And 5
Appendix 15: The Current Development Policy for Zones 3, 4 And 5
Appendix 16: Climate Data for Nairobi
List of Tables

Table 1: Major Research Objectives, Study Findings and Recommendations Matrix ..........119

List of Figures

Figure 1: Current Procedures of Development Control Process in Kenya .........................34
Figure 2: Management and Governance of Cities and Urban Areas (the Actors and Agents) .................................................................................................................. 60
Figure 3: Conceptual Framework ...................................................................................... 63
Figure 4: Average Monthly Rainfall and the Mean Daily Temperatures for Nairobi City .... 76
Figure 5: Respondents’ Income in Kenya shillings ............................................................. 83
Figure 6: Shift towards High Density Developments .......................................................... 85
Figure 7: Property Development Trends in Study Area ...................................................... 88
Figure 8: Property Ownership Types ................................................................................ 89
Figure 9: Legislation under Which Properties are owned .................................................. 90
Figure 10: Reasons for the Preference of Sectional Properties Act to Companies Act ........ 94
Figure 11: Reasons for Preference of Companies Act to Sectional Properties Act ......... 96
Figure 12: Frequency of Water Shortages ....................................................................... 100
Figure 13: Summary of the Infrastructural Changes in the three Zones ......................... 100
Figure 14: Social and Environmental Impacts of Developments in the Study Area ........ 104
Figure 15: Property transformations in Zones 3, 4 and 5 ................................................... 107
Figure 16: Comparison of Property Transformations Facilitation in the Three Zones ....... 109
Figure 17: Frequency of Infrastructural Challenges across the Three Zones .................. 111
Figure 18: Social and Environmental Impacts Experienced Across the Zones ............... 112

List of Plates

Plate 1: Illustration of 2D and 3D cadastre ....................................................................... 26
Plate 2: Delta Plaza, One of the High Density Developments in the Study Area ............. 86
Plate 3: some of the upcoming Developments in the study area .................................... 86
Plate 4: High Rise Commercial Typologies in the Study Area ....................................... 87
Plate 5: Sectional Units and Common Areas of a Property ............................................. 93
Plate 6: Some of the Infrastructural Challenges within the Study Area ......................... 101
Plate 7: Possible Evidence of Water Pollution in Study Area ........................................ 101
# List of Maps

Map 1: Map of study Area in National, Region and Local Context .................................................. 75  
Map 2: Map of Zone 3 of the Study Area .................................................................................. 106  
Map 3: Map of Zone 4 of the Study Area .................................................................................. 108  
Map 4: Map of Zone 5 of the study Area .................................................................................. 110
Abbreviations and Acronyms

2D....................Two-dimension
3D....................Three-dimension
FIG..................International Federation of Surveyors
SPSS..................Statistical Package for Social Sciences
KIP..................Kenya institute of planners
KNBS...............Kenya National Bureau of Statistics
GOK..................Government of Kenya
RTPC...............Rural Trade and Production Centre
EMCA...............Environmental Management and Coordination Act
EIA...............Environmental Impact Assessment
NEMA...............National Environmental Management Authority
GDP...............Gross Domestic Product
GWC...............Globalization World Cities
AAK...............Architectural Association of Kenya
CHAPTER ONE

INTRODUCTION

1.1 Background of the Research Problem

1.1.1 Introduction

Urbanisation has caused populations to centralise around urban centres. With this comes a population explosion in such areas and thus the need for more space. Traditionally, land registration limited ownership to 2D cadastral applications that defined land ownership by area only (Nasruddin & Rahman, 2006). However, the increased urban population in a majority of urban centres has necessitated the need to even occupy and own the vertical space; hence the need to define property ownership by the volume owned. This means that in addition to defining property units by their areas, there arises additional need to also define such properties by their vertical occupation, hence a 3D system of property ownership definition. These 3D models present a more realistic and detailed urban landscape.

According to the International Federation of Surveyors (FIG), this model enables cadastre use to be utilized efficiently together with other important spatial information including underground facilities, 3D city models and building information among others (Stoter et al, 2004). This emergent model of defining property ownership outlines the need for appropriate legislation to facilitate the legalisation of ownership of such property units. To justify this approach, it would be important to consider how urbanisation has affected infrastructure in urban centres.

1.1.2 Urbanization and its Effects on Infrastructure

Across the globe, urban areas have been experiencing massive expansion due to the numerical population growth (Dociu & Dunarintu, 2012). This substantial expansion has been informed by population migration to these urban areas so as to identify feature options that would raise the welfare of the involved parties and improve their lifestyles. Aluko (2010) particularly observes that whereas developed countries realised urbanisation from industrialisation, developing nations experience urbanisation due to the push and pull factors from rural areas and to urban areas respectively. Urbanisation in these countries therefore
results from the gap between the opportunities and demand for employment; and the continuous unavailability of urban services.

In the process of urbanisation, various constraints result amidst efforts to offer citizens the desired lifestyles. According to Aluko, developing countries bear the greatest burden, facing the problem of environmental degradation, deteriorating infrastructure, neighbourhood collapse and inner city decay (Aluko, 2010). From this researcher’s observation, the current scale of development of cities and its effect makes the future sustainability of cities elusive. The researcher gives the example of Lagos, a West African city, where the government has failed to expand energy resources, sanitation, water supply, social amenities, security, transportation and aesthetics due to an unforeseen increase in the urban population. This has resulted in unplanned poor settlements that have led to a rise in ill-health, homelessness, urban poverty, crime and pollution (Aluko, 2010).

According to Dociu and Dunarintu (2012), 60% of the world population would live in urban areas up to 2030 and 180,000 people move into urban areas daily. This adds to the 3.3 billion people already in such areas, prompting the need to put in place measures on strategic and sustainable planning. Urbanisation greatly determines the degree of land use and infrastructure provision. Aluko (2010) and Couch (1990) propose an increase in the capacity of developing countries to manage their urban centres so as to sustain the aesthetics and capacity of these areas; adequately meeting the minimum requirement for a desirable livelihood for its occupants. Such proposals allude to the need for development control mechanisms in such areas.

1.1.3 Development Control in Nairobi

Kenya has a surface area of about 582,646 square kilometres with a population about 40 million (KNBS, 2013). The increased rural-urban migration has seen the population in Kenyan urban areas grow at high rates of 7% - 8%, which according to Mwaura (2006) is the highest in the region. The capital city, Nairobi holds over 36% of this urban population, stretching its housing capabilities (Mwaura, 2006). According to him, Nairobi has not had any substantial planning review since the 1973 Metropolitan Growth Strategy whose expiration came in 2000. This therefore necessitates an overhaul of development plans of the city.
The high population growth has exerted immense pressure on residential neighborhoods with low densities. Zones 3, 4 and 5 are considered as prime and low-density neighborhoods inhabited by high-income earners. According to Mwenda (2001), they have particularly experienced undue development pressure. This follows the demand for commercial, offices and residential developments. This called for consultations with the stakeholders by a joint task force from zones 3, 4 and 5 that saw the introduction of a review exercise that saw the zones development control regulations changed to accommodate the increased property demand in Nairobi City.

These developments call for an upgrade of various facilities provided by the relevant authorities. The relevant infrastructure including sewerage systems and water supply have to be redesigned. The increased number of motorists, cyclists and pedestrians implies that there would be need to redesign road infrastructure to accommodate all these (Mwaura, 2010). With 80% of the residents resisting the intended transformation, preferring to maintain the status quo, appropriate consultations must be carried out to ensure harmonized solutions to the situation (Mwaura, 2006). Such consultations will not only seek to explain the need for a change in development control regulations but also explain to the residents the benefits that they could tap into from the new property registration guidelines.

1.1.4 Registration of Strata Properties in Kenya

Before the year 1991, developers wishing to sell flats or maisonettes where subdivision survey was impractical had to make an application for the building’s Architect’s plan registration with the units being serialised as provided for in the Registration of Documents Act (Wayumba, 2013). Nyadimo (1992) cites various challenges with this practice including the inexistence of any law that would distinguish individual from common property. A management company had to be incorporated under the Companies Act to administer common services, though this was not mandatory, hence an unsuitable entity to manage such common services. Additionally, the Lands Registry faced the problem of issuing multiple valid titles to a single piece of land.

The Sectional Properties Act of 1987 served to solve the challenges brought about by the need to own sections of high-rise buildings and have the security of tenure. This act provides for “subdivision of buildings into units being owned by individual proprietors and common property to be owned by the proprietors of the units as tenants-in-common, and to provide for
the use and management of the units and common property and for connected purposes” (Government of Kenya, 1987). Despite being assented to by the president in 1987, its implementation took off in 1991 after the gazetting of the necessary regulations.

The focus of the Sectional Properties Act of 1987 was to address the shortcomings cited in the previous procedures (Wayumba, 2013).

The act provides for Sectional Plans to support title for parts of buildings, including content, form and preparation of the plan and the necessary certificates for the authentication of their technical correctness and approvals. It allowed for Sectional Plans of a building or its parts to be registered under the Registered Land Act, given that the building has been erected on a leasehold or freehold title from the government with an expiry of not less than 45 years (Wayumba, 2013). It follows that after the parcel of land on which a Sectional Plan has been registered it will have its title cancelled so as to deter title multiplicity.

Thereafter, no transactions would be registered against such a title. The rights and duties of sectional property proprietors and other parties holding any interests would be governed by a substantive law (Wayumba, 2013). When registering a Sectional Property, a corporation would also be constituted, consisting of the owners of the units and persons who would be entitled to the parcel on termination of such a sectional property. This corporation would have a Board of Management tasked with appointing an Institutional Manager who manages the common property including payments of insurance premiums and land rates and rents on the building (Wayumba, 2013). The procedure for surveying sectional property encompasses both the general and fixed boundary survey requirements. Necessary approval from relevant authorities has to be sought before surveying and registration (Kohls, 2013). A plan for this would thus entail a plan of the site and building location showing the parcel’s perimeter and where any building erected on the parcel are located. It will also include a plan of the floor showing the boundaries of each unit as relates to the Section Plan.

Unlike the ordinary freehold and leasehold tenures, a Sectional Property dictates that a unit’s holder negotiate the title of his own unit and also shares the Sectional Property’s cost of operation with the other owners (Wayumba, 2013). The major requirement for the registration of a Sectional Plan is the requirement for at least two units in it.
1.2 The Problem Statement

The increased population facing urban areas in Kenya has made space for the rising population become scarce. Housing has become inadequate with a majority of city dwellers forced to live in dilapidated conditions. This has been enhanced by the lack of land on which to set up housing units.

Therefore, more urban dwellers seek to occupy the space above and below the surface to meet the demand for space. This means that people seek to occupy the previously unutilized vertical spaces above and below the ground level.

The previous legislation on property ownership made it impractical for owners to acquire titles for sections of property they owned. Such was only possible through the incorporation of a company where the said co-owners become directors and are thus entitled to appropriate number of shares as dictated by the Companies Act. This deterred a majority of potential investors from acquiring properties hence slowing down development in Nairobi City and the country at large. However, the legislation of the Sectional Properties Act 1987 has made it possible to own parts of buildings and acquire relevant legal documentation on the same. This has positively impacted on ownership of property in Kenya and development control legislations. It has opened up property ownership to many potential investors who can now legally acquire titles of ownership for various units within a property. As such, this research seeks to evaluate the impact of this legislation on property ownership in zones 3, 4 and 5 in Nairobi, being regions that had been previously prohibited from construction of high-rise building by the city’s planning authorities (refer to appendix 14).

These zones now face a rapid increase in high-rise developments due to the demand for housing and commercial properties that saw the planning guidelines for the zones changed to accommodate high-rise buildings. The Sectional Properties Act further propagated developments in the region because different people could come together and invest in a property where each gets to legally own a section of the same property. The major conflict, however, remains in the shared infrastructure such as parking, water and sewerage systems.

These cannot be owned by individuals and have to be shared among the various owners. Additionally, the change in development control regulations in the region implies that service provision in the zones has to be changed so as to accommodate the increased population.
Services such as water supply, sewerage systems and road infrastructure have to be redesigned so as to meet the emergent need. Minimal research has been conducted to determine property ownership changes and challenges brought about by these changes in legislation in the region, hence the importance of this study.

1.3 Purpose of the Study
The purpose of this study is to compare how development in zones 3, 4 and 5 of Nairobi City has been affected by the Companies Act and later by the Sectional Properties Act. It further evaluates changes in infrastructural development with the changes in property ownership legislation. In essence, the study entails field observation of developmental changes in Nairobi’s zones 3, 4 and 5 and engagement of development stakeholders in the region to determine changes that have been brought about by the legislation of the Sectional Properties Act.

1.4 Scope of the Study
This research cover zones 3, 4 and 5 of Nairobi City which comprise the following estates: Zone 3 – Parklands, City Park Estate and Westlands (including Westlands CBD and Museum Hill.) Zone 4 - Lower Spring Valley, Riverside Drive, Kileleshwa, Kilimani, Thompson and Woodley/Ngong Road. Zone 5 – Upper Spring Valley, Kyuna, Loresho and Lavington/Bernard Estate (Mwaura, 2006) This covers about 40,000 hectares in total.

According to Nairobi City’s director of planning, there has been a rapid increase in population in the city, faster than the development zones have been reviewed. Even so, the former City Council of Nairobi reviewed its building restrictions to open up the city estates falling within zones 3, 4 and 5 (refer to appendix 15) to allow for construction of commercial centres, high-rise apartments and single dwellings (Michira, 2012). This, according to the director, would embrace mixed land use and decentralise activities from the CBD. In these zones, Westlands, Upper Hill and Kilimani have been the most dominant offshoots of the exodus of major insurance companies and banks from the CBD (Michira, 2012).
This recent change in building restrictions makes zones 3, 4 and 5 a suitable coverage for this study to determine how the Companies Act and Sectional Properties Act have influenced development control in Kenya. Table 1.2 indicates what would be the new development policy.

1.5 Research Questions
To compare how the Companies Act and Sectional Properties Act have influenced development control in Nairobi City’s zones 3, 4 and 5, this study will seek to answer the following questions:

i. What are the main drivers of increased high rise development?

ii. What is the trend of development in zones 3, 4 and 5 under the Companies Act and later under the Sectional Properties Act?

iii. What influences player’s preference for either the Companies Act or the Sectional Properties Act in zones 3, 4 and 5?

iv. What are the infrastructural, social and environmental impacts of developments in zones 3, 4 and 5 under the Companies Act and the Sectional Properties Act?

v. What factors affect implementation and enforcement of existing development planning regulations in the three zones?

1.6 Research Objectives

1.6.1 General objective
To compare the influence of the Companies Act and Sectional Properties Act on development control in Nairobi City’s planning zones 3, 4 and 5.

1.6.2 Specific objectives
This study specifically aims:

i. To examine the main drivers of the increased high rise developments in the study area.

ii. To profile the kind of property development that has been popular in zones 3, 4 and 5 under the Companies Act and under the Sectional Properties Act.

iii. To determine the reasons for preference to either the Companies Act or the Sectional Properties Act for property owners in zones 3, 4 and 5.
iv. To evaluate the infrastructural, social and environmental impacts of the developments in zones 3, 4 and 5 under the Companies Act and under the Sectional Properties Act.

v. To find out what factors contribute to the poor implementation and enforcement of existing development planning regulations in the three zones.

1.7 Study Hypotheses

1. There is a relationship between the change from 2D to 3D cadastre in Nairobi’s planning zones 3, 4 and 5 with the enactment of the Sectional Properties Act and the Companies Act.

   $H_0$: There is no difference in the 2D and 3D cadastre in Nairobi’s planning zones 3, 4 and 5 with the enactment of the Sectional Properties Act and the Companies Act.

   $H_1$: There is a change from 2D to 3D cadastre in Nairobi’s planning zones 3, 4 and 5 with the enactment of the Sectional Properties Act and the Companies Act.

2. There is a relationship between the changes from 2D to 3D cadastre with the infrastructural impacts experienced in the three zones.

   $H_0$: There is no level of significance in the change from 2D to 3D cadastre with the infrastructural impacts experienced in the three zones.

   $H_1$: There is a level of significance in the change from 2D to 3D cadastre with the infrastructural impacts experienced in the three zones.

3. The change from 2D to 3D cadastre in zones 3, 4 and 5 has resulted to social and environmental impacts on the three zones.

   $H_0$: There is no level of significance in the change from 2D to 3D cadastre in zones 3, 4 and 5 with the social and environmental impacts experienced in the three zones.

   $H_1$: There is a level of significance in the change from 2D to 3D cadastre in zones 3, 4 and 5 with the social and environmental impacts experienced in the three zones.

1.8 Justification and Significance of the Study

Zones 3, 4 and 5 in Nairobi City were initially meant for development of structures that did not exceed four storeys. However, just like other cities across the world, Nairobi has continuously transformed with the rapid increase in its population placing much development pressure. As noted by Mwaura (2006), this pressure greatly impacts on the low-density residential neighbourhoods, under which zones 3, 4 and 5 fall. This therefore necessitated the need to revise the development control regulations for the zones to allow for construction of high-rise buildings to accommodate the increasing population.
Before 1991, properties could have multiple owners under the regulation of the Companies Act. Therefore, ownership was expressed in shares, giving rise to conflicts with regard to shared facilities such as parking, water supply and even drainage systems.

The legislation of the Sectional Properties Act in 1987, and its subsequent implementation in 1991 was meant to allow for legal ownership of part of properties evidenced with a title deed that defines the 3D aspects of the property (Wayumba, 2013). This made ownership of property simpler; with each owner joint to the ownership of shared facilities. This legislative shift necessitates the evaluation of the impact of the Sectional Properties Act on development in zones 3, 4 and 5 as compared to the development under the Companies Act.

This study will be important in contributing to the knowledge gap on the impact of Sectional Properties Act on development in the country. It will provide the city planning authorities with necessary information on the necessary planning required for infrastructure provision to the city dwellers. With the 3D cadastre being a relatively new concept globally, this study will provide an African context that will guide other developing countries in coming up with appropriate legislation on sectional property ownership.

### 1.9 Assumptions of the Study

This study assumes that the three zones from which data was collected have uniform distribution of both residential and commercial developments. As such, no biasness in the findings may be attributed to the difference in the distribution of the two types of development in the area of study.

It is also assumed that the three zones have fully and uniformly adopted the new development control regulations allowing for development of high-rise buildings. This despite citing resistance to the new City Council of Nairobi’s development control guidelines from residents of Nairobi’s zones 3, 4 and 5 that called for negotiations (Mwaura, 2006). This assumption eliminates any biases of the collected data towards areas which have embraced the new development control regulations against those yet to open up to such developments.
1.10 Definition of Terms and Variables

**Cadastre**

A country’s real estates’ register that includes details of the ownership, the tenure, the precise location, the dimensions, the cultivations if rural, and the value of individual parcels of land.

**Infrastructure**

This is a network of structural elements meant to provide the framework meant to support the entire developmental structure and includes roads, drainage, utilities, water and sewerage among others.

**Urbanisation**

It is the increasing number of people that live in urban areas and it predominantly results in the physical growth of natural or rural land into an urban area due to the immigration into an existent urban area.

**High rise Apartments**

A high rise apartment is an apartment in a building that can be from six to 30—or more—storeys high. High rise apartment towers have elevators and security systems to monitor entry and exit.

Because they are newer buildings they often have laundry facilities, sports and recreation facilities, and buildings are well built and have efficient electrical, heating, sewage and plumbing systems.

**Condominium Ownership**

Condominium ownership is ownership of a unit, usually in a high-rise. Condominiums can also be town houses or low-rise. Condominium ownership means you own the unit you live in and share ownership rights for the common space of the building. Common space includes areas such as corridors, the grounds around the building and facilities such as a swimming pool and recreation rooms.
**Leasehold Estate**

This entails an ownership of a temporary right to hold land or property in which a lessee or a tenant holds rights of real property by some form of title from a landlord. Although a tenant does hold rights to real property, a leasehold estate is typically considered personal property.

**Leasehold**

Leasehold is a form of land tenure or property tenure where one party buys the right to occupy land or a building for a given length of time. As lease is a legal estate, leasehold estate can be bought and sold on the open market.

**Property Manager**

A property manager acts on behalf of the landlord, and takes on all responsibility for the operation of the building. The property manager may hire a superintendent to manage the physical operation of the building.

**Landlord**

The landlord is the person or company who owns the building in which you live. If the building is small, the landlord may be the only person involved in performing all of the tasks associated with renting. You make the lease agreement with the landlord. The landlord is ultimately responsible for repairs.

**Development Control**

This is the process by which authorities manage the extent and nature of growth in local areas.

Landowners or leaseholders wishing to develop are typically required to apply to a local authority, depending on the proposal, for permission prior to commencing any development work. Development control by regulating and managing what is built where allows authorities to manage land across a large area. It allows authorities to balance competing needs such as allocating land for farming, while accommodating the growth of cities and towns to protect areas with particular values.
Zoning
Zoning is the way the governments control the physical development of land and the kinds of uses to which each individual property may be put. Zoning laws typically specify the areas in which residential, industrial, recreational or commercial activities may take place.

Besides restricting the uses that can be made of land and buildings, zoning laws also may regulate the dimensional requirements for plots and for buildings on property located within the town, the density of development and whether you can have pigeons, dogs, sheep or other domestic animals and pets.

Some zoning ordinances also regulate the extraction of natural resources from land within the zoned area, others provide space for hospitals, parks, schools and open space and still others protect places of historical significance within the community.

The Sectional Properties Act

It is an act of parliament that provide for the subdivision of buildings into units being owned by individual proprietors and common property to be owned by the proprietors of the units as tenants-in common, and to provide for the use and management of the units and common property and for connected purposes.

Companies Act

It is an act of parliament under which Companies in Kenya are regulated and registered. Kenya’s Companies Act is based upon the English Companies Act of 1948, and hence there is a lot of similarity between Kenyan law and English law in relation to companies.
CHAPTER TWO
LITERATURE REVIEW

Overview
This chapter gives background information on how increasing urbanization levels have placed an ever rising demand on service and utilities provision in cities and urban areas. It particularly explains the strain that urban population explosion has placed on infrastructure provision, particularly with the development of high-rise construction to cater for the increased demand for both residential and commercial buildings. The concept of development and how it relates with development control is provided. The study’s conceptual framework is also provided. Therefore, the foundation of this chapter is to understand how urbanization has affected infrastructure and the social and natural environment in urban areas and cities.

2.1 The Concept of Urbanization
The term urbanization refers to the transformation from rural or agrarian to urban or industrial and diversified activities (UN Habitat, 2009). It is a general term referring to the process by which a country’s population becomes increasingly concentrated in urban areas and cities. Urbanization processes take place through two major ways; either through an increase in the number of urban places or an increase in the number of people living in each of the urban places.

The history of urbanization can be traced back to the 18th century during the period of the industrial revolution in the western world (Bhatta, 2010). The employment opportunities created by the industrial zones attracted large masses of immigrants to such areas. The need to locate close to the economically productive sites created agglomerations of human settlements around the industrial zones. Industrial towns grew both in physical structure and population size throughout the 19th century. The industrial processes had to be supported by other sectors like the service, transport and commercial sectors. Other urban areas then developed to offer support services to the industrial towns. Both towns were connected to each other through transport links that also evolved over time through use of water, land and air transport channels.
The growth of urban areas and cities globally has been drastic (Kasuku, 2001). The world’s urban population likewise has been growing at an alarming rate. It grew from less than 30% in 1950s to over 47% of the total world’s population in 2000. It is projected that by the year 2020, some 77 million persons shall be added into the world’s urban population of which 74 million is expected to occur in developing nations like Kenya. This gives rise to the need of planning adequately for efficient infrastructural services to cater for the needs of such persons.

It is further projected that by 2020, 57% of the world’s population shall be living in urban areas (Bhatta, 2010). This calls for authorities responsible in provision of public utilities and services including transport services to make adequate arrangements to have the capacity to meet the demands of such anticipated urban populations.

Urbanization is a trend that is irreversible and continually takes place at drastic levels. The rates are highest in African countries. In Eastern Africa alone, urban population in 2007 was over 52 million out of a total of 247 million (Obudho, 2008). This is projected to hit over 74 million by 2015 and 131.5 million in 2030 provided the fertility rate of 4.71% is maintained (Obudho, 2008). Kenya is not behind either. The 2009 census showed that 34% of the populations live in urban areas. This is expected to reach 50% by 2020.

The constant pressure on the urban areas for the provision of services like housing and infrastructural facilities due to the high population growth rates has demanded that residential, commercial and other related developmental activities be developed to cater for the recurrent and ever increasing needs of urban residents (Obudho, 2008). However, inadequate guidance for these developmental activities has further worsened the liveability of urban areas. The developmental activities have been associated with traffic snarl ups, congestion in social and recreational areas, reduced urban greenery and increased surface run-off in urban areas among other challenges.
2.2 The Concept of Development

There are two main approaches to development. According to Szirmai (2005), they are the fight against poverty and the analysis of long-term economic and social development. The first approach focuses on the problems of widespread poverty, hunger and misery in developing countries and on the question of what could be done in order to realize improved standards of living, food security and the general socio-economic statuses of the people in short term.

The analysis of long-term economic and social development approach compares development trends in different countries, regions and historical periods; enabling one to gain a better understanding of the factors that have long-term effects on the dynamics of socio-economic development (Szirmai, 2005).

It is within the context of multiplicity of factors affecting socio-economic development that Myrdal (1974) defines development as the movement upwards of the entire social system. He further suggests that the social system may stay stagnant, move upward or downward.

The dynamics of the social system are due to the fact that among all the endogenous conditions, there exists a circular causation, and therefore if one factor changes, others will change in response. The secondary changes in turn cause new changes all around. The conditions and their changes are thus interdependent.

Seers (1967) argued that the focus on national income as a target for achieving poverty reduction and measuring the level of development of a country avoided the reality on the ground and recommended redefining how development was measured. There is no real development when the benefits of technology and progress helped only a small number of people in the developed world, who are the owners of factors of production and in essence are already relatively rich (Seers, 1967).

It was in the context of this view that the distinction between development and economic growth was coined. Todaro (1977) defined economic growth as the steady process in which
productive capacity of the economy is increased over time to bring about rising levels of national income.

He also observed that economic growth is not the same as development. He then concluded that development encompasses institutional changes including the distribution of national income, knowledge and power. It was observed that economic growth also takes place in the poorest nations of the world but not development.

Adelman (1977) observed that average incomes had increased in certain regions of the world but so had unemployment levels, famines, malnutrition and abject poverty. She concluded that in such situations, statistical economic growth had occurred but at the expense of many; especially the poor in both urban and rural areas. It was observed that in each stage of economic growth, only those with access to then most important factors of production including land, capital and know-how would benefit. She concluded that to realize equal distribution of resources, it is necessary that measures are taken to redistribute the dominant production factors before measures are undertaken to achieve rapid economic growth.

2.2.1 Development Control

McLoughlin (1973) defines control in general system as that which provides direction in conformance of variations from system objectives within allowable limits. Hence, development control is the process, laid down in legislation, which regulates the development and use of land and buildings. Development Control serves as a way through which policies are implemented, unauthorized growth prohibited, promotes setting of compatible uses and prevents incompatible land uses.

According to Keeble (1969), the object of a physical development plan is that its proposal should be put into practice when even though the match of events may necessitate substantial amendment to be made to the original plan before it is fully implemented. The successful implementation of a physical development plan depends upon the extent to which development carried by public and private agencies comply with its proposal. This process is in essence development control.

It is an attempt to ensure that what is arranged beforehand is carried out to the letter or decisions are made to reconcile conflicting interest. Development control is to ensure
compatibility of various land uses in rural and urban areas (Boakye, 1997). Development control involves conscious efforts that are geared towards the actualization of proposed land uses on the ground.

Development control facilitates appropriate development, recognizing its significance in building activities and protecting a healthy economy and a sustainable environment. It also examines the potential impact of the proposed development, protects the public interest from inappropriate development and also involves compliance of all procedures, building codes, standards to ensure that physical plans conform to the approved plans. To assess the effectiveness of development control in residential areas, there is the need to consider the past problems and how they are being solved. Since development control is placed traditionally after post planning functions, there are numerous problems and differ from place to place.

Some of the problems can be categorized as those associated with the defects in the existing legislation which continuous to be constraints faced by the planning agencies in their day to day development control activities.

Some of the defects experienced in the process of undertaking development control include inadequate legislative provisions for conducting integrated planning in urban and rural areas, soft sanctions that fail to serve as a deterrent to offenders of guidelines provided by the development control tools like zoning policies and long approval procedure for development schemes is cumbersome and adversely bureaucratic a situation that delays approved development and literary promote unauthorized construction.

Development control is a mechanism for ensuring the orderly and progressive implementation or delivery of objectives of the land use plans. The mechanisms involved include compliance or development that requires planning permission, standards, building codes and zoning regulations. The scope of development control is wide and multidimensional. It covers everything for which planning permission is needed, and it extends from creating an international airport to getting permission to cut down and replant a tree which is subject to a tree preservation order (Keeble, 1972).
Development control mechanisms provide tools through which planning goals are achieved. In relation to disaster risk reduction, it provides the tools with which disaster resistance plans are prepared and implemented. Land use zoning and planning standards are the two main techniques for enforcement of development controls (Abubakar & Dinye, 2011).

The planning standards also have two main divisions. These are the prescriptive and the regulatory standards. The prescriptive standards are the guides or specifications used in dimensioning in the preparation of a disaster risk reduction plan or any development plan. This is to check the effects, challenges and prospects of development.

Groves (2000) conceives development control as the executive arm of the planning process. It is the means whereby policies are implemented, specific land use proposals brought to effect and unlawful development prevented. It enables a local authority to protect residential areas from inappropriate intrusions, reserve land for new industries, maintain a green belt, keep valuable buildings and trees and prevent ugly signs.

Development control should be regarded as a coherent system of control rather than codified set of dos and don’ts. It is possible that certain actions or operations may not be acceptable going by such dos and don’ts. Analytical consequences of such operation could permit its existence, but if found to be harmful to the wellbeing of the individual and the society at large the decision should be otherwise.

In spite of the increase in the knowledge of modern planning and an increase in the number of planners, physical development across towns and cities remains an array of chaos and disorder. Numerous factors account for this situation namely, rapid urbanization, escalating real estate rents and prices, lack of executive capacity to implement relevant urban and regional planning laws (Essein et al, 2009).

According to Essein et al (2009), development control is seen as a mechanism put in place to maintain standard. It is a professional activity carried out by town planners in order to ensure compliance with an approved master plan thereby ensuring orderliness. It reduces the negative effects that accompany physical development. It can be either pre-development, during development or at post-development stage of a project which is sited in an
unapproved location. It is a highly sensitive exercise which must be done with precaution, precision, firmness and with deep sense of responsibility by the authority concerned.

Fairness, justice and equity should be the watchwords in development control programmes. If done properly and in a humane manner, it will be widely accepted. However, when it is haphazardly done with bias and favouritism in the society, it could be explosive and may lead to violent reactions from affected members of the community concerned.

2.2 Principles of Development Control

Land use planning takes into consideration certain structural and spatial principles (Abubakar & Dinye, 2011). According to the two authors, knowledge of developers on the existence of development control principles and their significance is crucial when assessing the status of enforcement of development controls. They formulated eight principles of development control which include: continuity of green space, accessibility to social services, continuity of movement, and continuity of public space, concentration along routes, flexibility and land use intensity.

The two undertook a study in the levels of development control enforcement in Wa municipality in one of the districts of Ghana and their study revealed that developers were only aware of the existence of mechanisms to improve continuity of green space and accessibility to social services. There were no mechanisms with regards to enforcement of development controls that seek to ensure: improved continuity of movement, improved continuity of public space, minimized concentration along routes, Continuity of flexibility in accommodating future demand and minimized or maximized the land use intensity.

2.2.3 Development and its Relationship with Development Control

The need to rebuild nations and cities shattered by world wars I and II, the physical development activities resulted to changes in the natural environment (Abubakar & Dinye, 2011). The industrial process thought to revive the economic depression experienced after the wars brought about problems of pollution, high influx of people to the activity sites; therefore resulting to increased demand for public services and utilities like more housing facilities, upgrading of infrastructural systems and congestion in towns and cities. The need
to increase housing facilities, for instance led to emergence of shanties that further worsened
the effects of development. This necessitated the restriction of developmental activities, thus
the need to undertake development control (Abubakar & Dinye, 2011).

For the purposes of physical planning, development is the process of carrying out the
structural works which changes the use of land, intensity or existing uses (Abubakar &
Dinye, 2011). The activities involved in physical development are varied and affect the
environment either positively or negatively.

There is, therefore, the need to put in place the necessary checks to minimize the adverse
effects on the lives of the people. Development control is thus administration of
development in conformity with defined guidelines of an operation plan and other policy
provisions. This is to ensure efficiency, safety, orderliness, convenience, economy and
aesthetic beauty.

2.2.4 Analysis of the Degree of Compliance with Development Control Regulations in
Urban Areas

A review of urban development processes and experiences in urban and cities in sub-Saharan
African countries reveal that there are adequate provisions for development control
regulations and policies (Yhdego, 1986). According to Yhdego, the problem lies with the
degree of implementation and compliance to the regulations by the concerned authorities and
developers. He further observed that as a result of these unplanned urban developments
coupled with rapid urbanisation levels, problems of overcrowding, inadequate water supply
and sanitation, poor road transport infrastructure, poor solid and liquid waste management
and poor urban drainage are commonly experienced in the urban areas.

Yhdego (1986) noted that there are a number of factors that hamper the effectiveness of
planning authorities in the enforcement and implementation of development control
regulations. He highlighted the factors that affect the efficiency of development control
regulations which include but not limited to inadequate financial resources, inability to
employ adequate qualified manpower, inadequate equipment and political interference in the
planning authorities’ activities. These factors are reviewed as follows;
(i) Poor Policy Implementation

Failures in the implementation of development control policies and regulations have their roots in bureaucratic decisions, delays and poor execution of projects and programmes by specialized bodies, ineffective local institutions and staff, lack of institutional and intersectoral coordination framework for development planning and the lack of or inadequate participation by the beneficiary population (Mbogua, 1994).

Mbogua (1994) further noted that overconcentration of development responsibilities and decision making powers in national ministries and other central bodies do not lead to efficient implementation of national development policies. On the other hand, local institutions are neglected and local initiative in the pursuit of development opportunities is thwarted by heavy handed and cumbersome central ministerial bureaucracies.

(ii) Poor Enforcement Machinery

Violators of development control regulations due to the nature of fines levied on them being low and affordable compared to the proceeds from the activities they undertake in contravention of the planning regulations (Yhdego, 1986). Such punishments thus do not deter them from engaging in such acts. City planning authorities are also faced with problems of controlling developments within the central business districts (C.B.D). The issue of enforcing such regulations in the face of economic hardships and the attendant unemployment problems leave the authorities in compromised situations. Such areas like the hearts of cities and other urban areas experience much conflict between vendors of informal business activities and local authorities.

In order to accommodate mushrooming of small scale traders, the city planning authorities for instance, designate specific areas in the C.B.D, as “people’s markets” which are then controlled by the authorities. (Yhdego, 1986) However, there is non-compliance with those businesses operating in residential areas who undertake trading business outside designated “people’s markets” in order to avoid payment of fees levied by the authorities.
(iii) Lack of Awareness of the Existence of Urban Development and Planning Regulations

The extent to which developers and the populace within the jurisdiction of a particular local authority are aware of the existence of development control and planning regulations is vital in examination of the degree of compliance with the regulation. The extent of awareness has a direct impact on the level of compliance with the regulations (Arimah, 1997).

In Ibadan (Nigeria), for example, Arimah (1997) noted that the level of awareness of the existence of urban development regulations increases successively from the low to the high quality residential neighbourhoods. Specifically, he observed that 80%, 73% and 56% of households in the high, medium and low quality residential neighbourhoods respectively were aware of the existence of urban development and planning regulations. A large proportion of the people in low income areas are therefore not aware of the regulations.

Interestingly, the low quality residential neighbourhoods are in majority of the urban areas like Nairobi area where rapid developmental activities take place. The extent of awareness of the existence of planning regulations being significantly low in such areas, gives an indication of the level of incompliance to the regulations in such areas.

(iv) Weak Institutional and Legal Frameworks

Management of urban areas and cities happen to be at two levels; the local government level and the national government level through the ministry in charge of town planning. Studies reveal that coordination of the roles of these institutions is worsened by the existence of weak institutional and legal framework (Mbogua, 1994). The institutional and legal framework, for instance, do not allow the national government sue the local authorities when the later violates planning regulations and vice versa.

The above dis-harmonization of roles together non-provision on how to solve wrangles between the two levels of governments handicap the efficiency of operations in implementing and enforcing planning regulations (Mbogua, 1994).
(v) Political Interference and Lack of Political Will

Political interference in urban development control systems has limited the ability of planning authorities to fully regulate and control development (Mbogua, 1994). Powerful government officials have been known to enforce approvals which do not meet the stipulated requirements. High demand for space has led some authorities to overlook the standards required for various uses and abuse of development control especially open spaces. Lack of occasional court intervention affects activities of enforcing development control.

Lack of a political will has also been another factor affecting the efficiency of planning authorities in undertaking development control (Rakodi, 1987). There has been lack of adequate political support for the pursuits of the objectives and aims of town planning and development control. Urban development system has failed due to the inherent legal, administrative and political weaknesses, thus the need to set up clear policies and regulations for urban development.

Excessive politicization has interfered with professional conduct of urban affairs and has, in turn interfered with the legitimate sources and lines of authority.

Rakodi (1987) also noted that the development plans that have been expensively and laboriously prepared for cities such as Lusaka and Nairobi have in practice been largely incidental to the development in the cities.

2.2.5 Implications of Poor Development Control and Increased Urban Populations on Infrastructure and Service Provision in Urban Areas

There is a great difference between developing and developed countries with regard to the population in the cities and urban centres in general. Developing countries face the greatest burden of increased populations in urban areas, often characterised by degraded environments and poverty (Ahmed & Dinye, 2011). Due to poor development control and planning, such areas would be characterised by poor or lack of urban services such as accessible roads, sewerage systems, electricity and proper water supplies (Chipungu, 2011).

Chipungu (2011) further notes that such urban centres face increased traffic, destroyed open space and sapped local resources. One of the important infrastructures in any urban centre is
the road. In fact, developers leave behind road reserves to be used for construction of anticipated roads together with the provision of accompanying social amenities and services.

According to Porter and Clifton (2001), road reserves provide for road pavement and drainage. They provide mobility to the respective communities and do not primarily consider environmental effects. The design, construction and also the maintenance of roads would be undertaken by professionals who observe a balance between the needs of pedestrians, traffic and cyclists with the amenity afforded by landowners. In Florida, subdivision regulations dictate that street layout gives adequate room for appropriate site design, utilities and emergency access and adequate water, sanitary sewer and drainage facilities (Wit & Verheye, 2010).

Development control regulations do not allow for construction of high-rise buildings in sites with poor accessibility. Narrow roads restrict developers from constructing high-rise building thus causing a waste of vertical space which results into horizontal growth.

According to Bhatta (2010) and Couch (1990), this has been a major problem in old cities in majority of the developing countries where planners in the past did not visualize future needs hence failed to plan for wider roads.

The two scholars further cite a failure of policies in developing countries for road widening in the recent past due to political and economic constraints, bearing in mind that a lot of money would be required to compensate road-side developers and investors.

Important to note with regard to service provision would be water supply. Poor urban planning seriously impacts on the quality and quantity of water supply. The increase in run-off volume due to pavements erected all over makes urban areas experiencing overstretched capacities prone to flooding. As developments keep sprouting in such locations, government agencies, insurance companies and planners get more concerned of increased risk of flooding (Ogundele et al, 2011).

The water than runs off into storm sewers and eventually find its way into rivers and other water bodies thus compromising the quality of water supplied to such areas (Ogundele et al, 2011). According to Bhatta (2010), heavy rainstorms in such areas having inadequate storm water management systems cause the mixing of untreated human sewage and waterways;
putting the consumers of such water at risk of serious water-borne infections. Despite these challenges, development of high-rise buildings continues to be on the increase due to the associated high accommodation capacity.

2.3 The Change from 2D to 3D Cadastre

A cadastre has been defined by International Federation of Surveyors (FIG) as a parcel-based and current land information system made up of a record of land interests such as responsibilities, restrictions and rights (El-Mekawy & Ostman, 2012). This encompasses a geometric description of the parcels of land associated with other records which describe the nature of interests, control or ownership of such interests. Additionally, it describes the value of these parcels and improvements on it.

Previously, land would be defined on the basis of its area only, hence a 2D definition. It was assumed that once one owns land, they become automatic owners of all the space above and below it (El-Mekawy & Ostman, 2012).

Nonetheless, the development pressure in urban areas following the rapid increase in population has seen investors seek to own portions of properties. This necessitated the need to define the third aspect of properties – the vertical.

Then, property was no longer defined on the basis of the area it occupied only but rather on the basis of its volume. Referred to as 3D cadastre by Stoter et al. (2004), this made it possible for investors to own parts of properties and be entitled to individual ownership titles.

This 3D cadastre system of property definition propagated developments because of the ease of property ownership, hence a solution to curbing the demand for housing units and commercial properties in urban centres (Stoter et al, 2004). This emerging system of property definition therefore calls for amendments to the relevant legislations.
Despite the many disadvantages brought about by the high rise apartment, there is a considerable proof that they are an efficient way of maximum land use in densely populated cities around the world. In many developed countries, high rise apartments are currently attracting many cash buyers as their prices remain quite affordable (Stoter et al, 2004). Building multi-storey apartments enables developers to distribute the land costs over the number of units in a building thus bringing down the cost per unit. This in Kenya has been greatly facilitated by the Sectional Properties Act.
2.3.1 Legal Aspect of Cadastral Objects

There exists several distinct phases in the establishment of a 3D cadastral registration. It begins with the establishment of 3D property units occurring in a juridical framework (Stoter et al., 2004). Thereafter, insight into the 3D property would be provided, including the drawings drawn from the lands register or integrating the information in its 3D format into the cadastral registration. Finally, necessary regulations would be laid down to define the preparation and structure of the 3D information to be used in the maintenance of 3D property units in the cadastral registration or land registration.

El-Mekawy and Ostman (2012) acknowledge the problems associated with registering 3D property units with regard to the cadastral system based on the legal system of a country and the advancement in the country’s cadastral registration system. The 3D technology which keeps evolving changes the paradigms of urban planning together with land policy as it impacts on not only the visualisation of a city but also the description of property rights and other space restrictions.

This therefore calls for laws particular to 3D cadastre so as to describe the objects in space as opposed to just flat contours. According to Erba (2012), the increasing complexity of infrastructure and densely built-up areas requires the proper registration of their legal status whether they are private or public. These laws affect rights in space as opposed to a plane of projection, thus making it possible to define 3D land policies.

In the Kenyan context the enactment of the Sectional Properties Act was aimed at narrowing the gap in registration of property rights in multi-storey high-rise developments. Each country has an agency responsible for monitoring matters regarding cadastre.

A Cadastral System, as argued by El-Mekawy and Ostman (2012), manages land registration system with regard to cadastral objects also referred to as real-estate objects. Nasruddin and Rahman (2006) give an example of Malaysia where the cadastral object could be a whole parcel of land, a parcel of storey houses, referred to as strata such as flat houses and apartments or parcels below the surface, referred to as stratum.
These objects have to be registered as legal according to Nasruddin and Rahman (2006). The commonly used system had been based on a planar map in 2D space (Stoter et al., 2004). But in the modern world, the 2D system appears to be insufficient to meet the advancement in the development taking place in countries especially information with regard to 3D spatial objects.

A majority of urban centres have seen land use become so intense hence causing the location of various land uses and properties located in complex 3D situations (Nasruddin & Rahman, 2006). This has limited the practicality of the 2D cadastral system. This, therefore, necessitates the adoption and implementation of a 3D cadastre system so as to address the resultant problems.

2.4 History of Public Regulation of Private Land, Development Control and Land Tenure in Kenya

The three major land tenure systems in Kenya are public ownership, communal (customary) ownership and private ownership (Sifuna, 2009). While a substantial portion of land in the country is either under communal tenure or under public ownership, most of the land in the country is under private tenure on freehold or leasehold terms. Private ownership was introduced in the country by colonialists. Before then, there existed no formal regulation of land use and the only forms of regulation were taboos and practices (Sifuna, 2009).

Land in the country was held under communal tenure by family lineages, kinship groups and clans under the overall administration of local chiefs or kings.

People in virtually all indigenous communities held land along the lines of family lineages and land was passed from one generation to another by inheritance according to customary law (Sifuna, 2009). In these communal tenure systems that dominated the country in the early years, individuals did not acquire ownership to the land. All they acquired was the right to use it according to their needs and one could neither pledge nor sell any part of it since the title to the land belonged to the clan or community.

In the traditional system of land tenure, no individual could be permitted to own land. It land belonged not to individual members but to the particular clan or community to which that individual belonged. Individuals were only entitled to use the land for permitted purposes, in
line with the rules of the particular clan or community and under supervision of a council of elders. The permitted purposes for which land could be used included cultivation, pasturing livestock, as well as collecting firewood, fruits, honey and other benefits within the limits allowed by their respective traditional customary norms (Sifuna, 2009).

The incidence of colonialism witnessed the introduction, by the colonialists, of western laws and ideology in the country’s land tenure regime; thereby dramatically and radically changing the then existing traditional land tenure systems entirely. The colonialists alienated all the unoccupied land under the inadequacies of the African system of tenure where there was no proper land ownership. This land was called crown land and was governed by the state under western concepts (Sifuna, 2009). Nevertheless, those under African customary laws were subject to the police powers of the state. Part of the crown lands were allocated to individuals; first to the white settlers and later to Africans. This marked the beginning of private land ownership (Nabutola, 2009).

The private ownership raises social, moral and ethical questions regarding land use and control. Moreover, the 2010 Kenyan constitution recognizes the right to own property and grants sweeping powers on use of the property and protects them from violation (Sifuna, 2009).

2.5 Justification for Public Regulation of Private Land in Kenya

Sifuna (2009) observed that whereas the private individuals have the constitutional guarantee of the right to own land, the unique characteristics of land and its place in the life of mankind make a compelling case for public intervention of land and land use regardless of its ownership type.

This responsibility is exercised through the taking of measures to ensure that landowners use their land in a manner that is not injurious to public interest concerns; such as transportation, recreation, water resources, security, sanitation, health, and other common needs (Sifuna, 2009).

Sifuna (2009) identified five specific grounds under which public intervention is necessary in the use of land despite its system of ownership. These include; the scarce nature of land,
Ethical considerations, environmental considerations, land planning needs and public responsibility for promotion of the public good.

2.5.1 Scarce Nature of Land

Scarcity of land is the most fundamental ground for land use control according to Sifuna (2009). She went ahead and observed that land is limited in supply and cannot regenerate itself, hence non-renewable resource. Moreover, the human population is constantly on the increase and so are the uses to which land is put into which range from settlement, industrial activity, infrastructure, agriculture, urbanization, forestry, wildlife and recreation. Therefore, there is need for intervention in the allocation of land to the various competing uses in terms of priority and the regulation of the application of land to any of these uses. The power to regulate is the responsibility of the state and its agencies that is charged with the mandate to provide for the collective welfare of the nation’s citizens (Sifuna, 2009).

In terms of priority, agricultural use for food security will, for instance, be preferred to recreational uses such as development of sports facilities. However, not all the land suitable for arable farming is applied to such use. For instance, arable farming has to compete for land against other uses, such as industry, forestry, mining, settlement or wildlife. Besides, each form of land use has implications on the other forms.

Notably, land use decisions are a process of allocating land to the diverse competing interests; and public regulation of land use is a process of balancing these interests and reconciling the land use-related conflicts.

2.5.2 Ethical Considerations

Land ownership rights are entrenched in the constitution and as such it carries with it four basic rights reserved to the individual owner (Nabutola, 2009). These rights include the use, abuse, disposal and the right to exclude others from the land. The most contentious right one according to Nabutola (2009) is abuse. The unique characteristics of land make abuse and misuse a right not permissible. Thus, a private land owner has an obligation to consider the public good when making land use decisions.

Leopold (1949) a leading environment ethicist coined that land should not be viewed by many as a purely economic entity entailing privileges without obligations. He went ahead to
argue that land and other natural resources are a heritage of humankind which ought to be available for the present and future generations. In fact, it is argued that such resources are only held by the State in trust for future generations and that citizens should take into consideration the interest of future generations. Therefore, since land is entrusted in the hands of the State on behalf of all future generations, it is held by the present generation under the same constraints and the State is entitled to administer this trust by enacting laws and regulations (Nabutola, 2009). This trust also puts on the individual landowner an obligation to preserve the land for future generations.

2.5.3 Environmental Considerations

Unregulated land use practices can lead to undesirable environmental consequences like land degradation, soil erosion, sedimentation of water bodies, pollution of environmental media and depletion of biological resources.

It is therefore proper that land use be regulated to minimize such consequences and promote good uses environmental sound, ecologically and economically sustainable uses.

Land use regulation is linked to preventive principle under which steps should be taken to prevent harm from occurring rather waiting for it to occur in order to be addressed. It was in the context of this that spatial planning pioneers coined the term proactive planning opposed to reactive planning. One way of preventing such land use practices harm from occurring is through formal regulation on land use (Nabutola, 2009).

2.5.4 Land Planning Needs

Planning has all along been the responsibility of the state and its agencies. It is also expected that such agencies provide stimulus for land-based economic activity for development. It is also necessary to ensure that such development activities are done in an orderly way and not haphazard manner that can undermine further development (Ngetich et al, 2013).

Land planning entails not only deciding where to put what development but also the preparation and implementation of physical development plans for orderly management of human activities (Sifuna, 2009). This is to ensure efficient and sustainable management that mitigates the adverse effects of unplanned development activity as well as unsustainable land use forms and practices.
2.5.5 Public Responsibility for the Promotion of the Public Good

Some land use activities can result into land degradation, famine and environmental pollution (Sifuna, 2009). The consequences of such activities include deterioration of life-support systems as well as social and economic disruptions. This is thus a justification for regulation of use of land even if under private ownership to ensure that rights of use of such land are not absolute but subject to public interest. Ogolla & Mugabe (1996) observed that land is not just another property whose use is not at the absolute discretion of the owner without the regard to wider social and ecological interests. Public interests concerns that regulation of use of land advocates for include public health, transportation, security, recreation and similar public needs (Sifuna, 2009).

Sifuna (2009) observed that regulation in respect of public land is not a big problem relative to that of private land which raises several legal, economic and ethical questions. She went ahead and reported that public regulation in respect of land under private tenure represents a delicate balance between private property rights of the individual private owner and the public interest. Regulation by the state represents a balance between the state’s responsibility to protect individual rights; and its duty to promote and protect the public good. It is a balance between private property rights of the individual landowner and the power of state and its agencies in protecting the public interest and between the notion of land being a private commodity and that of it being a natural heritage of humankind.

2.6 Institutional Framework

Development control is the power to decide whether or not specific development takes place on specific sites to control the intensity of development that is permitted and to control its layout and design (Reade, 1987). Reade further observed that personal interests of planners and developers have turned the whole process to merely sham. This is to the extent that it no longer lies in the power to grant or to refuse permission, but rather in the power of the professional planners to persuade the applicants to modify their proposals, even before they submit them for approval. Formally the decisions on such applications are made by the planning committee of the planning Authority.

In Kenya development Control process is governed by various pieces of Legislation and Sessional Papers including; the Local Government Act Cap 265 which has been repealed by
the Urban Areas and Cities Act of 2011, Land Control Act Cap 302, the Physical Planning Act Cap 286, the Constitution of Kenya of 2010, the Environment Management and Coordination Act of 1999, the National Land Commission Act of 2012, the Land Act of 2012, the Land Registration Act of 2012 and Sessional Paper No.3 of 2009 on the National Land Policy (Ngetich et al, 2013). The application process entails submission of a drawing or a design which is attached to various prescribed forms which were previously administered by the defunct local Authorities of; the City Council, Town Council or the County Council. Local Authorities collapsed after the 4th March 2013 General elections and currently urban development control is under the armpit of the 47 County Governments in Kenya. Under the County Government, the Sub-County administrators receive the application forms from the proponents with sufficient copies for circulation to various institutions for comments (Ngetich et al, 2013).
Figure 1: Current Procedures of Development Control Process in Kenya

(Adapted from Ngetich et al, 2013)

Client/Proponent

Receives applications from applicants and proponents

Sub-county administrator

Approval

30 days

NEMA → EIA → Physical Planning → Public Health → Leads Experts → Respective Professionals bodies e.g. Roads etc.

60 days

Physical planning liaison committee

60 days

National physical planning liaison committee

14 days

High court

14 days

Court of Appeal
2.6.1 Policy Framework

The earliest planning policy efforts began with the establishment of coastal urban settlement and construction of the Mombasa- Kisumu- Kampala Railway in the colonial times. There were also the early colonial policies that alienated the high potential land in the central highlands for the exclusive settlement and commercial use by European settlers (Ngetich et al, 2013). Markets and towns as well as appropriate local authorities were established in the highlands as administrative units and trading centres to support the settler economy.

Various planning initiatives during this period were institutionalized through the 1931 Town and Country Ordinance. These initiatives included:

1. The 1926 Mombasa Municipal Council Plan: This was the first formally prepared plan.

2. The 1948 Nairobi Master Plan: The preparation procedure, scope, content and approval procedures of this master plan followed the 1947 Town and Country Planning Act of Britain. The plan was conceived as a key plan for the general physical, economic and social development of Nairobi for a period of 20 years. It incorporated racial segregation zoning and was linked to the overall budget planning.

3. The Swynnerton Plan of 1955: This was a colonial agricultural policy established in 1954. It aimed to intensify the development of African agriculture in the Colony of Kenya. The policy focused on increased agricultural productivity as well as environmental resources conservation in order to raise the standards of the communities.

4. The Mombasa Municipal Council Master Plan of 1962: This was Mombasa’s second master plan.

The post-colonial era witnessed the development of urban and regional planning through deliberate development of policy documents aimed at achieving national development goals. In 1965, the Sessional Paper No. 10 of 1965 on African Socialism and its Application to Planning in Kenya was adopted. This paper provided the main policy framework for development in all sectors of the economy in the country.
It spelt out the need to correct development imbalances created by earlier policies, recognize the role of urban, regional, local and rural levels of development in the national economy and decentralize and redistribute development and planning. Based on this policy comprehensive five year development plans addressing development needs in all sectors and regions since 1966 have since been prepared.

In 1978 a human settlement strategy for urban and rural development was developed. The strategy provided an overall framework for the management of future urban growth as well as the location of physical developments in urban and rural areas in order to develop a coherent system of human settlements. It emphasized the service and growth centre policies. The service centre policy aimed at improving quality of life through provision of basic services in urban centres. The Growth centre policy focused on selected growth centres to stimulate development in the hinterland and reduce rural urban migration into the larger cities such as Nairobi (Ngetich et al, 2013).

In 1986 the Rural Trade and Production Centres (RTPCs) Programme was initiated to create centres that would act as growth poles for the regions to catalyse development of their hinterlands and as well as act as dispersion mechanisms to de-concentrate development from the main towns.


The strategy identified the key policy actions necessary to spur the recovery of the economy as:

1. Rapid Economic growth through measures to enhance revenue collection, expenditure restructuring and a monetary policy that supports achievement of economic growth without putting price stability into jeopardy.

2. Strengthening institutions of governance

3. Rehabilitation and expansion of physical infrastructure in particular roads, railway and telecommunications.
4. Investment in human capita especially of the poor

Other national policies relevant to this study include;

   **a) National Housing Policy of 2004**

This National Housing Policy was intended to arrest the deteriorating housing conditions in Kenya and to bridge the shortfall in housing stock arising from demand that far surpasses supply, particularly in urban areas.

This policy requires the government to ensure that legislative and regulatory instruments governing land-use planning, administration and management are regularly reviewed and harmonised to promote housing development. Development control is also to be upheld and intensified to avoid illegal developments and construction.

Pertaining to infrastructure, the policy notes that opening of new land for housing development or the upgrading of existing informal settlements require installation and maintenance of infrastructure such as such as water, sewerage, roads, electricity, social services and security. Among other things, the policy requires that private developers participate in developing infrastructure in rural and urban areas through their own initiative in collaboration with local authorities on a cost-reimbursement basis (Ngetich et al, 2013).

   **b) National Land Policy of 2009**

This is a policy that was developed with the aim of guiding the country towards efficient, sustainable and equitable use of land for prosperity and posterity. This policy recognises that land use planning is essential to the efficient and sustainable utilization and management of land and land based resources.

According to part 103 of this policy, the key issues that ought to be addressed in land use planning are:

Preparation of land use plans at national, regional and local levels on the basis of predetermined goals and integrating rural and urban development;

(b) Review and harmonize existing land use planning laws;
(c) Actualization of spatial frameworks for orderly management of human activities to ensure that such activities are carried out taking into account considerations such as the economy, safety, aesthetics, harmony in land use and environmental sustenance;

(d) Strategies for human settlement in relation to service centres, growth centres, transport and communication network, environmental conservation and rural development;

(e) Efficient and sustainable utilization and management of land and land based resources;

(f) An appropriate framework for public participation in the development of land use and spatial plans; and

(g) Effective framework for coordination of land use plans to ensure implementation of the planning proposals and regulations.

Part 108 of the Act gives the government the mandate to establish an effective coordinating mechanism for the preparation, implementation of plans and development control and also encourage development of underutilized land within urban areas.

To ensure there is effectiveness of the land use plans as tools of proper land use management, the policy gives the government the role to;

(a) Review planning and development control legislation to harmonize the governance structures, decision-making processes, planning standards and regulations;

(b) Enhance institutional and human resource capacity of planning institutions;

(c) Provide a coordinated framework enforcing planning decisions;

(d) Establish effective and transparent mechanisms to resolve planning and development control disputes; and

(e) Convert all freeholds in gazetted and planned urban areas to leaseholds

The policy also recognizes and states that efficient system of land delivery requires that capability should exist for the preparation and maintenance of cadastral information. This cadastral information must show who owns the land capability, uses, size, distribution and topographical characteristics.
2.6.2 Legal Framework

There are a multiple of statutes that guide the planning and building sector. Prior to 1996 the main planning legislation was the Land Planning Act. It was enacted in 1968 and aimed at controlling the development of urban land. It provided for the preparation of town plans. The contents of the plans and the machinery of preparation were however not clearly spelt and the use in rural areas was limited. This act was repealed in 1996 when the Physical Planning Act of 1996 was enacted. Other statutes include the Constitution of Kenya of 2010, the Land Planning Act of 1961, Land Act Of 2012 and Urban Areas and Cities Act of 2011. Other related statutes include the Environmental Management and Coordination Act of 1999 and the Water Act of 2002.

a) Constitution of Kenya of 2010

The constitution states that there shall be a county government for each county, consisting of a county assembly, a county executive and that every county government shall decentralize its functions and the provision of its services to the extent that it is efficient and practicable to do so. It has also defined that Land in Kenya shall be held, used and managed in a manner that is equitable, efficient, productive and sustainable, and in accordance with principles of equitable access to land, security of land rights (GOK, 2010).

It has also provided that the State shall;

(a) Ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits;

(b) Work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya;

(c) Protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities;

(d) Encourage public participation in the management, protection and conservation of the environment.
b) **Physical Planning Act of 1996**

This Act makes provision for development control. The Local Authorities are empowered under section 29 of the Act to reserve and maintain all land planned for open spaces, parks, urban forests and green belts. The same section, therefore allows for the prohibition or control of the use and development of land and buildings in the interest of proper and orderly development of an area.

In the development of any land, approval must be obtained from the relevant local authority. Section 30 states that any person who carries out development without development permission will be required to restore the land to its original condition. It also states that no other licensing authority shall grant license for commercial or industrial use or occupation of any building without a development permission granted by the respective local authority.

Finally, section 36 states that if in connection with a development application, local authority is of the opinion that the proposed development activity will have injurious impact on the environment, the application shall be required to submit together with the application an environment impact assessment (EIA) report. Environmental Management and Coordination Act (EMCA) of 1999 echoes the same by requiring that such an EIA is approved by (NEMA) and should be followed by annual environmental audits.

In line with section 5 (f) the Act empowers the former local authorities in its section 29 to:

a) Prohibit or control the use and development of land and building in the interests of proper and orderly development of an area;

b) Control or prohibit the subdivision of land or existing plots;

c) Consider and approve all development applications and grant all development permissions.

d) Ensure proper execution and implementation of approved physical development plans;

e) Formulate by-laws to regulate zoning in respect of use and density of development and;

f) Reserve and maintain all land planned for open spaces, parks, urban forests and green belts in accordance with approved physical development plans.

The first by-laws building for building development and control in Kenya were introduced by the colonial Government in 1926. They were applied to the then Nairobi Town Council. The
by-laws were later replaced by the Nairobi City Council By-laws that incorporated town planning and zoning (Building) in 1948.

The current building code dates back to 1967 and is a replica of the British building Regulations of 1948. It is framework that guides the building and construction sector. This code is material based and has several out-dated and inappropriate provisions that are susceptible to multiple interpretations.

c) Companies Act Cap 486

Companies in Kenya are regulated and registered under the Companies Act Cap 486 of the Laws of Kenya. Kenya’s Companies Act is based upon the English Companies Act of 1948, and hence there is a lot of similarity between Kenyan law and English law in relation to companies.

There are essentially four types of companies that may exist in Kenya today. These are companies limited by shares, companies limited by guarantee, unlimited companies and representative offices (foreign companies)

Companies Limited by Shares

A company is limited by shares where the liability of a member to contribute to the company’s assets is limited to the amount, if any, unpaid on his shares. Such companies must have a share capital. These types of companies are the most common and prevalent in Kenya. Companies limited by shares are commonly registered as ‘for profit’ organizations and are of two types;

(i) Private Limited Companies

A private company is defined in the Act (Section 30) as one which by its articles (GOK, 2010)

(a) Restricts the right to transfer its shares;

(b) Limits the number of its members to fifty, exclusive of persons in the employment of the company and of persons formerly in the company’s employment;
(c) Prohibits any invitation to the public to subscribe for any shares or debentures of the company, and certifies in its annual return that it has not issued any prospectus to the public to subscribe to its shares or debentures.

Further, a private company may be an ordinary private company or an exempt private company.

An exempt private company is one which satisfies the following conditions-

- Nobody corporate holds any of its shares or debentures.
- No person other than the holder has any interests in its shares or debentures.
- The number of debenture holders does not exceed fifty.
- No person other than the directors, members or debenture holders can determine the company's policy.
- The benefits of any private company are that it need only have two members and may have only one director (although it must have a secretary, and the sole director cannot be the secretary).

Further, a private company can commence business (and make binding contracts, and exercise its borrowing power, if any), immediately on incorporation. Another advantage is that a private company need not hold a statutory meeting or send a statutory report to its members Sec 130 (10). Exempt private companies in addition enjoy certain other benefits such as with regard to reporting requirements and auditing requirements. This type of company is preferred by most ‘for profit’ organizations as it has relatively easy procedures for registration under the Companies Act.

**Public Limited Companies**

Public limited companies are registered companies that have a minimum number of seven members. Most public companies are initially private companies that are subsequently converted to public companies when they invite members of the public to subscribe to their shares and debentures. There is a requirement under the Companies Act that when the membership of a private company exceeds fifty, then it must convert to a public company (GOK, 2010).
Public companies are seldom used except in the case of companies quoted on the Nairobi Stock Exchange and for purposes related to the control of dealings in agricultural land. Even then, it is usual to incorporate as a private company and convert subsequently.

**Charitable and Other Companies**

Where it is proved to the satisfaction of the Attorney-General (through the objects clause of the memorandum of association) that an association about to be formed as a limited company is to be formed for promoting commerce, art, science, religion, charity or any other useful object, and intends to apply its profits, if any, or other income in promoting its objects, and to prohibit the payment of any dividend to its members, the Attorney-General may by licence direct that the association may be registered as a company with limited liability, without the addition of the ‘limited’ to its name, and the association may be registered accordingly and shall, on registration, enjoy all the privileges and (subject to the provisions of the Companies Act of Kenya) be subject to all the obligations of limited companies (with regard to reporting requirements and audits).

This provision is only of importance in that it does away with the requirement for the name of the company to include the term “limited”. Other than this, it is of no actual relevant importance, as all other requirements of limited liability companies have to be complied with. Whereas companies may be registered for non-profit objects, this is not a common occurrence in Kenya as the companies are nevertheless obliged to be run as other ‘for profit’ companies. They are required to file annual returns, required to have directors and a company secretary and are subject to taxes like any other ‘for profit’ company.

**Companies Limited by Guarantee**

A company limited by guarantee may be formed either with or without a share capital, but is usually formed without a share capital. Under Section 5 (3) of the Companies Act of Kenya, the memorandum of a company limited by guarantee must state that each member undertakes to contribute a specified sum towards the assets of the company in the event of its being wound up while he is a member, or within one year after he ceases to be a member.

The amounts which the members have agreed to contribute in a winding up cannot be mortgaged or charged while the company is a going concern. Every company limited by
guarantee, whether it has a share capital or not, is obliged to register articles of association with the memorandum.

The memorandum or articles of a company limited by guarantee and not having a share capital cannot give any person a right to participate in the divisible profits of the company, except than as a member, and every provision in the memorandum or articles purporting to divide the undertaking of the company into shares or interests is treated as a provision for share capital, notwithstanding that the nominal amount or number of the shares is not specified.

If the company has a share capital, it must make an annual return like any other limited liability company. If it has no share capital, it must make an annual return stating (under Section 126 of the Companies Act) the address of the registered office and the particulars of the directors and the secretary, which are required to be kept in the register of directors and secretaries. Particulars of the total amount of the company’s indebtedness in respect of all mortgages and charges required to be registered with the Registrar.

Such companies are usually formed to incorporate professional, trade and research associations, and clubs supported by annual subscription. They can also be utilized for registration of charitable and not for profit organizations. As a matter of administrative practice, the Registrar of Companies will not incorporate companies which are limited by guarantee without prior clearance from Special Branch (a police department under the Office of the President). The process for obtaining this clearance is time-consuming and uncertain, and as a result very few of such companies, if any at all, have been registered as such.

Companies with unlimited liability

A company may be registered as an unlimited liability company, in which case there is no limitation of the members’ liability for the debts of the company. Such companies are not often formed today. The company is obliged to register articles with the memorandum of association. The articles must state the number of members with which the company proposes to be registered and, if the company has a share capital, the amount of the share capital.
The name will not, of course, include the word ‘limited’ and there will be no limitation of liability clause in the memorandum.

If the company has a share capital it must make an annual return like any other limited liability company. If the company has no share capital, it must make returns similar to that made by a company limited by guarantee that has no share capital (as had been earlier defined).

**Representative Offices of foreign companies**

A representative office is registered as a foreign company under Section 365 of the Companies Act of the Kenyan constitution. A certified true copy of the constitution of the company or a translation of the same (notarized if not from a commonwealth country), names of directors and their addresses are required for registration of the office.

There is also required the name and address of the person in Kenya who will accept service on behalf of the company. There is requirement for a form to be signed and filled in with the above details. There is no requirement for stamp duty, but filing and registration fees are payable.

After all these formalities are fulfilled, then one obtains a Certificate of Compliance with Sections 365 and 366 of the Companies Act. It takes three weeks or so to obtain such certificate. The representative office requires a trade license, an immigration certificate, but no other licenses other than these.

Representative offices can be used for non-profit purposes, as they are not liable to pay local taxes where there is no income generated by them as all contracts entered into by them may be deemed to be contracts of the parent company.

**d) History of Sectional Properties/ Condominium Ownership**

This section seeks to provide the history of sectional properties/condominium ownership in different countries of the world from which Kenya adopted sectional properties ownership. Benchmarking with the best practicing countries led to the subsequent enactment of the Sectional Properties Act in Kenya.
A condominium is the form of housing tenure and other real property where a specified part of a piece of real estate, which is commonly an apartment house, is individually owned. Use of and access to common facilities in the piece such as hallways, heating system, elevators, and exterior areas are executed under legal rights associated with the individual ownership. These rights are controlled by the association of owners that jointly represent ownership of the whole.

A condominium is defined as a collection of single home units and mutual areas along with the land upon which they sit. Individual home ownership within a condominium is taken as ownership of only the air space limiting the precincts of the home. The precincts of that space are stated by a legal document known as a Declaration, logged with the local governing authority. Usually these boundaries will include the wall surrounding a condo, allowing the property holder to make some interior alterations without specifically affecting the common areas. Whatever that is left outside this boundary is held in an undivided ownership interest by a corporation created at the time of the condominium’s establishment. The corporation holds this property in trust on behalf of the homeowners as a group may not have possession itself.

Condominiums have agreements, conditions, and constraints, and often supplementary rules that oversee how the individual unit holders are to share the space.

A condominium can also consist of single-family dwellings. Separate condominiums homeowners do not uphold the exteriors of the yards, dwellings or site condominiums where the owner has more control and possible possession over the external appearance. These structures are favourite for some planned neighbourhoods and gated communities.

**Condo Owners Association in Ontario**

Condo Owners Association was established in Ontario to represent and advocate for condo owners rights. It is a non-profit organisation established to be responsible for creating a platform for accountability, better governance, and representation within condominium communities. Condo owners often find them perplexing and contradictory. Condos are independently governed in many provinces in Ontario, triggering some disagreement and
confusion since attention has not been given to many condominium acts by local government for years.

The Condo Owners Association works with various levels of government and numerous stakeholder groups for provision for change in order to protect Condo Owners and. Condominium Owners are part of the Condo Corporation and each unit has a single right to vote in the election of the Board of Directors running the corporation. The provincial condominium acts provides the guidelines relating to the tasks of the corporation in which the Board of Directors and the unit owners have the obligation to adhere to.

There exists five different styles of condominium corporations which all need shared ownership of land, building or both. These would integrate gated communities, fractional ownership and there are differences between actual ownership of (i.e., deeded title to or exclusive use) of the real property. The Condo Owners Association also provides condo owners consumer protection; ensuring that government mandates reflect better condominium communities and sustainable value. Each condominium corporation has a precise declaration replicating their corporate elements and operations. Condominiums have seen extensive progression in these provinces and condo owners often require better protection.

**Condominium Unit Description**

**The Cosmopolitan, a Condominium in Singapore**

The condominium document provides for the creation of the HOA. Guidelines of governance for the association are covered under a distinct set of by laws which generally administrate the internal matters of the condominium (Jennings, 2007). Condominium by laws established the duties of the owners' association; the qualifications, powers, and duties of the board of directors; the voting procedures to be used at association meetings; the powers and duties of the officers; and the obligations of the owners with regard to assessments, maintenance, and use of the units and common areas.

A set of rules and regulations providing intricate particulars of restrictions on behaviour of unit owners and residents are established by the HOA. These are generally more amendable than what had been defined in the condominium document declaration. The rules comprise
pet restrictions, mandatory maintenance fees, and design choices visible from the outside of the units. They are made available to residents via home Owners association website or through public files, depending on the state and its appropriate laws.

Condominium unit owners can rent their home to tenants, similar to renting out other real estate. However, leasing rights may depend on conditions or restrictions set forth in the declaration such as a rental cap for the total number of units in a community that can be leased at one time.

**Non-Residential Uses**

Condominium ownership is also used for non-residential land uses such as retail shops, offices, group housing facilities hotel rooms, and storage (Cheung, 2014). Generally, they have a similar legal structure and many of the benefits are alike. However, the recurrent income of commercial land uses in particular can make the intransigence of condominium arrangements challenging.

**Similar Concepts**

There are many forms of real estate ownership that are analogous to condominiums but not duplicate.

Classic privately owned detached houses on privately owned lots may be part of a community that has a homeowner's association. Such an association may manage a common park area, access road, or architectural standards for the houses.

In a townhouse composite, several corporeal houses are combined into a single architectural building. Each unit proprietor owns an acknowledged plot of land and the structure affixed to it. Nevertheless, that building is substantially part of a larger building.

Legally, this is highly comparable to detached houses. However, the difference arises in the intertwining of interests in the single architectural building and therefore a homeowner's association is required. The townhouse complex's HOA owns none of the building or the land under it. It is essentially under agreement to the townhouse possessors to uphold the parts of
the building that are hard to divide. Like the condominium, the townhouse complex often has common areas for roads, parking, clubhouses, and such.

A row house is similar to a townhouse; except that the houses are not physically connected. They are independent structures having no space between them. Technically, they are detached (UN-Habitat, 2010).

A building with multiple residential units may simply be owned in common by multiple people. This happens with each having specific rights to a certain unit and undivided interest in the rest. However, there is no HOA with legal powers. Governance proves more difficult, as the individual unit owners often have to agree universally or court intervention is required.

**Canada**

A town house complex called Brentwood Village in Edmonton, Alberta was the first condominium progress in Canada enlisted in 1967. Through systematic condominiums, the unit proprietor owns the internal unit space and a share of the corporation. The corporation then owns the outer part of the building land and common area.

In the case of a freehold condominium, the titleholder owns the land and building while the corporation owns common shared roadways and amenities. Condominium owners have the Canadian Condominium Institute (Jennings, 2007).

**Ontario**

Condominiums were overseen by the Ontario Condominium Act, 1998. Each one was required to establish a corporation to deal with daily functions such as the maintenance and repairs. A board of directors is voted by the proprietors of units in the development after a specific period of time. A general meeting was being held per annum to deal with board elections and the selection of an auditor. Special meetings of the owners were only called by the board.
Saskatchewan

In Saskatchewan, condominiums are registered as a distinct non-profit corporation owned by the unit owners. They elect a board of directors and the processes of the corporation are governed by The Condominium Property Act, 1993.

Denmark

Apartments are traded and mortgaged on the same markets as free-standing houses, and are treated legally much like other forms of real estate. They comprise 5% of Danish homes. Another 5% of Danish homes are in housing cooperatives, which occupy a legal position intermediate between condominiums and housing associations (David, 2002). Each owner-tenant directly owns his own apartment. However, the rest of the building and the land it stands is jointly owned by the apartment owners executing their mutual ownership through an owner's association.

Current public policy favors condominiums over housing cooperatives, and recent legislation has aimed at making the latter more condominium. For example, since 2005, cooperative shares have been used to secure bank loans.

England and Wales, UK

In England and Wales, the equivalent of condominium was commonhold; a form of ownership introduced in September 2004. Commonhold is quite rare, and condominiums are more prospective in the form of leaseholds.

In English law, it is impossible to implement a positive covenant on successive owners of freehold land without creating an intricate trust. This created major problems in 1950s, when flats first began to seem more affordable mostly for first-time buyers. It was not possible to impose essential maintenance requirements on flats; thus they were viewed as an unsatisfactory form of ownership. Property lawyers in England and Wales began to use leases instead, where such limitations did not apply.

Progress was chaotic in the earlier stages; but things became more standard over time. This promoted owners whether or not they borrowed money since acquisition was perpetually
steered by a solicitor or licensed conveyance trained to reject leases failing to meet the necessary standards.

The desire to eliminate some of the problems and perceived injustices prompted the formulation of commonhold statures (David, 2002). Commonholds did not become extensive; as most leasehold developments are undertaken by commercial entities. There are, however, other statutes in place that give some degree of protection for leaseholders. Scotland has a separate legal system from England and Wales and is a separate consideration.

**Finland**

In Finland, a condominium arrangement where the ownership of the real estate is assigned to specific apartments was usually used only with detached or semi-detached houses. Housing cooperatives are common forms of home possession in Finland. They are incorporated as limited-liability corporations, where a single share represents one square meter of the apartment. Membership of a condominium is obtained by buying the shares on the open market and no board approval is needed to buy shares. There is also no condition for the proprietor to live in the condominium. Owning of apartments for rent is a common form of saving and private investment in Finland.

**United States**

After the first condominium law passed in the United States in the Commonwealth of Puerto Rico in 1958, the first condominium was built in 1960. Attorney Keith B. Romney, the legal consultant for the condominium project, suggested a joint ownership structure instead of a housing cooperative.

He is also accredited to successfully lobbying for the passage of the Utah Condominium Act of 1960. Romney's role in the creation of condominium legislation with other state legislature is highly recognized.

**The Interior of a Loft Condominium in Chicago's West Side, USA**

Section 234 of the 1961 National Housing Act allowed the Federal Housing Administration to insure mortgages on condominiums, leading to a vast increase in the funds available for
condominiums and to condominium laws in every state by 1969. Developers then imported the condominium concept from Puerto Rico to other areas and used it to sell thousands of inexpensive homes to retirees arriving from the urban Northern U.S (UN-Habitat, 2010).

Condominium ownership provided the ability to obtain inexpensive housing in a quite desirable area beyond economic reach for most people. In recent years, the residential condominium industry has been booming in all of the major metropolitan areas such as Miami, San Francisco, Seattle, Boston, Chicago, Austin, Los Angeles and New York City.

**Styles of Condominium Complexes**

A garden condominium complex comprises low-rise buildings built with landscaped grounds surrounding them.

A townhouse condominium complex contains multi-floor semi-detached homes. The buyer owns only the interior, while the erection itself is possessed by a condominium corporation jointly owned by all the owners. It charges them fees for general maintenance and major repairs. Freehold townhouses are solely owned, without any condominium aspects.

**Hungary**

Condominiums were formally introduced in 1924 and are the most common form of housing in Hungarian cities since the collapse of communist dictatorship in 1989.

They are traded and mortgaged on the same markets as free standing houses, and treated much like other forms of real estate. The condominium operates as a non-profit legal entity sustaining the common areas of the property. It is overseen by a representative elected by the owners' convention.

Resolutions involving changes to the terms and conditions, or larger common expenses need to be ratified by agreement. Voting power is based on the percentage of property owned.

**Singapore**

In Singapore, the term Condominium is used for housing buildings possessing special luxury features like security guards, swimming pools or tennis courts.
The Governmental Housing Development Board (HDB) specializes in building a large percentage of the houses without the above features. Such HDB units can be owned for rent or individually bought from the government. They together with condos make up the vast majority of existing residential housing in the country.

**South Africa**

In South Africa, condominiums are known as Sectional Title properties, and are governed by the Sectional Titles Act No. 95 of 1986. Town-house complexes and many apartment blocks typically have this form of title (United Nations Publications, 2003).

Owners of the complexes contain the Body Corporate which chooses a group of Trustees to oversee the daily management. This is done by hiring a managing agent.

The experiences of the above representative countries that have practiced various forms of condominiums and sectional ownership depicts many positive and negative effects, successes and challenges of these types of ownership.

Prior to the introduction of sectional ownership in Kenya, the Government sent out delegations to a number of these countries to benchmark good practices that could be emulated when the new legislation was enacted.

e) **Sectional Properties Act of 1987, Kenya**

The Sectional Properties Act of 1987 was introduced to provide for the subdivision of buildings into units being owned by individual proprietors and common property to be owned by the proprietors of the units as tenants-in-common, and to provide for the use and management of the units and common property and for connected purposes (Government of Kenya, 1987). Though the Act was given Presidential assent in 1987, its commencement was delayed until 1991, when the necessary regulations were gazetted.

The idea of strata titles legislation was suggested in the early 1960s during the drafting of the Registered Land Act but the Government did not accept that proposal. This position was reversed in the 1980s when efforts by the Law Society of Kenya, the Law Reform Commission and the Ministry of Lands and Settlement resulted in the enactment of the

**Situation Prior to Introduction of Strata Titles Legislation**

Previously, when a developer wished to sell individual flats or maisonettes and where for some reason a subdivision survey was not practicable, the developer could apply for registration of an Architect's plan of the building on which the units (flat or maisonettes) were serially numbered under the Registration of Documents Act. Nyadimo (1992) lists problems associated with these procedures as that;

(i) The content and form of plans to support the issue of titles to flats was not prescribed in the existing legislation. There was no uniformity in the details on the plans and in the manner of delineating individual units.

(ii) There was no law, which distinguished what was individual property from common property this was left to the wording of the instrument.

(ii) Though common services were usually administered by a management company, it was not mandatory under existing law.

(iv) A company incorporated under the Companies Act was not the most suitable entity for management of common services.

(v) There were problems in the land registry because issue of titles to flats led to a multiplicity of valid titles to the same piece of land.

**Provisions of the Sectional Properties Act, 1987**

The main focus of the Act is to address the shortcomings in earlier procedures, as previously mentioned. The main provisions include:

(i) Requirement for Sectional Plans to support titles to parts of buildings, including preparation, form and content of the plans and certificates necessary to authenticate their approvals and technical correctness.
Registration of the Sectional Plan, under the Registered Land Act, of a building or parts of a building, where the title on which the building is erected is either freehold or leasehold from the government with an unexpired term of not less than 45 years.

On registration of a Sectional Plan in respect of any registered parcel of land, the title of that parcel, subject to the provisions for restoration, shall be cancelled to avoid multiplicity of titles. On such cancellation, no further transaction will be registrable against the title.

Substantive law governing rights and duties of proprietors of sectional property and other persons having interests therein.

A Corporation consisting of the owners of the units in the parcel to which the sectional plan relates or those persons entitled to the parcel on termination of the Sectional Property, is constituted on registration of a sectional plan.

The Corporation to have a Board of Management, which will appoint an Institutional Manager to manage, the common property including payment of rates, land rents and insurance premiums on the building.

**Registration Process under Sectional Properties Act**

Tenure in a Sectional Property is distinct from ordinary freehold and leasehold in that the owner of a unit holds negotiable title to his own unit while at the same time sharing the title and the cost of operation of the Sectional Property with other owners. The Registered Land Act, 1963, which is based on the English system of registration of title and allows for registration of parcels surveyed with general or fixed boundaries, is used.

In a case where a parcel is registered under the Registration of Titles Act (Torrens system), conversion to the English system is required before title can be given to individual units in a Sectional Property on that parcel.

A major requirement in the registration process is that the Registrar does not register a Sectional Plan unless the plan describes two (2) or more units in it. The main features in the registration process are that:
The Sectional Plan is submitted in quadruplicate.

b. On registration of the Sectional Plan, the register of the parcel described on the Sectional Plan is closed, a separate register for each unit described in the plan is opened and the title deed for the Sectional Property in respect of each unit is issued to the owner/developer. Each individual unit register, which is opened, specifies the unit factor for the unit.

c. No title deed is issued in respect of the common property but upon registration of a sectional plan, a register is opened for the common property - the register acts as a medium for recording matters such as the schedule for entitlement, the address for services of the notices on the Corporation and alteration of the bylaws.

d. After a Sectional Plan is registered and the registers for the units are opened, the units may devolve or be transferred, leased or otherwise dealt with in the same manner and form as land held under the Registered Land Act.

e. Upon registration of a Sectional Plan, a Corporation known as the Owners and Sectional Plan number is constituted.

Management Issues
The manner in which unit owners agree to share ownership of the common property is what makes management of a Sectional Property unique. The main challenge in the management of a Sectional Property is effective enforcement of positive obligations of each of the proprietors to maintain their part of the property and to contribute to the cost of the parts enjoyed in common services.

The Corporation
The Corporation is incorporated by the act of registering the sectional plan and not by the filing of any documents with the Registrar of Companies under the Companies Act. The Corporation is therefore not subject to the Companies Act. It has perpetual succession and a common seal and is capable of suing and being sued under the corporate name. The body corporate does not hold the common property beneficially, but only as agent for the proprietors who constitute the membership.
**Duties of the Corporation**

The Corporation has the responsibility of management of the affairs of the sectional property. A Board of Management is elected and then the Board, in turn, appoints an Institutional Manager to carry out the duties of the Corporation.

Duties of the Corporation include:

a. Setting bylaws.

b. Levying contributions for the purpose of its administrative fund. These contributions are levied in respect of each unit and are payable by the proprietors in share proportional to their unit factors.

c. Maintaining proper and adequate insurance for the property.

d. Granting leases to unit owners permitting the owners to exercise exclusive possession in respect of common property.

The Corporation sets bylaws to provide for the control, management and administration of the units, the moveable and the immovable property and the common property. The bylaws provided by the Act may serve only as a guideline to the unit owners who, through their Corporation can make a completely new set of bylaws to govern the management of their Sectional Property.

This provision of introducing new set of bylaws brings with it "life-style" in the management of the Sectional Property.

**Institutional Manager**

The following persons or firms may be appointed as Institutional Managers under the Sectional Properties Act 1987:

a. An accountant registered under the Accountants Act who has held a practicing certificate for a period of not less than five years.

b. An accountancy firm that has had an office in Kenya for a period of not less than five years.

c. A person registered as an estate agent under the Estate Agents Act.

d. An advocate of the High Court of Kenya.
f) **Environment Management and Coordination Act (EMCA) of 1999**

The Environment Management and Coordination Act 1999 provides for guidelines for environmentally sustainable development. The Act requires that development plans embrace the preparation of Participatory National Environment Plans that have sectorial coordination and linkages as well as environmental conservation measures. It also requires that environmental impact assessment be carried out for all development projects that are likely to pose negative environmental impacts. For complete projects, the act requires that yearly environmental audits be carried with clear mitigation measures.

g) **Water Act of 2002**

The Water Act 2002 establishes and regulates the institutions that are responsible for the provision of water and sewerage services as well as those that are in-charge of the development of large-scale infrastructure for harnessing water resources. The framework for water resources allocation and management strategies is outlined in this Act.

h) **County Government Act of 2012**

The County Government Act seeks to give effect to Chapter 11 of the Constitution and in particular provide for the powers, functions and responsibilities of county governments. The Act comes into operation upon the final announcement of the results of the first elections under the Constitution.

The main objectives of the Act include:

- Provide for matters necessary to give effect to Chapter 11 of the Constitution
- Give effect to the objects and principles of devolution
- Provide for powers, privileges and immunities of county assemblies
- Provide for public participation in the county assembly and its activities
- Ensure that cultural diversity of a county is reflected in its organs
- Prescribe mechanisms for the protection of minorities
- Prescribe procedures and standards for the management of county government
i) **Urban Areas and Cities Act of 2011**

This Act provides for;

(a) The classification, governance and management of urban areas and cities,

(b) The criteria of establishing urban areas and the principle of governance and participation of residents.

The act recognises involvement of the citizens through citizen fora of a city or municipality in the management and governance of the areas. Such involvement is not limited to development control which can really positively safeguard the environment against injurious developmental activities when all the stakeholders in the built environment are involved in guiding the developments.

j) **Land Act of 2012**

This is an Act of Parliament enacted to give effect to Article 68 of the Constitution of Kenya, to revise, consolidate and rationalize land laws; to provide for the sustainable administration and management of land and land based resources, and for connected purposes.

Part 9 of the Act allows for the conversion of land from one category to another as long as the conversion is in accordance to the Act or any other written law.

**2.6.3 Urban Areas and Cities Management Agencies**

Institutional coordination problems was common between the former Ministry of Local Government through Local Authorities and the Ministry of Lands and physical planning in allocation of open spaces and the abuse of the same by the developers in the past that violated planning regulations. There has been weak management in the former local authorities as well as failure of the local authorities to attract staff.

To address challenges associated with institutional frameworks in Kenya, the Urban Areas and Cities Act 2012, designates urban areas as Cities, Municipalities and towns. The act outlines a new management structure for such areas to be led by the City Manager and the Municipal/Town Management Board.
2.7 Theoretical and Conceptual Frameworks

2.7.1 Theory of Ownership

Owning something means having rights and obligations over that thing which other people do not have over it. Ownership is therefore a handful of rights and duties over something. These rights and duties are for example; using it, preventing other people from using it, paying taxes and rates on it, right to sell or give it out among others. The Theory of Ownership was developed by Oran Young with contributions from various other scholars. Oran Young sought to provide clarity on the conceptual distinctions devised by social scientists in framing questions to guide analysis concerning interactions between human users, natural resources and environmental services.

He noted that some social scientists focus on the properties of goods and services like excludability and rivalry and speak of common-pool resources and public goods without
recognizing that these phenomena are to a considerable degree socially constructed (this is to say goods and services may cease to exist in their original forms and can become public or private goods as a result of deliberate policy action by humans). Oran observed that excludable goods and services can be made non-excludable. Similarly, non-excludable goods and services can be made excludable using mechanisms like adoption of new technologies or new social interactions. All these transformations are met with a reasonable cost.

He sought to precisely distinguish the concepts of excludability and rivalry in ownership of goods and services. He defined excludability as that characteristic of a good or service to be consumed by one person or a group and diminishes in availability for others. This is also to mean the person or group can exclude others from consuming the good or service. They are thus rival in consumption. He termed such goods and services private goods. On the other hand, goods and services that are non-excludable and non-rival are public or collective goods. Oran also classified certain groups of goods and services as excludable but non-rival at least to the members of some well-defined group. He termed these club goods. Non-excludable but rival goods and services he called collective resources.

He provided the following dichotomy to reflect the types of ownership of goods and services.

<table>
<thead>
<tr>
<th>Types of Goods and Services</th>
<th>Excludable</th>
<th>Non-excludable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rival</td>
<td>Private goods</td>
<td>Common pool resources</td>
</tr>
<tr>
<td>Non-rival</td>
<td>Club goods</td>
<td>Public or collective goods</td>
</tr>
</tbody>
</table>

Source: Young (1999).

Oran also outlined the common problems associated with each category: the tragedy of the commons concerning the common pool resources, the free rider problem in the case of public goods and the idea of the public interest in the case of the side effects associated with the use of private goods. He further pointed out the debates on how to avoid the tragedy of the commons for common-pool resources and how to circumvent the free rider problem for public goods.
Oran argues that the tragedy of the commons can be avoided by implementation of codes of conduct and rights regarding common property resources adopted by all the parties owning the common pool resource. The question of the free rider for the case of public goods lies in the norms and values of the society in embracing a collective problem-solving approach while public interest concerns must be a priority in the case for private goods.

In the context of this study, property common areas like stairways and lift rooms for properties owned under the Sectional Properties Act can be represented by the common pool resources. The parties to such property in order to avoid the tragedy of the commons form a corporation that will appoint an institutional manager to manage these common areas on their behalf. Properties owned under the Companies Act are also owned in common and adopted rules contained in articles of association and memoranda of association govern their management to avoid the question of free riding.
2.7.2 Conceptual Framework

Figure 3: Conceptual Framework

- Share certification is proof of ownership.
- Property management governed by articles of association and memorandum of association.
- No direct obligation on matters like leasing of the property.

- Separate units have individual titles.
- Owners corporations’ by-laws govern management of the moveable and immovable property.
- Owners’ corporation appoints a manager to manage the common areas.
- An individual unit owner has direct obligations like leasing of the unit.

Factors contributing to the poor implementation of development control regulations include but not limited to:

- Poor policy implementation
- Lack of awareness of the existence of development control regulations
- Poor enforcement machinery
- Weak Institutional and legal framework
- Political interference and lack of political good will

Ownership

Land

Companies Act

Sectional Properties Act

Same title to Company (Club Ownership)

Title to developer

Property

Companies Act

Sectional Properties Act

Same title to company (ownership by shares)

Multiple titles to individuals (implied subdivision & ownership of common areas by corporation)

Master Bedroom/suite

Office Unit

Apartment

Corridor/Staircase, lift, rooftop

Parking

Sewerage

Security

Garden/recreational area

Water supply

Electricity/Solar heating

Garbage/Waste collection

Road reserve (public goods)

Source: Author, 2014; Partly Adapted from Oran Young’s Theory of Ownership of 1999.
2.8 Practical Implications of the Sectional Properties Act and the Companies Act on Development

2.8.1 Economic Implications

Kenya’s capital Nairobi continues to experience phenomenal growth in the commercial real estate market as the entry of multinationals, growth of local enterprises and an expanded government pushes demand for office space. Nairobi is an international, regional, national and local hub for commerce, transport, regional cooperation and economic development. It connects together Eastern, Central and Southern African countries. Nairobi employs 25% of Kenyans and 43% of the country’s urban workers; as it generates over 45% of GDP, it is a major contributor to Kenya’s economy; (UN-habitat, 2006). Many parts of Nairobi City especially the residential areas for the middle and high income earners are in a continuous change which is now fast and dramatic.

There are a lot of upcoming flats, shops, petrol stations, hotels, pubs and office blocks while maisonettes, trees, green parks, community centre, footpaths among other things are decreasing day after day. Areas such as Westlands, Lavington, Karen, Parklands, and Spring Valley among other areas in zones 3, 4 and 5 are fast becoming big areas of high-rise buildings thus changing the face of the once green city.

The developments of these high rise buildings and the development of infrastructure seem not to match, thus resulting in the developments exerting pressure on the existing infrastructural system. This has resulted into increased problems like electricity outages, high traffic congestion, increased rubbish on the drainage systems and also on the roads, the city becoming less and less green and increased pollution among other problems.

The land prices and subdivisions have also greatly increased. The prices for the developed properties have also become very high and cannot even compare to other places and parts in the world. For example a town house on a quarter acre located in an up market Cape Town neighborhoods is cheaper than a three-bedroom apartment in Kilimani. However this trend is the same in many other countries such as Malaysia, Australia, Germany, France, US and UK.
2.8.2 Development Challenges in Zones 3, 4 and 5
When the policy for zones 3, 4 and 5 in Nairobi City was last reviewed in 1987, the anticipated population was about 300,000 people. The economic slump of the 1990s saw poor performance by the construction industry. Nonetheless, the economic recovery that was progressively attained and sustained in the 2000s saw a recovery in the industry which led to rapid increase in property developments, largely driven by demand for housing and commercial buildings (Wayumba, 2013). While these developments continue to be reported, there has been little or no upgrade of supporting infrastructure, thus the constant complaints from residents of these zones. This situation poses serious social and environmental impacts on the populations living therein.

2.8.3 Incongruous Developments Juxtaposing
Zones 3, 4 and 5 that were initially wholly residential neighbourhoods have attracted massive commercial developments. Among these include Nakumatt Supermarkets: The Junction and Ngong Road ones; Uchumi Supermarkets: Ngong Road and Yaya Centre along Argwings Kodhek Road; among others (Wayumba, 2013). This attracts and further generates traffic volumes in the arterial routes. Other areas in these zones facing a similar problem include Nakumatt High ridge, Nakumatt Ukay, The Sarit Centre and Diamond Plaza in the larger Westlands area.

Due to demand, there has been much resistance by developers to stick to the zones previously zoned as commercial. Thus, there has been change of use of the former housing units to commercial properties. Mwaura (2006) observes the resultant mixed use development causing incongruous developments being juxtaposed to one another. This has been evidenced by the lack of parking space at plot level, congestion; both vehicular and passenger, air and noise pollution, blockage of gates leading to individual residences and increased anti-social behaviours such as crime and prostitution. This has further compromised the privacy of the residents of these zones.

2.8.4 Infrastructure Development
The characteristic of developments in Nairobi’s zones 3, 4 and 5 gives an indication of a demand-driven approach to development as opposed to the preferred infrastructure-driven approach. Therefore, the commercial, office and housing developments exert pressure on the
existing infrastructure (Nyadimo, 1992). Sewerage systems experience regular blockages due to increased sewerage discharge. Peak periods have been marred by limited or no water supply, thus the need for reservoir tanks, sinking of bore holes and installation of pressure booster pumps. The high volumes of surface run-off exert pressure on the drainage systems hence frequent flooding. The road network has also been increasingly reducing in its capacity to handle the constantly increasing populations. Together with these is the encroachment on land meant for communal social activities. Spaces meant for playing fields and recreational activities have now been utilised for the development of properties, leaving the communities living there with no space for recreational activities. Other notable infrastructures that need consideration according to Michira (2012) include fire fighting and solid waste management facilities.
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction
This chapter outlines the methodology that was used to achieve the study’s objectives. It defines the design adopted and the population targeted. It articulates how the appropriate sample was selected and the treatment that was given so as to collect the required data. Finally, this section gives the data analysis approach and its subsequent presentation, outlining the ethical considerations in the process.

3.2 Research Design
The research design adopted for this study was a case study. This study sought to compare the impact of Companies Act and subsequent Sectional Properties Act on development control particularly in zones 3, 4 and 5 of Nairobi City. Both primary and secondary data collection approaches were used to collect appropriate data needed to fulfil the study purpose.

3.3 Target Population
This study was conducted in Nairobi City’s zones 3, 4 and 5. Zones 3, 4 and 5 of Nairobi City had previously been locked out of high-rise developments as guided by the then City Council’s regulations and by-laws. However, an amendment to these regulations following the demand for housing units and offices saw the emergence of high-rise buildings in the region. The rapid development of these buildings has been heightened by the fact that a property could have its units under different ownerships as provided for in the Sectional Properties Act. This provided a basis to study the influence of the Companies Act on property ownership and development and how the Sectional Properties Act transformed this.

Zones 3, 4 and 5 of Nairobi City thus provided an appropriate sample that could inform on the Kenyan urban context.

3.4 Sample Size and Sampling Method
The target population in research is a complete set of individuals, cases or objects with some common observable characteristics (Mugenda & Mugenda, 2003).
According to the same authors, it is often impossible to study the whole of the target population in research due to time and resource constraints.

Thus only a representative part of the set, a sample, with salient characteristics of the target population is always selected for study and the results used to generalize the whole population.

The formula used to obtain the required sample size for this study was the one for social research suggested by Mugenda and Mugenda (2003).

\[ n = \left( \frac{z^2 \cdot p \cdot q}{m^2} \right) \]

Where;

- \( n \) is the required sample size;
- \( z \) is the standard normal deviate at the required confidence level (with 95% confidence level mostly used in social sciences according to Mugenda and Mugenda (2003), \( z \) is 1.96);
- \( p \) is the proportion in the target population estimated to have characteristics being measured (50% was used for this study);
- \( q \) (alpha) is one minus the confidence level (1-0.95, hence \( q \) was 0.05 for this study);
- \( m \) is the margin of error or confidence interval (4% was used for this particular study);

\[ n = 1.96^2 \cdot 0.5 \cdot 0.05 / 0.04^2 \]

The sample size obtained was 61.

Thus a total of 61 questionnaires were administered to property managers and developers of properties who were the target respondents for the study in the three zones. However, out of 61, about 80% return rate was observed. Thus 49 questionnaires were returned which was consistent with the suggestions of Mugenda and Mugenda (2003) that at least 30 cases or more are required to make a good sample. The distribution was almost equal across the three zones. In zone 3, a sample size of 20 were returned, in zone 4 a total of 14 while in zone 5, a total of 15 questionnaires were returned. Out of these, 27 were residential developments, 22 were commercial cum office use developments.
The sampling method used was cluster sampling where the target population was grouped by cluster of the three zones. Key informant interviews were also conducted with the county government of Nairobi; Policy Implementation and Development Control sections and also with the Physical Planning department of the Ministry of Lands, Housing and Urban Development.

3.5 Data Collection Methods and Instruments

Data was collected using primary and secondary sources. The Primary data collection methods used included:

3.5.1 Direct Observation

Direct observation was involved where a field survey in the designated zones was conducted. The survey meant to familiarise the researcher with the study areas. Development trends in the areas were also observed during the survey and documented through taking of Photographs.

Additionally, the researcher infrastructural developments in the areas were observed to determine whether there have been any adjustments to cope with the increased development. This field survey was important in determining whether development control rules and regulations in the regions have been adhered to and the effect of increased development in the provision of essential services and infrastructure.

3.5.2 Oral Interviews and Open Discussions

The key respondents for the study were land owners, developers and property managers managing the properties within the study area. These respondents were vital information sources on the experience with the infrastructure in the region and the social and environmental impacts associated with the high density developments in the three zones. Informal discussions with the respondents also provided information on the previous development tendencies in the region before the legislation of the Sectional Properties Act.

Key informant interviews conducted with county government of Nairobi officers in charge of policy implementation and development control sections was important in providing information on the trends in development applications in the three zones after the policy review for high density developments and the resultant development control challenges.
Furthermore, secondary data was obtained from existing literature through review of existing written works of the subject under study. Both the published and unpublished literature sources were reviewed to determine the development control regulations, concept of development and its relationship to development control. Development control practices in Kenya and trends with regard to regions 3, 4 and 5 in particular of Nairobi City were also reviewed. The secondary data sources included development plans, land registry records, land maps, planning standards, various acts of parliament, the Building Code and Nairobi City County by-laws and valuation laws.

3.6 Data Cleaning and Editing Procedures

In order to keep the respondents within the topic and relevant issues, the researcher used closed-ended questions as much as possible. Open-ended questions were only used to provide the researcher with additional information on the questions being asked as indicated by Mugenda and Mugenda (2003). The responses were edited to fit within the objectives of the study.

3.7 Data Inputting

With the help of three research assistants, the researcher conducted interviews with selected respondents. These research assistants provided the labour support needed in conducting the field survey. The data collected through these interviews was fed into Statistical Package for Social Sciences (SPSS) for analysis.

3.8 Data Analysis

Statistical package for social sciences (SPSS) was the major tool used to analyse the obtained data. Some of the variables tested included the extent of the infrastructural challenges as a result of high density developments across the three zones. Qualitative (descriptive) methods were used in analysing the quantitative data collected majorly from the key informants of the study.

3.9 Data Presentation

Various methods have been used to present the study findings. First, diagrams and graphical representations have been used so as to make the audience understand the content of the material easily and in addition to enhance the appearance of the presentation as argued by
Mugenda and Mugenda (2003). Those that have been used in this research include pie charts, bar charts, percentage bar charts and line graphs.

Secondly, frequencies tables have been used to enable the researcher summarise data and present it in a tabular form for easy comparison and analysis. From these will be derived frequency distribution using bar graphs and 3D cadastral graphics for easier interpretation of the collected data.

3.10 Organisation of the Thesis

The thesis has been presented in five chapters. Chapter one introduces the problem that has informed this study and as such articulate the research questions and objectives. It justifies the need for the study and outlines the scope within which this study focuses. Chapter two entails a review of relevant and credible literature. It is basically a review of secondary sources on issues regarding sectional property ownership, the emergent 3D cadastral registration system and land development control and planning from a global and local scope. In chapter three, the methodology on which the research is based is outlined including the research design, definition of the target population, sampling methods and instruments, data collection, analysis, interpretation and presentation.

This chapter also incorporates the background of the study area. Based on the findings of the study, chapter four elaborates on the analysis and presentation of data. Finally, chapter five gives the summary of the findings and further articulates policy recommendations, the conclusion of the study and considerations for future research.

3.11 Ethical Implications

According to McNamara (1994), there are five ethical issues that should be put into consideration when conducting a research study: voluntary participation, safety of participants, anonymity and confidentiality purpose of survey and sponsorship, analysis and reporting. These were considered in carrying out this study.

3.11.1 Voluntary participation

This study involved informants on a voluntary basis with no coercive approaches being employed. Even though this could have a negative implication on the response rate and possibly introduce biased feedback, the researcher observed the free will of the respondents.
To further delimit this shortcoming, the researcher fully disclosed the purpose of this study and offered any assistance needed in giving feedback so as to encourage a higher rate of participation.

3.11.2 Safety of participants

The researcher ensured that the research assistants were not exposed to any risk or health hazard when assisting in the field study. Additionally, questions that cause embarrassment and discomfort among the respondents and other participants were kept off and only questions in line with objectivity of the study were asked.

3.11.3 Anonymity and confidentiality

The respondents’ identities were protected to the best of the researcher’s ability. This was guaranteed as there was no provision for identification of the respondent on the interview guides where information was provided on a voluntary basis only. No form of identity that could jeopardise the anonymity and confidentiality of the participants were captured.

3.11.4 Purpose of the survey and sponsorship

All the prospective respondents were informed of the purpose of the study and the organisation that was sponsoring the research if any and for this case since it was an academic study none was available. The purpose of the study was captured in the research permit letter from the Department of Urban and Regional Planning. This introduction letter also indicated that the results were to be used in a thesis as a partial fulfilment of the requirements of a Master’s degree.

3.11.5 Analysis and reporting

The research sought accurately to report on both the methods and results from the survey. The weaknesses and problems experienced in the course of the research were also pointed out, just as would the positive results from the study.

3.11.6 Study Limitations

It is common in research for limitations to be encountered (Mugenda & Mugenda, 2003). In this particular study, the following challenges were experienced during the data collection processes:
The study respondents were uncooperative.

The study dealt with land issues which are very sensitive matters especially in Kenya. This had implications on the level to which information was disclosed by the respondents.

The respondents also being property owners and managers had busy schedules and in most cases gave out appointments and promises where they did not honour them in some instances. Thus in some cases, unfilled questionnaires were returned.

Prolonged data collection exercise than anticipated.

The data collection exercise took a period of more than two weeks which was not anticipated. The nature of the respondents being people with tight schedules demanded that the researcher had no control over the data collection period and the exercise was reduced merely to dropping of questionnaires to be collected at a later date with meagre assurance that they would be filled. Prolonged data collection period had financial implications on the exercise for the researcher and more so because research assistants were involved.
### 3.12 Data Needs Matrix

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Data Needs</th>
<th>Sources of data</th>
<th>Data collection methods</th>
<th>Data analysis</th>
<th>Data presentation</th>
<th>Expected output</th>
</tr>
</thead>
<tbody>
<tr>
<td>To profile the kind of property development that has been popular in zones 3, 4 and 5 under the Companies Act and under the Sectional Properties Act.</td>
<td>Information on the transformation observed in the nature of properties in zones 3, 4 and 5 under the Companies Act and the Sectional Properties Act.</td>
<td>Field survey Nairobi City Planning</td>
<td>Field observation. Literature review of property ownership structure in zones 3, 4 and 5.</td>
<td>Qualitative analysis of collected data</td>
<td>Photographs</td>
<td>There has been a major shift towards high-rise commercial and residential buildings in Nairobi City’s zones 3, 4 and 5.</td>
</tr>
<tr>
<td>To determine the reasons for preference to either the Companies Act or the Sectional Properties Act for property owners in zones 3, 4 and 5.</td>
<td>Reasons for preference of any particular legislation. Advantages and limitations of both the Companies Act and the Sectional Properties Act.</td>
<td>Property owners in zones 3, 4 and 5. Nairobi City Planning department.</td>
<td>Interviewing property owners and managers. Literature review on the limitations and advantages of the legislations.</td>
<td>Qualitative analysis of the collected data</td>
<td>Reports.</td>
<td>The Sectional Properties Act provides for title certification for sections of properties owned as opposed to the Companies Act that depended on share allotment as proof of ownership.</td>
</tr>
<tr>
<td>To evaluate the infrastructural, social and environmental impacts of the developments in zones 3, 4 and 5 under the Companies Act and the Sectional Properties Act.</td>
<td>An assessment of the infrastructural, social and environmental impacts of the developments in zones 3, 4 and 5.</td>
<td>Field survey and observation. Key informants Residents of Nairobi’s zones 3, 4 and 5.</td>
<td>Observations Photography. Administration of questionnaires Discussions with key informants. Systematic random sampling will be used.</td>
<td>Qualitative and quantitative analysis.</td>
<td>Reports. Charts. Tables.</td>
<td>The emergent developments in zones 3, 4 and 5 have necessitated the expansion of infrastructure but there has been Little undertaking to upgrade these Infrastructure in line with the increased demand. Social and environmental impacts of high density developments.</td>
</tr>
</tbody>
</table>
| To find out what factors contribute to the poor implementation and enforcement of existing development planning regulations in the three zones. | Development control drivers Literature review from secondary data sources; journals articles, policy papers e.t.c | Documentation of past works on Drivers of development control. | Qualitative Data analysis. | Reports.                                                                                           | Highlight of various factors leading to the poor implementation of development control policies and legislations. |}

Source: Author, 2014.
3.13 Background of the Study Area

3.13.1 Location and Geography

Nairobi is situated at 1°17′S 36°49′E / 1.283°S 36.817°E / -1.283; 36.817 (Nairobi, Kenya) at an elevation of 1795 m above sea level and covers an area of 696 km² (269 sqm mi). It is adjacent to the eastern edge of the Rift Valley and therefore has minor earthquakes and tremors occasionally.

Map 1: Map of study Area in National, Region and Local Context

Source: Map of Kenya and Nairobi (JICA, 2003), Study Area Map: Author, 2014
3.13.2 Climate

Nairobi has a subtropical highland climate. Evenings may be cool, especially in the June/July season, when the temperature can drop to 10 °C. The sunniest and warmest part of the year is from December to March, when temperatures average the mid-twenties during the day. The mean maximum temperature for this period is 24 °C. The city receives an average of 900 mm of rainfall annually according to the Kenya meteorological department. The graph shows the average monthly rainfall and the mean daily temperatures for Nairobi city.

Figure 4: Average Monthly Rainfall and the Mean Daily Temperatures for Nairobi City

Adopted from Kenya Meteorological Department Website, June 14, 2014.
3.13.3 Population Dynamics

According to the 2009 census, Nairobi has a population of 3,375,000 and a population density of, 850 persons per km$^2$. The city’s population is estimated to be over 4 million in 2014. It has experienced high population growth rates making it to be the largest city in East Africa. It is currently experiencing a growth rate of 4.1% and is estimated to have a population of 7 million residents by 2025 (Kenya National Bureau of Statistics, 2013)

3.13.4 Dynamics of the City since the Colonial Period

Nairobi is the capital and also the biggest city in Kenya. It was founded in 1899 as a depot on the railway linking Mombasa to Uganda and grew to become the capital of British East Africa in 1907 and later the capital of the Republic in Kenya in 1963. During Kenya's colonial period, the city became a centre for the colony's coffee, tea and sisal industry.

The city is the most populous in East Africa and also the 14$^{th}$ largest city in Africa. The city has many established businesses and companies and also hosts many major international businesses and organizations which includes the United Nations and is also the headquarters of United Nations in Africa and Middle East.

According to The Globalization and World Cities Study Group and Network (GAWC), Nairobi stock exchange is one of the largest in Africa and able to transact more than 10 million trades a day and thus defining Nairobi as “a prominent social centre.”

Before 1899, before the city was established, the city was uninhabited swamp and was completely rebuilt in the early 1900s after the original town was burnt.

It became the depot for the Uganda railway due to its central position between Mombasa and Uganda and also due to its network of rivers which would supply water. However there were high cases of malaria which almost made the town to be moved.

The town grew majorly as a place for administration and tourism and later the British explorers started using the town as their first port which led to grand hotels being built on it and many Britons settled on the city’s suburbs which led to the town being declared as a municipality in 1919.
The dream of Nairobi becoming a city was born in 1926 when E.A.T Dutton said “Maybe one day Nairobi will be laid out with tarred roads, with avenues of flowering trees, flanked by noble buildings; with open spaces and stately squares; a cathedral worthy of faith and country; museums and galleries of art; theatres and public offices.” By the time of independence it had reached around 350 000 people (Olima, 2001).

The expansion of the town was however not welcomed by the local communities such as the Kikuyu and the Maasai as they felt their land was being taken by the Britons. This led to the emergence of the MAUMAU rebellion and which led to the independence.

In the early times of its development, the city was characterized by natural forest, labyrinthine river line ecosystems, and wetlands. The area boasted abundant wildlife in forest groves, marshy wetlands, the Kitengela Corridor, and the Athi-Kapiti plains (UNON, 2007).

The rapid growth of the town started after independence which leading to exerting of pressure on the existing infrastructure with problems of such as water shortages and power blackouts being common. This called for the intervention of city planning.

Due to unplanned urbanization, there was minimal police stations and inadequate security infrastructure thus leading to increased crime rates throughout the 1990s. This led to many big houses to have a watch guard, burglar grills, and dogs to patrol their grounds during the night. However most of the crimes happen in the residential areas for the poor and which has become very insecure in the night hours. However since 2007 the government has increased the number and presence of police officers to combat the problem of insecurity.

The involvement of the Kenyan troops in the hunt for Al-shabaab terrorist group has however exposed the city to numerous terrorist attacks since 2012 by use of grenades and attacks such as Westgate attack.

The city has dense tree-cover and plenty of green spaces which include Uhuru Park, Central Park 7 August Memorial Park, and Nairobi Arboretum. In the past it was therefore coined as “green city in the sun” (UNON, 2007). However due to the high demand for housing and infrastructure, the surrounding areas which were once green have been replaced with buildings especially the high-rise ones and it took a lot of effort from Wangari Maathai (Nobel Peace Prize laureate), to save the indigenous Karura Forest in Northern Nairobi from
being replaced with housing and other infrastructure. This was also the case for Uhuru Park which is the most famous park where there was a plan to build a 62 storey building to serve as the headquarters for Kenya African National Union (KANU). However the campaign led by Wangari saved the park. The expansion of the city has therefore been to in a great expense of the natural environment.

Much of the natural vegetation surrounding Nairobi was lost as the city’s boundaries were extended numerous times to accommodate the growing population (UNON, 2007). Nairobi’s rapid growth increased the demand for land and led to land speculation, forcing the poor to settle in fragile and unsavoury areas where they face hardships due to a lack of proper housing and public services and where they are vulnerable to environmental change (UNON, 2007).

Most of the up-markets suburbs in Nairobi are located west and north-central of Nairobi where most of the European settlers had settled. These areas include Karen, Langata, Lavington, Gigiri, Muthaiga, Brookside, Spring Valley, Loresho, Kilimani, Kileleshwa, Hurlingham, Runda, Kitisuru, Nyari, Kyuna, Lower Kabete, Westlands, and High ridge, although Kangemi, Kawangware, and Dagoretti are lower income areas close to these affluent suburbs. Most lower-middle and upper middle income neighbourhoods are located in the north-central areas such as High ridge, Parklands, Ngara, Pangani, Avenue Park, Fedha, Pipeline, Donholm, Greenfields, Nyayo, Taasia, Baraka, Nairobi West, Madaraka, Siwaka, South B, South C, Riverbank, Hazina, Buru Buru, Uhuru, Harambee Civil Servants’, Akiba, Kimathi, Pioneer, and Koma Rock to the centre-east and Kasarani to northeast area among others. The low and lower income estates are located mainly in far eastern Nairobi. These include, Umoja, Kariokor, Dandora, Kariobangi, Embakasi, and Huruma among others.

By 1993, informal settlements housed about 55 per cent of the city’s population (Matrix Development Consultants 1993) and by 1995, there were a total of 134 informal settlements with 77 589 structures. These settlements had a combined population of 1 886 166 (Matrix Development Consultants, 1993).

The slums include Kibera where people live in extreme poverty earning less than $1 a day; high unemployment rates, high cases of HIV cases, few schools and people can’t afford education for their children, poor health care among other problems.
However the government is addressing this problem by initiating a programme to replace the slum with a residential district of high-rise apartments and relocating the residents to these new buildings upon completion. This is being done in phases and the first phase has already been completed.

Recently, many companies have opted to move out of the CBD and relocate in the suburbs. This has been facilitated by several reasons such as cheaper land and the cost of building and maintaining new facilities. The areas that have been identified as better places to relocate to are upper hill (located approximately 4 km (2.5 mi) from the Central Business District) and Westlands, which is also about the same distance, away from the city centre.

Big shopping malls are also located out of the CBD. These malls include The Yaya Centre (Hurlingham), Sarit Centre (Westlands), Westgate Shopping Mall (Westlands), ABC Place (Westlands), The Village Market (Gigiri), Junction Shopping Centre (Ngong Road), Prestige Plaza (Ngong Road), Crossroads Shopping Centre (Karen), and T-Mall (Langata).

3.13.5 Increasing Motorization Rates

Nairobi has registered a rapid increase in car ownership. The country had about 600,000 No. vehicle units in 2000, 950,000 in 2008 but this has risen to about 1.2 million in 2010/11. Nairobi is estimated to accommodate 30% of the national total vehicle population (Mairura, 2011). This is characterized with high number of private cars than the public transport cars and which has led to a lot of congestion in the city.

Due to industrialization and use of cars in the city, there has been a lot of pollution with mean day time concentrations of fine particles ranging from 10.7μg/m3 at the rural edge of the city to 98.1μg/m3 on a sidewalk in the CBD (Mairura, 2011).

3.13.6 Current Settlements

The city can be said to be fledged and is now divided into different residential areas. The areas have been zoned where there are areas for high income, middle income earners and low income earners. Due to high population growth, Nairobi is experiencing transformations thus leading to inadequacy of the current infrastructure and also an increase in the poverty levels. The high population growth rate has exerted a lot of pressure on the low density residential neighbourhoods particularly zones 3, 4 and 5.
This is as a result of the rising demand for housing, office and commercial developments (Mwaura, 2006). This led to the change of policy where areas that were zoned for low density residential areas were opened up allowing for high-rise buildings. Areas where maisonettes were the only structures were opened up allowing buildings going even to 10 storeys and above so as to accommodate the high population and reduce the high demand for housing. According to Mwaura (2006), the reviewing of the development policy was meant to create opportunities for new investments, job creation; to create additional housing while conserving prime neighbourhoods, improved infrastructure, and healthy environment.
CHAPTER FOUR

STUDY FINDINGS

Overview
This chapter seeks to present the results of the entire research study undertaken. The presented results are those of the analysis of the data collected for the study. In a study where questionnaires are administered, a response rate of 50% is adequate for analysis and reporting, 60% is a good response while 70% is very good according to Mugenda and Mugenda (1999). This study had an average response rate of 80% which was adequate and acceptable.

The general tools used in analysing the data collected for this study was SPSS. The respondents background information like gender, age and socio-economic statuses, the profile of the types of developments in Nairobi planning zones 3, 4 and 5 under Sectional Properties Act and Companies Act, the impacts of the developments on existing infrastructural facilities and their social and environmental impacts were some of the variables tested using SPSS. Scholars reported that the basic principle of presenting findings is to give all the evidence relevant to the research objectives (Mugenda & Mugenda, 1999).

The general objective of this study was to compare the influence of the Companies Act and the Sectional Properties Act on development control in Nairobi’s planning zones 3, 4 and 5 while the specific objectives were:

i. To examine the main drivers of the increased high rise developments in the study area

ii. To profile the kind of property development that has been popular in Nairobi’s planning zones 3, 4 and 5 under the Companies Act and Sectional Properties Act.

iii. To determine the reasons for the preference of either the Companies Act or the Sectional Properties Act for property owners in the above zones.

iv. To evaluate the infrastructural, social and environmental impacts of the developments in zones 3, 4 and 5 under the Companies Act and under the Sectional Properties Act.

v. To find out what factors contribute to the poor implementation and enforcement of existing development planning regulations in the three zones.
4.1 Respondents Background

Majority of the respondents were male comprising 61.7% while the female respondents comprised of 38.3%.

As per as age of the respondents is concerned, majority are in the age category of 16-35 years. This comprised 68.1% of the study respondents. The respondents in the category of 36-55 years comprised 29.8% while those over 55 years comprised 2.1%. Majority were also married comprising 78.9% while the single ones comprised 21.1%.

The occupation of the respondents is majorly related to the real estate industry. Property managers composed 53.7%, property agents 19.5%, valuers comprised 12.2% and administrators comprised 2.4%. Their income levels varied where 41.7% are in the income category of between 50,001-70,000 Kenya shillings per month. Those of the monthly income category of between 10,000-30,000 Kenya shillings comprised 19.4% while those within the category of 30,000-50,000 Kenya shillings formed 16.7% of the responses. The respondents earning between 70,001-100,000 Ksh composed 11.1% while those earning above 100,000 Ksh comprised 11.1%.

Figure 5: Respondents' Income in Kenya shillings
4.2 Development Trends within Zones 3, 4 and 5

The profile of developments in the three zones comprised of three land uses. Residential use composed of 55.1%, commercial use comprised 40.1% and office use comprised 4.8%.

From the study it also emerged that high-rise buildings are majorly constructed within the three zones. The most dominant development applications popular in zones 3, 4 and 5 are apartments and offices according to one of the officers of the county government of Nairobi in charge of development control in the city.

However the high density developments in the above zones have not been met with commensurate upgrade in infrastructure according to the same officer.

Figure 2.4; Land Uses within the Three Zones

Source: Author, 2014
4.3 The Change from 2D to 3D Cadastre

The findings of the study were consistent with one of the hypotheses of this study which was that there has been a shift to high rise commercial and residential developments in the three zones due to enactment of the Sectional Properties Act and the Companies Act and the policy change for high density developments. As per as the shift is concerned, 77.3% of the respondents reported that there was indeed a transformation to their properties as a result of the policy review for high density developments in the three zones.

Figure 6: Shift towards High Density Developments

![Bar chart showing type of property transformation]

Source: Author, 2014.

Report from officer at the city planning policy implementation section also showed that the highest type of transformation taking place is the change of use from single dwelling units to multi dwelling units (apartments) and change of use to offices especially in zone 4. The property transformations were facilitated either by the Sectional Properties Act or the Companies Act. Majority, comprising of 64% were facilitated by the Sectional Properties Act while 36% of the cases where facilitated by the Companies Act.
Plate 2: Delta Plaza, One of the High Density Developments in the Study Area

As the photo alongside (taken from Westlands which is in zone 3) shows, massive developments have taken place and there are many high rise buildings with many storeys which have increased total floor areas (plot ratios) and ground coverages.

Source: Field survey, 2014

Plate 3: some of the upcoming Developments in the study area

The photo alongside shows one of the upcoming buildings in the study area. The building is more than 10 floors and can accommodate many businesses and offices due to the increased floor areas (plot ratios) and ground coverage.

4.4 Property Developments Prior to and After the Policy Review

From the analysis of the data it showed that the developments which have been taking place within the three zones took place recently possibly in response to the policy review for high density developments. The study found out that 57% of the properties were constructed between the years 2004-2014 cumulatively, 9.5% prior to 2004 and 8.2% were on-going. This suggests the responsive increase in development as a result of the policy change for high density developments in the three zones.
4.5 Property Ownership

The type of ownership of the properties varied from sole proprietorship to partnerships to sectional ownership. Majority of the properties were held under company ownership, which comprised 39.6%, sole proprietorship comprised 29.2%, partnerships formed 14.6% and sectional ownership comprised of 4.2%.
Figure 8: Property Ownership Types

Source; author, 2014

If the property is owned by more than one investor it was either under the Companies Act or Sectional Properties Act and from the analysis of data collected from the field 51.4% was under the Companies Act while 48.6% were under the Sectional Properties Act. The respondents also gave reasons for the preference of one type of legislation to the other. The legislations under which the properties are owned mainly comprised of the Sectional Properties Act and the Companies Act. Over half of the respondents, 51%, owned their properties under the Sectional Properties Act while 49% owned under the companies act.
The study results supported one of the research hypotheses which stated that there is a level of significance in the change from 2D to 3D cadastre in Nairobi’s planning zones 3, 4 and 5 with the enactment of the Sectional Properties Act and the Companies Act. This hypothesis was tested using chi-square as follows;

**Hypothesis:** There is a relationship between the change from 2D to 3D cadastre in Nairobi’s planning zones 3, 4 and 5 and the enactment of the Sectional Properties Act and the Companies Act.

**H\(_0\):** There is no level of significance in the change from 2D to 3D cadastre in Nairobi’s planning zones 3, 4 and 5 with the enactment of the Sectional Properties Act and the Companies Act.

**H\(_1\):** There is a level of significance in the change from 2D to 3D cadastre in Nairobi’s planning zones 3, 4 and 5 with the enactment of the Sectional Properties Act and the Companies Act.
was there any transformation to the property due to new policy

<table>
<thead>
<tr>
<th></th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
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<td>32</td>
<td>19.0</td>
<td>13.0</td>
</tr>
<tr>
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<td>6</td>
<td>19.0</td>
<td>-13.0</td>
</tr>
<tr>
<td>Total</td>
<td>38</td>
<td>38</td>
<td></td>
</tr>
</tbody>
</table>

if yes was the transformation facilitated by Companies Act or Sectional Properties Act

<table>
<thead>
<tr>
<th></th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
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</thead>
<tbody>
<tr>
<td>Companies Act</td>
<td>7</td>
<td>11.5</td>
<td>-4.5</td>
</tr>
<tr>
<td>Sectional Properties Act</td>
<td>16</td>
<td>11.5</td>
<td>4.5</td>
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<tr>
<td>Total</td>
<td>23</td>
<td>23</td>
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</tbody>
</table>

if yes was the transformation facilitated by companies act or sectional properties act

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<tr>
<td>Chi-square</td>
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<td>Degree of freedom</td>
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<td></td>
</tr>
<tr>
<td>Asymp. Sig.</td>
<td>.061</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Using 1 as the degree of freedom, the critical chi-square ($X^2$) value=3.8314

Critical value (3.8314) > Chi-square value (3.522), hence the null hypothesis is rejected.

Therefore, there is a level of significance in the change from 2D to 3D cadastre in Nairobi’s planning zones 3, 4 and 5 with the enactment of the Sectional Properties Act and the Companies Act.
As far as the effect of these resultant high density developmental activities on development control is concerned, they are guided and regulated by the zoning policies of the county government of Nairobi. The Physical Planning department in the Ministry of Lands, Housing and Urban Development no longer plays any role pertaining to development control in such areas as planning functions have been devolved to the counties. The Physical Planning Act of 1996 mandates the office of the Director of Physical Planning to prepare local physical development plans to guide development in a city, town or any local area. According to the Assistant Director of Physical Planning interviewed, the above function had already been delegated to the defunct city council of Nairobi even before the county system of governance came into effect. The only instance where the office of the director plays a role in regulation of physical development is where a developmental activity has an effect on the title of a property. Such changes on an original title, for instance, due to sectional ownership of a previous sole-proprietorship owned property is involved, the same must be effected by the director’s office to avoid double registration.

4.6 Preference of Sectional Properties Act to Companies Act

The study also sought to establish the reasons for the preference of one act to another under which properties are owned. The results showed that 33% of the respondents preferred owning a property under Sectional Properties Act as compared to the Companies Act because it allows for separate ownership of individual units of a property. It is worth noting that under the Sectional Properties Act, the owner of a single unit has a title attached to it. This comes with other benefits such as security of tenure and the ability to secure loan facilities, lease, sell and assign to the owner for a single unit owned separately within a property.
Plate 5: Sectional Units and Common Areas of a Property

Source: Author, 2014.
The respondents also reported the need to pool resources together as one of the reasons for the preference of the Sectional Properties Act. This comprised of 27% of the cases. The provision of clear guidelines on ownership and management of the act was another reason for such preference. This also comprised 27% of the cases. Others included the fact that the act enables individual owners manage their obligations directly at 7%. In some cases, there was no particular preference to any of the two acts. It is worth noting that majority of the respondents, about 70%, did not provide any reason for the preference of one act to another.

Figure 10: Reasons for the Preference of Sectional Properties Act to Companies Act

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allow separate ownership of individual units</td>
<td>33%</td>
</tr>
<tr>
<td>Need to pool resources together</td>
<td>27%</td>
</tr>
<tr>
<td>Provides clear guidelines on ownership and management</td>
<td>27%</td>
</tr>
<tr>
<td>Individual owners manage their obligations directly</td>
<td>7%</td>
</tr>
<tr>
<td>None is preferred as long as proper documentation is made.</td>
<td>6%</td>
</tr>
</tbody>
</table>

Source: Author, 2014.
4.7 Preference of Companies Act to Sectional Properties Act

A number of the sampled properties were owned under the Companies Act. The respondents gave a number of reasons for their preference of Companies Act to Sectional Properties Act. The major reason given was no delay in processing of legal property ownership documents. This constituted 31% of the responses. The need to pool resources together was another reason for the preference and constituted 15%. Other reasons include corporate ownership of the property that demand that Companies Act be preferred over Sectional Properties Act, extensive coverage by the property, easy management of the property and individual ownership is easily determined.
Figure 11: Reasons for Preference of Companies Act to Sectional Properties Act

Source: Author, 2014.
According to city planning department control officer some of the impacts of the Companies and Sectional Properties Act includes the possibility for one to own part of the building like a unit in a block of flat and also it has made it easy for people to pull resources together and pull large projects which otherwise an individual cannot.

In comparing the influences of the two acts the officer further stated that Companies Act has made it easy for people to pull resources and develop property jointly while the Sectional Property Act has boosted sales in property as it allows one to own a part of the house for example one unit in a comprehensive scheme.

4.8 The Impacts of High Density Developments in Zones 3, 4 and 5

4.8.1 Infrastructural Impacts

Results of the study revealed that the existing developments have an impact on the available infrastructural facilities. This was reported by the officer in charge of development control at the city hall that there are infrastructural, social and environmental impacts associated with the new development waves in zones 3, 4 and 5. The impacts include outstretched infrastructural facilities like sewer systems among others.

The study respondents also reported that the developments have really resulted to infrastructural challenges in the area where 87.2% responded affirmatively. Thus, infrastructural challenges have been experienced. The most frequent infrastructural challenge is traffic congestion which composed 61.9%, water shortages comprised 26.8%, power outages composed 21.4% and bursting sewer systems comprised 17.5% of the responses.

The findings supported one of the research hypotheses that there is a relationship between the change from 2D to 3D cadastre and the infrastructural impacts experienced in the three zones.

This hypothesis was tested as follows;

Hypothesis: There is a relationship between the change from 2D to 3D cadastre and the infrastructural impacts experienced in the three zones.
H₀: There is no level of significance in the change from 2D to 3D cadastre with the infrastructural impacts experienced in the three zones.

H₁: There is a level of significance in the change from 2D to 3D cadastre with the infrastructural impacts experienced in the three zones.

Was there any transformation to the property due to the new policy?

<table>
<thead>
<tr>
<th></th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
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<tr>
<td>yes</td>
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</tr>
<tr>
<td>Total</td>
<td>38</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Are there infrastructural challenges in the three zones?

<table>
<thead>
<tr>
<th></th>
<th>Observed N</th>
<th>Expected N</th>
<th>Residual</th>
</tr>
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<tbody>
<tr>
<td>yes</td>
<td>36</td>
<td>20.5</td>
<td>15.5</td>
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<tr>
<td>no</td>
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<tr>
<td>Total</td>
<td>41</td>
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</table>

Using 5 as the degree of freedom, the critical chi-square (X²) value =11.0704

Critical value (11.0704) > Chi-square value (9.586), hence the null hypothesis is rejected.

Therefore, there is a level of significance in the change from 2D to 3D cadastre with the infrastructural impacts experienced in the three zones.
4.8.2 Traffic Congestion

Traffic congestion is one of the infrastructural challenges of the high density developments. Put at a scale of being least frequent, frequent and most frequent, 61.9% of the properties have traffic congestion as the most frequent problem, 21.4% as frequent and 16.7% as least frequent.

This high rate of the traffic congestion can be attributed to the increased number of people living in these areas with no or little expansion on the existing road network.

4.8.3 Power Outages

This is also a problem that is observed in all the three zones. However this is not a very common problem in the areas. In most of the properties, power outages are least frequent but they are a considerable number of units where the problem is either frequent or most frequent. 50% of the properties termed this problem as least frequent, 28.6% as frequent and 21.4% as a most frequent problem.

4.8.4 Bursting Sewerage Systems

Though it is the lesser of the main problems in the areas, the bursting of sewerage systems is also a significant challenge.

4.8.5 Water shortages

Incidences of water shortages for the three areas put at a scale of least frequent to most frequent depict that 36% of the cases reported it as least frequent, 33% as frequent and 31% most frequent.
Figure 12: Frequency of Water Shortages

**Frequency of Water Shortages in the Study Area**

Source: Author, 2014

The distributions of these cases however differ in the 3 zones with the highest cases being in zone 3.

Figure 13: Summary of the Infrastructural Changes in the three Zones

**Summary of infrastructural challenges across the three zones**

Source: Author, 2014.
Plate 6: Some of the Infrastructural Challenges within the Study Area

The photo below shows possible evidence of water pollution on one of the rivers passing through the study area. This is mostly due to dumping of both liquid and solid waste along the rivers resulting from either inefficient or inadequate waste management mechanisms.


Plate 7: Possible Evidence of Water Pollution in Study Area

4.9 Social and Environmental Impacts

Apart from infrastructural challenges, social and environmental impacts have been associated with the policy change towards high density developments in the study area. Majority of the respondents, 93.2% reported that indeed developments in the area have resulted to negative social and environmental impacts.

Increased crime rates, constituting 55.6% of the cases, is one of the major negative social impacts as a result of high density developmental activities in the three zones. Congestion in social and recreation areas was another negative social impact and it constituted 36.1% of the responses. This can be associated with increased population levels that have been attracted by the areas due to the high density residential and commercial developments. Mwenda (2001) reported that zones 3, 4 and 5 that were previously considered prime and low-density residential neighbourhoods and inhabited mainly by high income earners have experienced undue development pressure.

The natural environment has not been spared either by the high density developments in the three zones. Increased surface run-off was the major reported negative environmental impact of the developmental activities. It constituted 65.8% of the cases reported. Aluko (2010) reported that urbanization in developing countries is due to the push and pull factors from rural and urban areas respectively contrary to developed countries where urbanization was due to industrialization. He went ahead and reported that such urbanization processes in developing nations come along with constraints including environmental degradation. In the three Nairobi planning zones, reduced greenery is another environmental impact and composed of 23.7% of the responses provided. Other environmental impacts include changes in weather pattern trends like increased temperatures in the areas.

The above findings also supported the hypothesis of this study that the change from 2D to 3D cadastre in zones 3, 4 and 5 have resulted to social and environment impacts on the three zones. This hypothesis was also tested as follows;

Hypothesis: The change from 2D to 3D cadastre in zones 3, 4 and 5 has resulted to social and environment impacts on the three zones.

H₀: There is no level of significance in the change from 2D to 3D cadastre in zones 3, 4 and 5 with the social and environmental impacts experienced in the three zones.
H1: There is a level of significance in the change from 2D to 3D cadastre in zones 3, 4 and 5 with the social and environmental impacts experienced in the three zones.

was there any transformation to the property due to new policy

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are there any social and environmental impacts in the study area

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are there any social and environmental impacts in the study area

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Using 6 as the degree of freedom, the critical chi-square ($X^2$) value = 12.5916

Critical value (12.5916) > Chi-square value (4.533), hence the null hypothesis is rejected.
Therefore, there is a level of significance in the change from 2D to 3D cadastre in zones 3, 4 and 5 with the social and environmental impacts experienced in the three zones.

Figure 14: Social and Environmental Impacts of Developments in the Study Area

Source: Author, 2014.
4.10 Comparison of the Study Findings across the Planning Zones

This subsection seeks to compare the study findings to establish which among the three zones experience most the matters under study. Therefore, the types of developments, the rate of transformations to previous developments as a result of the policy change towards densification and the infrastructural, social and environmental challenges that resulted from high density developments across the three zones are compared.

4.10.1 Types of Developments across Nairobi Planning Zones 3, 4, 5

The popular developments across the zones as earlier stated are residential, commercial and office use. Commercial developments in zone 3 constituted 60% of the total cases sampled from it. Residential ones comprise of 35% while office use constituted 5%. In zone 4, residential and commercial developments are the major developments sampled where 64% comprised of residential while commercial constituted 35% of the cases sampled from it. Residential use constituted 73%, commercial use 20% and office use 7% of the cases sampled in zone 5.

Source; Author, 2014
Map 2: Map of Zone 3 of the Study Area

Source: Author, 2014.

4.10.2 Property Transformations as a Result of Policy Change towards Densification

In zone 3, 59% of the cases sampled reported to have transformed their properties as a result of the new policy change. In zone 4, 89% reported cases of property transformation while in zone 5, 92% of the respondents reported property transformation cases. It is worth noting that zones 4 and 5 that have higher rates of transformation also have higher residential developments. Thus it can be concluded that majority of the transformation are undertaken to increase the housing stock within the study area possibly due to the high demand for urban housing in Nairobi city. According to Michira (2012), the then city council of Nairobi reviewed its building restrictions to allow for construction of high-rise apartments within the three zones to accommodate the high population that is growing faster than the rate at which the zoning policies in the city are being reviewed.
The transformations comprise of change of user, extension of user, change in ground coverage and also change in plot ratios. The table shows the property transformations reported during the study.

Figure 15: Property transformations in Zones 3, 4 and 5.

Source: Author, 2014.
The transformations in the three zones were facilitated by the Sectional Properties Act and the Companies Act. Generally, the Sectional Properties Act facilitated majority of the property transformations where it facilitated 89%, 83% and 70% in zones 5, 4 and 3 respectively. Few of the transformations were facilitated by the Companies Act.

Source: Author, 2014.
Figure 16: Comparison of Property Transformations Facilitation in the Three Zones

Source: Author, 2014.
4.10.3 Infrastructural Challenges associated with High Density Developments

The high density developments have been associated with infrastructural challenges in the three zones. In zone 3, 89% of the respondents reported that the zone has actually experienced infrastructural challenges due to high density developmental activities. In zone 4, 86% reported the same and so as 87% in zone 5.
4.10.4 Social and Environmental Impacts of High Density Developments

The social fabric and the natural environment have not been spared either by the negative impacts of high density developments. In zone 3, 90.5% of those interviewed in that zone reported negative social and environmental impacts associated with high density developmental activities. In zone 4, 100% reported it and so as 93% in zone 5.
Figure 18: Social and Environmental Impacts Experienced Across the Zones

Social impacts experienced across the three zones

- Increased crime rates
- Congestion in social and recreational areas
- Increased demand for public utilities

Environmental impacts experienced across the three zones

- Increased surface run-off
- Reduced greenery
- Changes in weather patterns

Source: Author, 2014.
4.11 Factors Contributing to the Poor Implementation of Development Planning Regulations

A review of urban development processes and experiences in urban and cities in sub-Saharan African countries reveal that there are adequate provisions for development control regulations and policies (Yhdeo, 1986). According to him the problem lies with the degree of implementation and compliance to the regulations by the concerned authorities and developers. He further observed that as a result of these unplanned urban developments coupled with rapid urbanisation levels, problems of overcrowding, inadequate water supply and sanitation, poor road transport infrastructure, poor solid and liquid waste management and poor urban drainage are commonly experienced in urban areas.

Gateri (2012) on her study on development planning and development control challenges in Ruiru municipality one of the satellite towns of Nairobi city found out that there was no development control. Developments superceded development planning. She further observed that there were a number of development control challenges affecting the municipality including weak existing legal and institutional framework, poor administration and enforcement of development control tools, lack of financial and qualified human resources, rapid urban growth and poor level of awareness of the existing development planning regulations.

In the context of this study, failures in the planning authorities to undertake development control can be attributed to the same factors. This is because studies have illustrated that adequate provisions for development control regulations do exist and the problem lies with the levels of implementation and enforcement by the concerned authorities.
CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

Overview

This chapter seeks to provide a recap of the main body of this research study. It encompasses the purpose of carrying out the study, methods employed in data collection and analysis, an outline of the main study findings, conclusion and recommendations based on the findings and purpose of the study.

5.1 Purpose of the Study, Data Collection Methods and Analysis Procedures

The purpose of this study was to compare how developments in zones 3, 4 and 5 of Nairobi City have been affected by the enactment of the Companies Act and later the Sectional Properties Act. It further evaluates changes in infrastructural development with the changes in property ownership legislation. In essence, the study entails field observation of developmental changes in Nairobi’s zones 3, 4 and 5 and engagement of development stakeholders in the region to determine changes that have been brought about by the legislation of the Sectional Properties Act in comparison with the Companies Act.

Data for this study was collected through field survey where questionnaires were administered to a sample of the target population who were property owners, developers and property managers of the properties within the area under study. Photography was also employed to capture observable components of the study like the types of developments common across the three zones. Key informant interviews were held with officers in the policy implementation and development control sections of the department of Physical Planning and Architecture of the Nairobi county government and the Physical Planning department of the Ministry of Lands, Housing and Urban Development. Data collected was analysed using SPSS. The trends of land use activities across the three zones, the legislation under which the properties held in common were owned, the infrastructural, social and environmental impacts of the high density developmental activities were some of the variables tested using SPSS.
5.2 Main Findings of the Study

5.2.1 Development Trends in Zones 3, 4 and 5

This study established that there has been a shift towards high-rise developments in the areas under study. The developments comprise mainly residential, commercial and office land uses. Residential development was the predominant land use across the three zones constituting 62.8%, while the commercial land uses constituted 32.6% and office use developments 4.7%. Thus it can be deduced that the rate of residential developments is higher than other land uses like commercial and office use possibly due to the increased demand for urban housing.

This is also consistent with Mwaura (2006) who found out in his study that areas previously zoned for low density residential developments were opened up through a change of policy allowing for high-rise buildings so as to accommodate the high population and reduce the high demand for urban housing. This was also supported by a report by one of the officers in charge of development control in the city planning department of Nairobi City County indicating that the majority of the property transformations involve change of use from single dwelling units to multi dwelling residential units.

Across the three zones, the study also established that the majority of the property transformations are change of use from single dwellings to multi-dwelling residential uses. In zone 3, 59% of the cases sampled reported to have transformed their properties as a result of the new policy change. In zone 4, 89% reported cases of property transformation while in zone 5, 92% of the respondents reported cases of property transformations. It is worth noting that zones 4 and 5 that have higher rates of transformations also have higher residential developments. Residential developments in zones 4 and 5 were 64% and 73% respectively while in zone 3 with a lower rate of property transformation residential developments constituted 35% while commercial ones constituted 60%.

5.2.2 The Shift towards High Density Developments As Result of the Policy Change

The findings of the study showed that majority of the property transformations and also high developments took place about the time of the policy change to allow for high-rise developments in the three zones. This was supported by 77.3% of the respondents who reported that there was indeed a transformation to their properties as a result of the policy
change. Change of user was one of the dominant property transformations and it constituted 60.6% of the cases sampled.

The study also established that the majority of the properties were developed in the recent years. This is illustrated by the fact the 59.2% of the cases sampled were properties developed between the year 2007 and 2012. The time of policy change being around the year 2003 and the fact that majority of the developmental activities took place after that year, it can be concluded that it was in response to the policy change. The type of ownership of the properties was mainly common ownership facilitated by the Sectional Properties Act and Companies Act. However, over half (51%) of the properties are owned under the Sectional Properties Act compared to the Companies Act. Thus it can be deduced that the former is popular due to its ability to allow individual ownership of separate units of the same property.

5.2.3 Preference of Sectional Properties Act Over Companies Act
The study respondents gave a variety of reasons for the preference of Sectional Properties Act to Companies Act. The study results showed that 33% of the respondents preferred owning a property under Sectional Properties Act over Companies Act because it allows for individual ownership of separate units of a property. Other reasons included the need to pool resources together which constituted 27% of the cases and its provision of clear guidelines on the ownership and management of a property held in common. It is worth noting that title certification to units of a property comes with other benefits to the individual-bearer like the title acting as collateral to secure loans opposed to a share certificate in the case of Companies Act.

5.2.4 Preference of Companies Act over Sectional Properties Act
Some of the properties sampled were also owned under the Companies Act and their owners gave their reasons for the preference of the act over Sectional Properties Act. Among the reasons given is the fact that under the act there are no delays in the processing of ownership documents which constituted 31% of the cases. Others included the need to pool resources together which constituted 15% and also the developers being corporate bodies which constituted 15%.
5.2.5 Impacts of High Density Developments in Zones 3, 4 and 5

5.2.5.1 Infrastructural Impacts

The study respondents reported that the developments have really resulted to infrastructural challenges in the study area. Majority of the respondents, (87.5%), reported that there have been infrastructural challenges as a result of high density developmental activities within the study area. This is consistent with the hypothesis of the study that there is a relationship between the changes from 2D to 3D cadastre with the infrastructural impacts experienced in the three zones. The most frequent infrastructural challenge across all the zones is traffic congestion which composed 61.9%. Power outages composed 21.4% while bursting sewer systems comprised 17.5% of the responses.

Across the three zones, zone 3 with more commercial developments relative to residential and office use as established by the study, experience more infrastructural challenges where 89% of the cases sampled reported such challenges to be experienced. The most dominant one reported was traffic congestion with 67% of the cases reporting it.

5.2.5.2 Social and Environmental Impacts

The high density development activities in the three zones of Nairobi city have also impacted negatively on the social and natural environment. This was consistent with another hypothesis of the study that the change from 2D to 3D cadastre in zones 3, 4 and 5 has resulted to social and environmental impacts on the three zones. Majority of the respondents, 93.2%, reported that developments in the area have resulted to negative social and environmental impacts.

Increased crime rate was one of the major social ills that have been associated with the high density developments across the three zones. This constituted 55.6% of the cases. Congestion in social and recreation areas was another negative social impact and it constituted 36.1% of the responses.

The natural environment has also been negatively affected by the developmental activities across the three zones. Increased surface run-off of storm water as a result of the high density developments was one of the major reported environmental impacts comprising 65.8% of the cases. Other environmental impact reported was reduce greenery of the city which constituted 23.7% of the cases.
Social and environmental impacts of the high density developments were also sort across the three zones. It was found out that zones 4 and 5 with higher rates of residential developments are associated with social and environmental impacts the most compared to zone 3. In zone 4, all the cases sampled reported that high density developments in the area have resulted to negative social and environmental impacts while in zone 5, 93% of the cases sampled reported the same.

In zone 4, congestion in social and recreational areas was the most dominant social challenge and composed 57.1% of the cases in that zone. Increased crime rate was the most dominant social challenge in zone 5 and constituted 75% of the cases sampled.

As per as the environmental impacts of high density developments are concerned, reduced greenery was the dominant one in zone 4, which constituted 44.4% of all the sampled responses in that zone while increased surface run-off was the most dominant environmental impact reported in zone 5 constituting 84.6% of the cases sampled in the zone.

The rate of urban growth in Kenya has outstripped management capacity and financial resources for maintenance of sustainable livelihoods. The rate of uncontrolled and unplanned urbanization has brought with it complex urban problems in the form of proliferation of slums, traffic congestion, shortage of housing and inadequate provision of all manner of infrastructure facilities. The existing urban development control instruments and practices have not been effective in guaranteeing sustainable living despite being in existence in Kenya from as early as 1947 being ordained in the Town and County Planning Act.
Table 1: Major Research Objectives, Study Findings and Recommendations Matrix.

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<th>Research Objective</th>
<th>Study Finding</th>
<th>Recommendation</th>
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<td>To profile the kind of property development that has been popular in zones 3, 4 and 5 under the Companies Act and Sectional Properties Act.</td>
<td>Developments in zones 3, 4 and comprised of three main land uses. Residential use constituted 55.1% of the cases sampled, commercial use comprised 40.1% and office use (4.1%). The most dominant development applications popular in zones 3, 4 and 5 are apartments and offices according to the county government of Nairobi development control section officer. Majority (59%) of the properties were constructed between the years 2007-2014, 31% prior to 2006 and 10% were on-going. The pace at which the developments are taking place is very high. This has resulted to strain on infrastructure and negative impacts on the environment. This is worsened by the absence of a physical development plan to guide the developments. Some of the changes involve transformations on existing properties. Majority of the (61%) is change of user from single dwelling unit to multi dwelling units (apartments).</td>
<td>The reviewing of zoning policies should also be accompanied by preparation of a local physical plan to guide the resultant developments. Technocrats in the name of professional bodies of the Architectural Association of Kenya (AAK), Kenya Institute of Planners (KIP), Schools of planning and their associates should take the lead in formulating the right endogenous planning paradigms, standards and models appropriate for each particular zone.</td>
</tr>
<tr>
<td>To determine the reasons for preference to either the Companies Act or the Sectional Properties Act for property owners in zones 3, 4 and 5.</td>
<td>Over half of the properties (51%) are owned under the Sectional Properties Act while 49% are owned under the Companies act. Sectional properties Act is preferred to Companies Act because it allows for separate ownership of individual units of a property. Companies Act is mainly preferred to Sectional Properties Act because there are no delays in processing of ownership documents.</td>
<td>The Companies Act should also be amended to allow title certification that is associated with benefits like securing loan facilities to holders like the case of Sectional Properties Act.</td>
</tr>
<tr>
<td>To evaluate the infrastructural, social and environmental impacts of the developments in zones 3, 4 and 5 under the Companies Act and under the Sectional Properties Act.</td>
<td>The high density developments have resulted to negative infrastructural social and environmental impacts. The most frequent infrastructural challenge is traffic congestion which comprising 61.9%, most dominant negative social impact is increased crime rates in the areas (56%) while increased surface run-off is the most dominant environmental one constituting 66% of the cases sampled.</td>
<td>The reviewing of zoning policies should be accompanied by expansion of infrastructure. Planning at neighbourhood should preserve places for public purpose like playgrounds and community gardens to ensure high levels of community interactions which reduce crime rates, increase greenery and militate against high level of surface run-off that cause flooding.</td>
</tr>
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Source: Author, 2014.
5.3 Conclusion

From the findings discussed, the reviewing of the policy to allow for high rise buildings in zones 3, 4 and 5 has greatly influenced the day to day lives of the people residing or working in the areas coming along with advantages, disadvantages and problems that people have been forced to cope up with. Some of these problems have become a day to day way of life to a point where people just have to adapt to them.

The impacts of densification have been felt in all the three zones. It is therefore evident that the impacts, both negative and positive, were facilitated by the review of the policy for high density developments. The main drivers of the major impacts of increased high rise development have also been established. Enactment of the Companies Act and the later Sectional Properties Act that allow joint ownership and individual ownership of property units respectively further increased tremendously the rate of densification across the three zones.

Each of the two acts is preferred by the developers for different reasons. However, the Sectional Properties Act is more preferred; since it allows the developers to spread the cost of the land easily by selling different units separately.

Residential use constitutes the highest rate of densification across the three zones. These can be attributed to the desire of many people to own their own residential units. It can also be attributed to the high demand for housing that was caused by the high population growth in the city and thus causing demand for increased housing units to the existing stock.

The transformations have greatly affected the infrastructural systems that are in place and therefore rendering them inadequate which is evidenced by traffic congestions, power outages and water shortages among others. This is attributed to the fact that there was little or no expansion of the existing infrastructure despite the increase in the density of developments in the areas concerned. This has in turn caused a strain on the existing systems whose capacities have been over exceeded. In other words, the expansion of the infrastructure has not matched the rate at which properties are being developed in these areas.

There are also high crimes rates in these areas. This was not the case before as crime rates were highly associated with areas of low income earners. The crime rates are currently due to the increased population in these areas. This is an indication of the level of the reduction of
social interactions as a result of reduced social interaction sites like community parks that enhance good neighbourliness.

The environment has also been greatly affected and environmental degradation is evident in these areas. Due to increased built up area, there is less water percolating to the ground and hence increasing the runoff levels making the areas flood-prone.

The above effects of densification in the three zones if not counteracted will compromise the liveability of the city for the current and future generations.

5.4 Recommendations
There is need to foster public private partnerships in urban development control as enunciated in Agenda 21. Development regulations should not be left to the planning authorities alone and resident associations should also be strengthened. Moreover, the Kenya Constitution guarantees every citizen a clean and safe environment and the state has the duty to safeguard it.

Technocrats in the name of professional bodies of the Architectural Association of Kenya (AAK), Kenya Institute of Planners (KIP), Schools of planning and their associates among others should take the lead in formulating the right endogenous planning paradigms, standards and models appropriate for the particular zones.

Adequate resource allocation should be mobilized to facilitate plan preparation and effectuation.

The changing of the policy should be accompanied by expansion of infrastructure in the areas concerned and this should be in line with the projection of the number of people expected to move to these areas after the change of the policy.

The reviewing of policies allowing for high density developments of any place should also be accompanied by a local physical development plan to guide the resultant developmental activities. This is to protect the environment from injurious developments. Open spaces, for instance, which are also greenery areas are threatened as the developers do not really concentrate on the need for such places. These are places that can be designated for recreational parks and community gardens. There is also a need to preserve places for public purpose such as police stations and other security infrastructures in these areas as their need rises with the increase in population.
Adoption of innovative planning approaches involving use of modern technology such as the planning portal and paperless application process for approval of development plans should be encouraged in order to shorten the time taken and eliminate merry-go-round as well as reducing congestion in public offices.

When development substantially increases, the volume of traffic in the residential and commercial areas increase commensurately. Crime rates rise too as the study findings depicted. The study recommends the design of new neighbourhoods in ways that greatly increase the number of eyes watching public spaces and increase in the number of police patrols among others to reduce crime rates.

5.4.1 Measures to Mitigate Upon the Development Challenges Identified by the Study

(a) Measures to Mitigate upon Increased Crime Levels

Measures which increase the interaction of residents and bring them out of their homes more often reduce crime rates. Communities, for instance, should be designed with neighbourhoods level congregating areas, such as a playground, a picnic area, or just a commons where people can walk their dogs, hold flea markets, and so forth. Community gardens are another example of a neighborhood amenity which could increase interaction, especially in high-density areas where yard space is too small for a garden.

(b) Measures to Mitigate upon Increased Surface Run-off Levels

New developments should attempt to maintain the volume of runoff at predevelopment levels by using structural controls and pollution prevention strategies. Plans for the management of runoff, sediment, toxics and nutrients can establish guidelines to help achieve both goals. Management plans are designed to protect sensitive ecological areas, minimize land disturbances and retain natural drainage and vegetation.

Runoff management plans for existing areas can first identify priority pollutant reduction opportunities and then protect natural areas that help control runoff and finally begin ecological restoration to clean up degraded water bodies. Citizens can help prioritize the clean-up strategies, volunteer to become involved with restoration efforts and help protect ecologically valuable areas.
(c) Measures to Reduce Traffic Congestion

The county governments also have to raise the citizen's awareness to combat chaotic in rush hour; When people do not obey the traffic law, there is no doubt that everything is from bad to worse and traffic jam simultaneously happen.

Another resolution is to improve citizens' way of thinking and travelling with the intention of promoting the use of public transport. Increased use of public transport opposed to the private one will significantly reduce traffic jam on our roads. Nevertheless, the county government also need to take action to reduce the amount of transport products imported to the cities by imposing high taxes for each means of transport. Therefore, with high vehicle prices, inhabitants might not been travelling by their own cars or motorcycles.
REFERENCES


126


APPENDICES

Appendix 1: Introduction Letter

Alfred M. Mwangi,
P.O. Box 30197-00100, NAIROBI.
TO WHOM IT MAY CONCERN

Dear Sir/Madam

RE: LETTER OF INTRODUCTION

I am a student pursuing Master of Arts (Urban & Regional Planning) at Nairobi University, School of the Built Environment. My research is titled “A Comparative Study of the Influence of the Companies Act and the Sectional Properties Act on Development Control: A Case Study of Nairobi City Planning Zones 3, 4 and 5.” You have been selected as a key informant based on your experience in the study area.

Kindly respond to the questions to the level best of your knowledge. Provide as much information regarding a particular question as possible. Your participation will be essential in contributing to the pool of knowledge on the impact of leadership on organisational performance.

I also assure you that all information provided herein will be treated with utmost confidentiality and will only be used for academic purposes and in no way will you be quoted in this report without seeking your prior permission. The final report could be availed to you on request.

__________________________________  __________________________
Alfred M. Mwangi (Student)                  Mr. James M. Murimi (Supervisor)
Appendix 2: Property Owner/Manager Questionnaire

UNIVERSITY OF NAIROBI

DEPARTMENT OF URBAN AND REGIONAL PLANNING

A COMPARATIVE STUDY OF THE INFLUENCE OF THE COMPANIES ACT AND THE SECTIONAL PROPERTIES ACT ON DEVELOPMENT CONTROL IN KENYA:

A CASE STUDY OF NAIROBI CITY PLANNING ZONES 3, 4 AND 5.

PROPERTY OWNER/ MANAGER QUESTIONNAIRE

DECLARATION; This questionnaire is purely for academic purposes and any information provided therein is confidential and will only be used to study the influence of Companies Act and Sectional Properties Act on Development Control in Nairobi city planning zones 3, 4 and 5.

PLANNING ZONE………..

LAND USE TYPE..................LOCATION..........................

NAME OF INTERVIEWER...........................

DATE OF INTERVIEW...................... QUESTIONNAIRE NO.......
PART1: PERSONAL INFORMATION

1. (i) Name (optional)………………….

   (ii) Sex (Tick appropriately)

   Male

   Female

   (iii) Age (Tick appropriately)

   0-15 yrs.

   16-35 yrs.

   36-55 yrs.

   Above 55 yrs.

   (iv) Marital status (Tick appropriately)

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   (v) Occupation………………….

   (vi) Monthly income (Ksh.)

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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PART 2; GENERAL INFORMATION

2. (i) Which was the year of completion of this property?.................................

(ii) What is the approximate size of the parcel of land your property is on in hectares?...................

(iii) Was the above parcel part of a larger piece of land subdivided after the policy change towards high density developments in this zone?
1. Yes 2. No

(iv) If yes, provide the initial size of the bigger piece of land?.................................

3. (i) Was there any transformation to this property as result of the new policy review for high density developments in this zone?
1. Yes 2. No

(ii) If yes, what was the nature of the transformation? (Tick appropriately)

<table>
<thead>
<tr>
<th>Change of user</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension of user</td>
<td></td>
</tr>
<tr>
<td>Change in ground coverage</td>
<td></td>
</tr>
<tr>
<td>Change in plot ratio</td>
<td></td>
</tr>
<tr>
<td>Others (specify)</td>
<td></td>
</tr>
</tbody>
</table>
(iii) If yes, was the transformation facilitated by Companies Act or the later Sectional Properties?

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

4. (i) What is the type of ownership of this property?

Sole proprietorship

Partnership

Company ownership

Others (specify)

(ii) If the property is owned by more than one investor, under what legislation is the property owned?

Companies Act.

Sectional properties Act.

(iii) What are the reasons for the preference of one legislation to the other?

Companies Act is preferred to Sectional Properties Act because ..........................................................
.......................................................... ..........................................................
.......................................................... ..........................................................

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

Sectional Properties Act is preferred to Companies Act because ..........................................................
.......................................................... ..........................................................
.......................................................... ..........................................................

..........................................................
5. (i) Are there any infrastructural challenges experienced in this zone as a result of high density developments?

Yes

No

(ii) If yes in (i) above, what is the frequency of the occurrence of such challenges? (Tick appropriately).

<table>
<thead>
<tr>
<th>Infrastructural Challenge</th>
<th>Most Frequent</th>
<th>Frequent</th>
<th>Least Frequent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power blackouts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water shortages</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bursting sewerage systems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic congestion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. (i) The current city planning policies allowed for change from low density to high density developments in this zone. High investment activities have also been facilitated by the Companies Act and the later Sectional Properties Act. Are there any social and environmental impacts of such changes in the area?

1. Yes

2. No
(ii) If yes, which are they? (Tick appropriately)

<table>
<thead>
<tr>
<th>Social Impacts</th>
<th>Environmental Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased crime rates</td>
<td>Increased surface run-off</td>
</tr>
<tr>
<td>Congestion in social and recreation areas</td>
<td>Changes in weather patterns like increased temperatures</td>
</tr>
<tr>
<td>Increased demand for public utilities and services</td>
<td>Reduced green spaces</td>
</tr>
<tr>
<td>Others (specify)</td>
<td>Others (specify)</td>
</tr>
</tbody>
</table>

THANK YOU.
Appendix 3; Key Informant Interview Guide

UNIVERSITY OF NAIROBI

DEPARTMENT OF URBAN AND REGIONAL PLANNING

A COMPARATIVE STUDY OF THE INFLUENCE OF THE COMPANIES ACT AND THE SECTIONAL PROPERTIES ACT ON DEVELOPMENT CONTROL IN KENYA:

A CASE STUDY OF NAIROBI CITY PLANNING ZONES 3,4 AND 5.

KEY INFORMANT INTERVIEW SCHEDULE GUIDE

CITY PLANNING POLICY IMPLEMENTATION DEPARTMENT

NAME OF INTERVIEWER……………………..

DATE…………

DECLARATION; I declare that the information provided therein is purely for academic purposes only and shall be treated with utmost confidentiality. Assurance is also given that in no way will you be quoted in this report without seeking your prior permission. The final report could be availed to you on request.

____________________________

Alfred M. Mwangi

Researcher (Student).
1. What kinds of development applications have been popular in zones 3, 4 and 5 under the new policy review for the above zones?

…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………

2. (i) Are there development applications where the property to be developed are owned in common by two or more investors?
   1. Yes
   2. No
   (ii) If yes, under which legislation between Companies Act and Sectional Properties Act are such applications common?

…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………

3. What policy implementation challenges do you face as a result of policy review for high density developments in planning zones 3, 4 and 5?

…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………

4. (i) Have the high density developments in the above zones been met with a commensurate upgrade in infrastructure?
   1. Yes
   2. No
   (ii) If no, what policy measures have you put in place to meet the high demand for services and utilities in those areas?
5. (i) Are there any social and environmental impacts associated with the new wave of developments in zones 3, 4 and 5?

1. Yes

2. No

(ii) If yes, what measures have you incorporated to mitigate upon those impacts?

6. (i) What are the impacts of either the companies act or sectional properties Act on development control in zones 3, 4 and 5?

(ii) How can you compare the influence of the Companies Act and those of the later Sectional Properties Act on development control in the above zones?

THANK YOU.
## Appendix 4: Research Budget

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Unit Cost (KES)</th>
<th>Cost (KES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour</td>
<td>4 research assistants</td>
<td>10,000.00</td>
<td>40,000.00</td>
</tr>
<tr>
<td>Transport</td>
<td></td>
<td></td>
<td>10,000.00</td>
</tr>
<tr>
<td>Maps</td>
<td></td>
<td></td>
<td>5,000.00</td>
</tr>
<tr>
<td>Hiring equipment</td>
<td>1 camera</td>
<td>3,000.00</td>
<td>3,000.00</td>
</tr>
<tr>
<td></td>
<td>1 tape measure</td>
<td>200.00</td>
<td>200.00</td>
</tr>
<tr>
<td>Stationery</td>
<td></td>
<td></td>
<td>2,000.00</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>60,200.00</td>
</tr>
</tbody>
</table>
### Appendix 5: Research Schedule

<table>
<thead>
<tr>
<th>Activity</th>
<th>Timeframe (Weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposal presentation</td>
<td>4</td>
</tr>
<tr>
<td>Reconnaissance</td>
<td>2</td>
</tr>
<tr>
<td>Data collection</td>
<td>4</td>
</tr>
<tr>
<td>Data analysis and interpretation</td>
<td>2</td>
</tr>
<tr>
<td>Data presentation</td>
<td>1</td>
</tr>
<tr>
<td>Final documentation</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

### Appendix 6: Social impacts experienced across the three zones

<table>
<thead>
<tr>
<th>Planning zone</th>
<th>Increased crime rates</th>
<th>Congestion in social and recreational areas</th>
<th>Increased demand for public utilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 3</td>
<td>57.10%</td>
<td>21.40%</td>
<td>21.40%</td>
</tr>
<tr>
<td>Zone 4</td>
<td>42.90%</td>
<td>57.10%</td>
<td>0%</td>
</tr>
<tr>
<td>Zone 5</td>
<td>75%</td>
<td>25%</td>
<td>0%</td>
</tr>
</tbody>
</table>

### Appendix 7: Environmental impacts experienced across the three zones

<table>
<thead>
<tr>
<th>Planning zone</th>
<th>Increased surface run-off</th>
<th>Reduced greenery</th>
<th>Changes in weather patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 3</td>
<td>68.80%</td>
<td>31.20%</td>
<td>0%</td>
</tr>
<tr>
<td>Zone 4</td>
<td>33.30%</td>
<td>44.40%</td>
<td>22.20%</td>
</tr>
<tr>
<td>Zone 5</td>
<td>84.60%</td>
<td>15.40%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Appendix 8: property transformation in Nairobi zone 3, 4 and 5

<table>
<thead>
<tr>
<th>Planning Zone</th>
<th>Change of User</th>
<th>Extension of User</th>
<th>Change in Ground Coverage</th>
<th>Change in Plot Ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 3</td>
<td>56%</td>
<td>22%</td>
<td>22%</td>
<td>0%</td>
</tr>
<tr>
<td>Zone 4</td>
<td>67%</td>
<td>8%</td>
<td>17%</td>
<td>8%</td>
</tr>
<tr>
<td>Zone 5</td>
<td>58%</td>
<td>17%</td>
<td>17%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Appendix 9: Shifts towards High Density Developments

<table>
<thead>
<tr>
<th>Nature of Transformation</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change of user</td>
<td>60.60%</td>
</tr>
<tr>
<td>Change in ground coverage</td>
<td>18.20%</td>
</tr>
<tr>
<td>Extension of user</td>
<td>15.20%</td>
</tr>
<tr>
<td>Change in plot ratio</td>
<td>6.10%</td>
</tr>
</tbody>
</table>
### Appendix 10: Reasons for Preference of Sectional Properties Act to Companies Act

<table>
<thead>
<tr>
<th>Reasons for Preference of Sectional Properties Act to Companies Act</th>
<th>Percentage of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allow separate ownership of individual units</td>
<td>33%</td>
</tr>
<tr>
<td>Need to pool resources together</td>
<td>27%</td>
</tr>
<tr>
<td>Provides clear guidelines on ownership and management</td>
<td>27%</td>
</tr>
<tr>
<td>Individual owners manage their obligations directly</td>
<td>7%</td>
</tr>
<tr>
<td>None is preferred as long as proper documentation is made.</td>
<td>6%</td>
</tr>
</tbody>
</table>

### Appendix 11: Reasons for Preference of Companies Act to Sectional Properties Act

<table>
<thead>
<tr>
<th>Reasons for Preference of Companies Act to Sectional Properties Act</th>
<th>Percentage of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>No delays in processing of ownership documents</td>
<td>31%</td>
</tr>
<tr>
<td>Need to pool resources together</td>
<td>15%</td>
</tr>
<tr>
<td>Corporate ownership of the property</td>
<td>15%</td>
</tr>
<tr>
<td>Extensive coverage by the property</td>
<td>15%</td>
</tr>
<tr>
<td>Ease property management</td>
<td>8%</td>
</tr>
<tr>
<td>Individual ownership is easily determined</td>
<td>8%</td>
</tr>
<tr>
<td>Ownership in terms of shares only</td>
<td>8%</td>
</tr>
</tbody>
</table>
### Appendix 12: Summary of Infrastructural Challenges across the Three Zones

<table>
<thead>
<tr>
<th>Infrastructural Challenge</th>
<th>Most Frequent</th>
<th>Frequent</th>
<th>Least Frequent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic congestion</td>
<td>61.90%</td>
<td>21.40%</td>
<td>16.70%</td>
</tr>
<tr>
<td>Water shortages</td>
<td>36%</td>
<td>33%</td>
<td>31%</td>
</tr>
<tr>
<td>Power blackouts</td>
<td>21.40%</td>
<td>28.60%</td>
<td>50%</td>
</tr>
<tr>
<td>Bursting sewerage systems</td>
<td>17.50%</td>
<td>20%</td>
<td>62.50%</td>
</tr>
</tbody>
</table>

### Appendix 13: Social and Environmental Impacts of Development in the Study Area

<table>
<thead>
<tr>
<th>Social Impacts</th>
<th>Percentage</th>
<th>Environmental Impacts</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased crime rates</td>
<td>55.60%</td>
<td>Increased surface run-off</td>
<td>65.80%</td>
</tr>
<tr>
<td>Congestion in social and recreation areas</td>
<td>36.10%</td>
<td>Reduced green spaces</td>
<td>23.70%</td>
</tr>
<tr>
<td>Increased demand for public utilities and services</td>
<td>8.30%</td>
<td>Changes in weather patterns like increased temperatures</td>
<td>10.50%</td>
</tr>
</tbody>
</table>
## Appendix 14: Past Development Policy for Zones 3, 4 And 5

<table>
<thead>
<tr>
<th>Zone</th>
<th>Areas covered</th>
<th>G.C %</th>
<th>P.R %</th>
<th>Types of development allowed</th>
<th>Min area (Ha)</th>
<th>Remarks/ policy issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td><strong>Parklands</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Commercial</td>
<td>50</td>
<td>100</td>
<td>Commercial/ Residential</td>
<td>0.05</td>
<td>Policy under review</td>
</tr>
<tr>
<td></td>
<td>Residential</td>
<td>35</td>
<td>75</td>
<td>Residential (High-rise flats)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>City Park Estate/ Upper parklands</strong></td>
<td>35</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Westlands</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Westlands CBD</td>
<td>80</td>
<td>200</td>
<td>Commercial offices/ residential (high-rise flats)</td>
<td>0.05</td>
<td>Policy under review</td>
</tr>
<tr>
<td></td>
<td>Westlands Museum hill</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Block 1 commercial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Block 2 &amp; 3 offices and high-rise residential</td>
<td>35</td>
<td>80</td>
<td></td>
<td>Four storey max</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Block 4 offices</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Block 5 commercial/ residential Hotels</td>
<td>80</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td><strong>Spring Valley</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Riverside drive</td>
<td>35 (s)</td>
<td>75</td>
<td>Residential (Apartments allowed on sewer only)</td>
<td>0.05</td>
<td>Policy under review</td>
</tr>
<tr>
<td></td>
<td>Kileleshwa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kilimani</td>
<td>25 (u)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub zone</td>
<td>Area covered</td>
<td>G.C</td>
<td>P.R</td>
<td>Min Area (Ha)</td>
<td>Type of development</td>
<td>Remarks/policy issues</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------</td>
<td>-----</td>
<td>-----</td>
<td>---------------</td>
<td>------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>3A</td>
<td>Parklands</td>
<td>50</td>
<td>2.0</td>
<td>0.2</td>
<td>Mixed use</td>
<td>Mixed development</td>
</tr>
<tr>
<td></td>
<td>High ridge centre</td>
<td></td>
<td></td>
<td></td>
<td>Commercial and Residential</td>
<td>Road widening and Harmonization of road Width</td>
</tr>
<tr>
<td>3B</td>
<td>1st parklands avenue</td>
<td>35</td>
<td>1.0</td>
<td>0.2</td>
<td>Flat development</td>
<td>Maximum two floors</td>
</tr>
<tr>
<td></td>
<td>Parklands road</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shivachi</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3C</td>
<td>Remaining part of</td>
<td>35</td>
<td>1.5</td>
<td>0.2</td>
<td>Flat development</td>
<td>Maximum two floors</td>
</tr>
<tr>
<td></td>
<td>Loresho</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Source: A Guide of Nairobi City Development Ordinances and Zones, by City Council of Nairobi (2004)).

Appendix 15: The Current Development Policy for Zones 3, 4 And 5
<table>
<thead>
<tr>
<th>Area</th>
<th>Location</th>
<th>Land Use</th>
<th>Mixed Use</th>
<th>Buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td>3D</td>
<td>Deep sea</td>
<td>-</td>
<td>16.8</td>
<td>Open space/Recreational</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Area to be reclaimed from informal to public open spaces</td>
</tr>
<tr>
<td>4A</td>
<td>Upper parklands</td>
<td>35</td>
<td>0.75</td>
<td>0.1(S)</td>
</tr>
<tr>
<td></td>
<td>Mathari river, Canalized stream</td>
<td>25</td>
<td>0.25</td>
<td>0.2 (US)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>0.20</td>
<td>0.25(US)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No flats.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Maisonettes and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Town houses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Allowed on min. 0.05ha/household</td>
</tr>
<tr>
<td>4B1</td>
<td>Waiyaki way, Nairobi River, Mvuli road</td>
<td>35</td>
<td>1.5</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Office and Residential.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mixed use development Residential/office Allowed</td>
</tr>
<tr>
<td>4B2</td>
<td>Mvuli road, Nairobi River, mahiga Mairu, Canalized stream, Ring road, lower Kabete road, Karura Road.</td>
<td>35</td>
<td>1.0</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Flats Single dwellings</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Maisonettes or</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Town houses on 0.05Ha</td>
</tr>
<tr>
<td>4B3</td>
<td>Waiyaki way corridor</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Office development</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Conform to existing Policy guidelines max.</td>
</tr>
<tr>
<td>Area</td>
<td>Description</td>
<td>Number</td>
<td>Floor</td>
<td>Height</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>4C</td>
<td>Riverside, Nairobi River, kirichwa ndogo, Ring road, Kileleshwa, Boundary of zone 3, 4 and 5</td>
<td>35</td>
<td>0.75</td>
<td>0.4</td>
</tr>
<tr>
<td>4D</td>
<td>Kileleshwa area, Kirichwa ndogo, Kirichwa kubwa, Muthangari road</td>
<td>35</td>
<td>1.0</td>
<td>0.4</td>
</tr>
<tr>
<td>4E</td>
<td>Yaya centre-Lenana Road, wood avenue, Chania road and Chaka road.</td>
<td>35</td>
<td>1.5</td>
<td>-</td>
</tr>
</tbody>
</table>

### Appendix 16: Climate Data for Nairobi

<table>
<thead>
<tr>
<th>Month</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average high °C</td>
<td>25.5</td>
<td>26.7</td>
<td>26.0</td>
<td>25.0</td>
<td>23.6</td>
<td>22.5</td>
<td>22.0</td>
<td>22.7</td>
<td>25.0</td>
<td>25.7</td>
<td>24.0</td>
<td>24.4</td>
<td>24.5</td>
</tr>
<tr>
<td>Daily mean °C</td>
<td>18.0</td>
<td>18.8</td>
<td>19.4</td>
<td>19.2</td>
<td>17.8</td>
<td>16.3</td>
<td>15.6</td>
<td>15.9</td>
<td>17.3</td>
<td>18.5</td>
<td>18.4</td>
<td>18.1</td>
<td>17.77</td>
</tr>
<tr>
<td>Average low °C</td>
<td>10.5</td>
<td>10.9</td>
<td>12.1</td>
<td>13.4</td>
<td>12.1</td>
<td>10.0</td>
<td>9.2</td>
<td>9.1</td>
<td>9.7</td>
<td>11.3</td>
<td>12.7</td>
<td>11.7</td>
<td>11.1</td>
</tr>
<tr>
<td>Rainfall mm (inches)</td>
<td>58.3</td>
<td>49.8</td>
<td>92.2</td>
<td>195</td>
<td>189.5</td>
<td>38.6</td>
<td>17.6</td>
<td>24.0</td>
<td>31.2</td>
<td>60.8</td>
<td>149.6</td>
<td>107.6</td>
<td>1,061.5</td>
</tr>
<tr>
<td>Avg. rainy days</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>7</td>
<td>9</td>
<td>91</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean daily sunshine hours</td>
<td>9.3</td>
<td>9.5</td>
<td>8.6</td>
<td>6.8</td>
<td>6.1</td>
<td>5.3</td>
<td>4.2</td>
<td>4.1</td>
<td>6.0</td>
<td>7.3</td>
<td>6.6</td>
<td>8.3</td>
<td>6.8</td>
</tr>
</tbody>
</table>

Source: Kenya Meteorological Department website, 2014.