EFFECTIVENESS OF URBAN DEVELOPMENT CONTROL INSTRUMENTS IN KENYA: THE CASE OF ELDORET MUNICIPALITY

BY

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DECLARATION

Declaration by the Student

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DEDICATION

Dedicated to my late Father; Mathew K. Kirui for investing in my education

ABSTRACT

Kenya is rapidly urbanizing with about 30% of her population living in urban areas and, by 2030 over 50% of the population will be urban. It is projected that Eldoret town will be home to 584,782 people by 2030.This rapid urbanization will therefore need to be guided by effective urban development control instruments and practices. The study focused on the effectiveness of urban development control instruments in Eldoret Municipality, and whose objectives were to; assess the spatial urban development trends; assess the effectiveness of urban development control tools and to identify the challenges associated with their application. Data was acquired through questionnaires which were administered to; 188 randomly selected households drawn from a list of developers who sought development planning permission and 22 Practicing Designers in Eldoret Municipality. Interview schedules were used to collect data from various Urban Development Control institutions. Focus Group Discussions, observation and mapping were also used as data collection methods. Data collected was analyzed using SPSS Version 20.The findings were presented using descriptive and inferential statistics. The spatial urban development control trends revealed that the built up area of Eldoret town has been expanding in a concentric pattern from a dot point in1908 to an area of; 11.2 Km2 in 1912, 25Km2 in 1928, 59Km2 in 1974 and 147.9 Km2 in1988. The spatial urban development trends reflected in submission of building plans for approval in Eldoret Municipality has been on the increase, from 600 building plans in 2005 to 3139 in 2015.Every year, new buildings coming up in Eldoret town occupy a plinth area of about 16.5 hectares resulting in urban environmental problems which include; increased surface runoff and flooding, loss of biodiversity and environmental pollution. The study established that the application of urban development control instruments in Eldoret Municipality is not effective as evidenced by 38% of the applicants who were granted development permission for approval of building plans, had completely violated the stipulated urban development control standards, while 62% of the respondents who had fully complied with the conditions stipulated in development permission, had equally contravened one other or more urban development control standards, by constructing illegal structures within their plots. Respondents rated performance of all urban development control institutions to be below 50% as there are delays, bureaucracy and overall poor service delivery. It was established that only 12(7%) of the buildings were inspected more than five times while 122 (70%), were inspected less than 5 times, giving an indication of the possibility of buildings collapsing in Eldoret town because of random and irregular building inspections. Analysis of land use suitability to inform urban development trends, and the formation of an independent Urban Development promotion Board to specifically handle urban development control issues are recommended.

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LIST OF ACRONYMS

AAK	Architectural Association of Kenya
BEPs	Built Environment Professionals
BORAQS	Board of Registration of Architects and Quantity Surveyors
CBD	Central Business District
CCK	Communications Commission of Kenya
CFC	Chlorofluorocarbons
CGU	County Government of Uasin Gishu
CIDP	County Integrated Development Plan
CDS	City Development Strategy
COK	Constitution of Kenya
CPPO	County Physical Planning Office
DP	Development Plan
EA	Environmental Audit
EIA	Environmental Impact Assessment
EIK	Environment Institute of Kenya
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ELDOWAS	Eldoret Water and Sanitation Company
EMC	Defunct Eldoret Municipal Council
EMCA	Environmental Management and Co-ordination Act
EU	European Union
FGD	Focus Group Discussion
GDO	General Development Orders
GIS	Geographical Information System
Ha	Hectares
HBE	Home Based Enterprises
HDR	High Density Residential
ICAO	International Civil Aviation Authority
IPA	Interim Planning Authority
IHS	Institute of Urban Development Studies
ISOCARP	International Society of City and Regional Planners
KAA	Kenya Airport Authority
KLDA	Karen and Langata District Association
KIP	Kenya Institute of Planners
KM	Kilometres
KNBS	Kenya National Bureau of Statistics
KNHS	Kenya National Housing Survey
Ksh.	Kenya Shillings
KTA	Konza Technology Authority
KURA	Kenya Urban Roads Authority
LDR	Low Density Residential
LGA	Repealed Local Government Act Cap 265
MDR	Medium Density Residential
MDG's	Millennium Development Goals
NEMA	National Environmental Management Authority
NMT	Non- Motorized Transport
NIMBY	Not in My Backyard
NGO	Non-Governmental Organization
NCA	National Construction Authority

NLC	National Land Commission
O-D	Origin and Destination
OSHA	Occupational Safety and Health Act
PAG	Planning Advisory Group
PDP	Part Development Plan
PPA	Physical Planning Act Cap 286
PPRB	Physical Planners Registration Board
SDG	Sustainable Development Goals
SSP	Strategic Structure Plan
TPA	Town Planning Act Cap 134
TDR	Transfer of Development Rights
UCA	Urbanization Control Areas
UPA	Urban Promotion Area
UDC	Urban Development control
UN	United Nations
UNCHS	United Nations Centre for Human Settlement
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Program
YRS	Years

OPERATIONAL DEFINITION OF TERMS

Building regulations; define the way new structures are to be built and the materials to be used.

Building: any structure or erection of any kind whether permanent or temporary.

Change of user: refers to land which is registered for a definite user and may be commercial, residential, industrial etc. The land owner may want to use the land for another purpose rather than the registered user.

Cities are used to cover the range of concentrations of people, from small towns to Metropolitan regions.

Developer is any individual or organization which wishes to undertake development.

Development application; refers to forwarding of plans and other documents relating to a particular project for approval by County Authority/any other institutions.

Development plan is defined as the official statement of a Town legislature body, which sets forth the major policies concerning future physical development of a settlement.

Development control: The process of monitoring physical development to ensure that is done as per the approved plans.

Development: is the carrying out of building, engineering, mining or other operations in, on, over, or under land or the making of any material change in the use of any building or other land.

Effectiveness; it is determined by asking whether the result is satisfying or, at least acceptable to the parties involved, or whether the policy realizes its goals (Dekker Arie 1992).

Effective Planning means not only having "good "plans but also an appropriate and efficient organization for planning and implementation.

Enforcement notice; is a letter served on any breach of urban development control instruments and practices relating to carrying out of development without planning permission (approval).

Environmental planning is the logical extension of the planning system to the spatial aspects of environmental system.

Extension of user: is defined as a situation whereby the land registered has specific use e.g. housing. The developer may apply to extend the use by increasing the density without change of user e.g. a plot permitted for single dwelling unit but developer wants multiple dwelling.

Implementation involves turning goal into reality.

Instruments are tools which are used to influence processes in order to reach a desired situation (the objectives), Needham (1982).

Plan approval is **t**he act of giving a go ahead for a project to be implemented as designed.

Planning; The art and science of ordering the use of land and the character and siting of buildings and communication routes so as to secure the maximum practicable degree of economy, convenience and beauty.

Subjects of Law refers to households, Landlords, applicants, proponents, professional designers in private practice, who submitted development applications for planning permission.

Urban planning; is the exercise of ensuring an orderly arrangement of urban land uses.

Urbanization is a process through which societies are transformed and urban areas are therefore in a state of influx.

Zoning; is the demarcation of a town by ordinances and the establishment of regulations to govern the use of the zoned land.

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CHAPTER ONE

INTRODUCTION

1.1 Overview

This is an introduction for the chapter and it focuses on the background to the study problem, statement of the research problem, objectives, research questions, justification and motivations of the study, scope and limitations of the study, and the background information pertinent to the study area.

1.2 Background to the Study

Development control is a process of achieving goals and objectives depicted in spatial plans. It is an element of town and country planning system, whereby the government regulates land use and construction of new buildings. It relies on the "plan-led system" where development plans are formed with public consultation. Development control ensures that developers do not deviate from approved building plans in the course of implementation (Philip, 2007 & Ogundele, 2011). Subsequent development requires planning permission, which will be granted or refused with reference to development plan. The broad objective of urban development control is to ensure orderly development of urban areas and cities.

Development control encourages optimal utilization of resources in order to achieve greatest improvement and to promote separation of incompatible uses, as well as enhancing visually pleasant landscape. The power to control development by government is derived from the police power, power of eminent domain, and the power of taxation. The elements of public interest which are protected through urban development control include; health and safety, convenience, efficiency and energy conservation, environmental quality, social equity and social choice, and amenity (Faludi, 1973; Chapin et al, 1979, Ogundele 2011).Faludi,(1973) and Levy(1988),view planning purposes as addressing; efficiency and rational action; market aid or replacement; change or widening of choices, public safety, circulation, fiscal health, economic goals, provision of services and facilities, protection of public welfare, and environmental protection. Those who are against the spirit of controlling

development argue that it could stifle enterprises and creation of jobs (Morgan et al, 1988). A Planner is a technocrat in development control and its roles have been defined as an advocate, builder of community consensus, entrepreneur, mediator, neutral public servant, reticulist (networker) and innovator (Levy, 1988; Low, 1991).

The need for effective urban control tools in the 21st Century is driven by Urbanization process which is rapid, unstoppable, irreversible, and is taking place largely in developing world. It is expected that by 2030, 5 billion people will be living in the urban areas, and 80% of these urban dwellers will live in towns and cities of the developing world (ISOCARP 2010).The current debate in planning in Africa and Kenya in particular revolve around the need for re-conceptualization and visualization of high-technology satellite towns and the futuristic redevelopment of capital cities. According to Vanessa Watson (2014), Sub-Saharan Africa's larger cities are currently revisioned in the image of cities such as Dubai, Shanghai and Singapore, which claim top positions in the world class city leages. Draped in the rhetoric of "Smart Cities" and" Eco-Cities", these plans promise to modernise African Cities and turn them into gateways for International investors and showpieces for ambitious politicians (Watson,2014).Examples of these include the proposed satellite towns such as Tatu City and Konza Technology City (Greater Nairobi);Kalungulu City (Kampala);Eko Atlantic City and Lekki-Epe corridor (Lagos); Raphta City (Dar es Salaam) and Luanda Sul (Luanda), as well as the redevelopment of capital cities such as Kigali, Nairobi, Lagos, Kinshasa, Dar es Salaam and Maputo. Development of these cities is intended to be mainly driven by the private sector, and also developed with foreign investments and catering exclusively for higher income earners. Implicit in the emergence of these new planning paradigms is that urban planning tools that have been applied in the past are dysfunctional. It has been noted that urban planning and development control instruments that have been applied in some of the so called Smart Cities and Eco-Cities including Singerpore were borrowed from Kenya. The same urban planning and development control instruments have found their way in other African Cities such as in Kigali, Rwanda and they have been found to be effective. The question to be asked is why is it that the same urban development control instruments that originated from Kenya have successfully worked in different contexts but failed the Litmus Test in Kenya?

1.3 Statement of the Problem

Urban development control process is important as it creates orderly growth of Cities and towns which serve as engines of growth, melting pots of ideas, innovation, creativity, knowledge transfer, trade and industrialization (Kessides, 2006).It is important that the urban environment is improved because; sustainable cities are fundamental to social and economic development and that environmental degradation obstructs urban development (UNEP, 1997). It is estimated that more than 34% of Kenya's population live in urban areas and by 2030 this number is projected to reach 50%. The high and increasing proportion of slums and unauthorized settlements in the towns and cities of developing countries is a clear indication that the existing regulatory frameworks have failed to achieve the objective of planned urban growth.

Eldoret town is the fifth largest town in Kenya after Nairobi, Mombasa, Kisumu and Nakuru. Its population has been increasing rapidly from 8,193 in 1948, to 197, 144, in 1999, and 289,380 in 2009.It is projected that at the growth rate of 3.35% per annum that by the year 2030, Eldoret town will be home to over 584,782 people, and hence the need to ensure that there are effective instruments of urban development control to guide its growth.

Urban development in Kenya and Eldoret by extension is occurring in a disorderly fashion. There is little or no planned framework defining the desirable urban structure and form to be promoted. Urban areas are therefore, sprouting haphazardly. What is happening is that development takes precedence over planning. At the local level, urban areas are expanding spontaneously without regulation and guidance. What is happening in the Kenya's urban sector can be summarized as chaotic or rogue urbanization; the kind of urbanization that can only accentuate under-development, rather than promote development (AAK, 2011).With the introduction of a devolved system of government and therefore, concentration of resources to the Counties, a lot of development will take place. These underscores the need for rationalization of the existing urban development control instruments and practices. If cities are not well managed, unsustainable pattern of consumption of resources within them can result in serious environmental degradation affecting large areas beyond their borders (UN Habitat, 1997).

Urban form if not properly controlled directly impacts on the habitat, ecosystems and water quality, leading to loss of many endangered species of both flora and fauna. Urban form also gives rise to the emission of greenhouse gases that are driving adverse climate change, affecting water quality and impacting negatively on human health. This underscores the need to introduce urban development Control practices that work in harmony with nature. Eldoret like any other towns in Kenya, continues to experience environmental problems despite the existence of a plethora of policies, laws and regulations; increase in the knowledge of modern planning as well as an increase in the number of planners. Achieving orderly planning in the urban areas remains a challenge as evidenced by massive developments being constructed on environmentally sensitive and fragile areas such as wetlands, riparian reserves and hill tops. Blockage of natural water drains on the urban areas by authorized developments and paved surfaces have been known to facilitate flooding and increase surface runoff. Orderly growth and development of Eldoret town is being stifled by proliferation of slums and informal settlements including Langas, Munyaka, Kamukunji, Hill School, Maili Nne, Kambi Somali, and Kambi Turkana, and other environmental challenges such as traffic congestion, land use conflicts, and inadequate provision of physical and socio-economic infrastructure.

The failure to ensure proper development control processes in Kenyan towns and Cities has led to the rise in disasters such as collapsing. According to statistics released by the Board of Registration of Architects and Quantity Surveyors (BORAQS) and Architectural Association of Kenya (AAK) in July 2011, Kenyan developers lost KSH. 1.4 Billion, as a result of collapsed buildings since 2001.The latest case of a building collapsing was in May 2016 when a storey building in Huruma neighbourhood of Nairobi collapsed killing over forty people. Such incident can happen in any other town unless an effective urban development control system is put in place. When disasters such as building collapse occurs; blame is usually directed to inadequacies of urban development control instruments involving building codes and the implementing authorities.

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There is no systematic study in Eldoret that has isolated urban development control from the perspective of the subjects of laws and associated instruments. Studies on urban planning have been sectoral focusing on specific urban functions such as

transport, energy, green spaces, water, industrial, residential/ or housing, waste management and Urban Agriculture. A study on the effectiveness of urban development control instruments and practices in Eldoret Town would lead to generation of findings important for policy information, for better planning and urban development control in Eldoret and elsewhere in Kenya.

1.4 Objectives of the Study

The general objective of the study is to assess the effectiveness of urban development control instruments and practices being applied in Eldoret town. The specific objectives include;

i. To assess spatial urban development pattern in Eldoret Town
ii. To assess the effectiveness of urban development control tools being applied in Eldoret Municipality
iii. To establish challenges associated with application of Urban development control tools
iv. To explore appropriate strategies for improving the usage and application of urban development control tools

1.5 Research Questions

The study was done within the purview of the following guiding research questions;

i. How is the spatial urban development trend like in Eldoret Town?
ii. What urban development control tools are applied in Eldoret Town?
iii. How are appropriate urban development control tools implemented in Eldoret Town?
iv. What challenges are associated with the usage of urban development control tools and practices?
v. How can urban development control tools be improved?

1.6 Justification

Globally it has been documented that development control system has not been understood (Morgan, 1988). To many, it is a system that is viewed from the legal dimension. Others look at it as the making of an application for planning permission. In Kenya, development control is understood as the statutory responsibility of the

Planning Authorities. Plan implementation or development control accounts for 50% while plan making takes the remaining 50%.Planners world over pre-occupy themselves with development control matters more than plan formulation. Development control is one of the Planning Authoritie's most high profile and resource consuming activities. It is becoming more complex and often controversial (www.clg.uts.edu.au, 2014). This study aims at enhancing understanding on urban development control practice in Eldoret town in Kenya. Development control is an important process that shapes up cities and towns. It is a process that makes the cities and towns to look like what they are and hence worth studying.

Kenya is one of the countries in the developing world which is experiencing the highest rate of urbanization. The current urban population growth in Kenya is at an average rate of 7% per year compared with population growth rate of 3.8% for the country as a whole (UN, 2007).Eldoret Town is experiencing one of the highest urban growth rates, at about 8%. Eldoret like other towns and cities in Kenya is experiencing a myriad of environmental problems including proliferation of informal settlements, increased environmental pollution, traffic congestion and inadequate provision of public utilities such as schools and social amenities (Keya, 1989, Muigai, 1995; Kenya, 2013).

For many years human settlements have not been satisfactory for their inhabitants whether in developing or in developed countries, in spite of the technological achievements of the current and the last century (Doxiadis, 1968) and hence the need for continuous search for pragmatic solutions. The main challenge facing urban planners in Kenya today is how to devise ways and means of transforming human settlements into modern towns and cities. The challenge here is to develop and implement policies that support not only the function of cities as engines of economic growth but also their role as agents of social change (UN Habitat, 2001).One way of realizing this goal is to carry out a thorough analysis of the efficacy of urban development control instruments with a view to making suggestions for reforms, for sustainable planning and development of urban environments. It is important to survey the existing urban development control instruments in order to know whether the problem is too much law, too little law, out-of- date law, ignorance of law, law at variance with practice, customs and beliefs, a reasonable law unreasonably

administered, law needing wholesale reform or, law needing minor adjustments. Better management of urbanization process should imply a concept of correct action and a better legal framework (Racodi et al, 1992, Dekker, 1992).

The urban planning and development instruments provide a measure of certainty and backing for specific policies and programs and institutions whose mandate is to execute them. In the past two decades, new instruments have been formulated to guide urban planning and development in Kenya. The implementation of the PPA Cap 286 and the Physical Planners Registration Act, 1996 and the associated legislations have not helped to transform urban centres into attractive living environments. This is despite the fact that all manner of developments, are subject to a detailed regulatory framework. A study on these instruments would help to reveal reasons as to why these legislations have fallen short of the envisioned objectives.

The building industry in Kenya is expanding and it gives an indication of how the environment is being impacted upon. Kenyan's economy is projected to grow with a double digit especially as the country moves towards the attainment of vision 2030. Because of the devolved system of government whereby resources are being concentrated in the Counties, there is going to be increased construction activities resulting in negative impacts on the environment if proper guidance is not provided. The built environment sector in Kenya generates approximately 35,000 housing units annually (AAK, 2011).The Ministry of Lands, Housing and Urban Development is working on a target of providing 300,000 housing units per year and to register three (3) million land parcels in the country by the year 2017 (Kenya, 2013) hence meticulous urban planning and development control is urgently needed to address these emerging issues, and the recommendations of the study will be beneficial in this regard.

Development control is important as it is one instance of the role of monitoring land use change. Another is recording of events to assist in periodic considerations of whether modifications to policies and prospective projects are necessary or desirable (Litchfield et al, 1975). Development control policies are often experimental for review after a short time to assess the number of applications carried out. Experiments can also establish qualitative relationship (Simpson, 1985). A system of monitoring

the efficacy of development control process is lacking in the statute books. The study makes contribution in terms of taking a retro-active view of the successes and weaknesses of implementation of approved building plans. There is no single study that has isolated plan effectuation, or development control from plan formulation process and given it detail treatment. Most studies have delved into specific land use functions like transportation, industries, informal settlements, and urban agriculture, (Mulongo, 2005, Ambura, 1997, Musyoka, 2004 & Mugalavai, 2008).This study examines development control framework from the dimensions of the subjects of laws and other instruments who sought development permission in Eldoret Town. There has been no mechanism of making a follow up on what really happens after development permission has been granted. For instance it is difficult to distinguish between approved and illegal developments in Eldoret town, hence the need for investigation.

The urban scene in Kenya is currently undergoing rapid spatial transformation following the promulgation of the new constitution in 2010. New legislations are now being formulated to be realigned to the new constitution. Already the Urban Areas and Cities Act, 2011 which repealed the Local Government Act (LGA) Cap 265; the National Land Commission Act, 2012, Environment and Land Court, 2012 and Land Registration Act 2012, the Land Act 2012, National Construction Authority Act are now in force. The Physical Planning Bill which is to repeal the PPA is about to be assented to. The study therefore puts together all urban development control instruments and practices as they are operationalized, for policy information and for future utilization as point of references by other researchers. This study contributes towards documentation and preservation of information on urban development control instruments and practices in view of the rapidly changing socio-economic and political environment in Kenya.

Eldoret Town was chosen as the study area because it is believed that prior to enactment of the PPA, Eldoret town, was the first town in Kenya to initiate a joint approach for implementation of instruments of urban planning and development control through the formation of a Town planning committees. Lessons would be learnt on innovations and initiatives which are non-statutory that have been put in place in Eldoret Town.

The study focused on building plan applications and associated processes as a case study of elements of urban development control system in Kenya. Others are extension of leases, change of user, extension of user, land subdivisions and Part Development plans. Buildings have greatest negative impacts on the environment compared to other elements of urban development control. The erections of structures contribute to ground coverage leading to increased surface run-off, loss of biodiversity, pollution and climate change. Extension of lease for example, has no effect on the environment since it only entails giving the owner an opportunity to continue owning the plot for another term. A study on buildings would be beneficial as its findings will be used to formulate designs which are in harmony with nature as espoused by Ian Mc Harg.

1.7 Scope of the study

The study focused on the application of urban development control instruments and practices. It specifically interrogated those aspects of laws, regulations, guidelines, spatial plans and strategies which deal with how building plans are implemented right from design of buildings plan to completion of building structures and subsequent issuance of compliance and occupational certificates. It singled out building developments as one aspect of urban development control, while other elements of urban development control of land subdivisions, change of user, extension of user, extension of lease and part development plans, were mentioned in the study as obiter dictum because they are interrelated. Effectiveness of urban development control instruments was determined by analyzing the views of subjects of laws, regulations, guidelines and plans who obtained development planning permission from the approving authorities in Eldoret Town. The study made a follow-up of the proponents/ or applicants who submitted their building plans for development permission in Eldoret Town mainly from four urban neighbourhood zones of Elgon View, Kimumu, Maili Nne and Langas.

1.8 The Study Area

The study area is Eldoret Town in Kenya which is located at a distance of 300 Km to the North Western part of Kenya, from Nairobi. Figure 1.1 shows the Location of Eldoret in Kenya

Figure 1. 1 Location of Eldoret in Kenya; Source; Kenya, 2007

Its establishment has colonial roots as it developed as a result of the coming in of European settlers in Uasin Gishu (Lado, 1989). It should be noted that lack of communication facilities hampered the development of Eldoret during its initial growth stages. The development of the town was thus concentrated to the south of the railway line and on both sides of the Sosiani River. Indeed, the structure of the town clearly demonstrated the aspirations of the colonial government with a clear line of segregation on racial basis. The Europeans occupied the residential neighbourhood of Kapsoya, Elgon View and Ortlepvillearea (now known as Pioneer).The Asians occupied the area near Uasin Gishu primary school and the Africans occupied Eldoret West area.

In terms of physical development of the town, the period between 1962 and 1969 was a period of stagnation. However, the period between 1969 and 1979 was the real decade of industrialization in Eldoret, since the government policy was to encourage the town to play a major role in industrial development in Western Kenya. As a result

of the role the town was expected to play, the Municipal boundaries were extended in 1974 from 25 Km2 to 59Km2.Whereas the land within the old Municipal boundaries was government land, the extended boundaries, brought into the jurisdiction of the Eldoret town, private agricultural land. Figure 1.2 shows a map of Eldoret town.

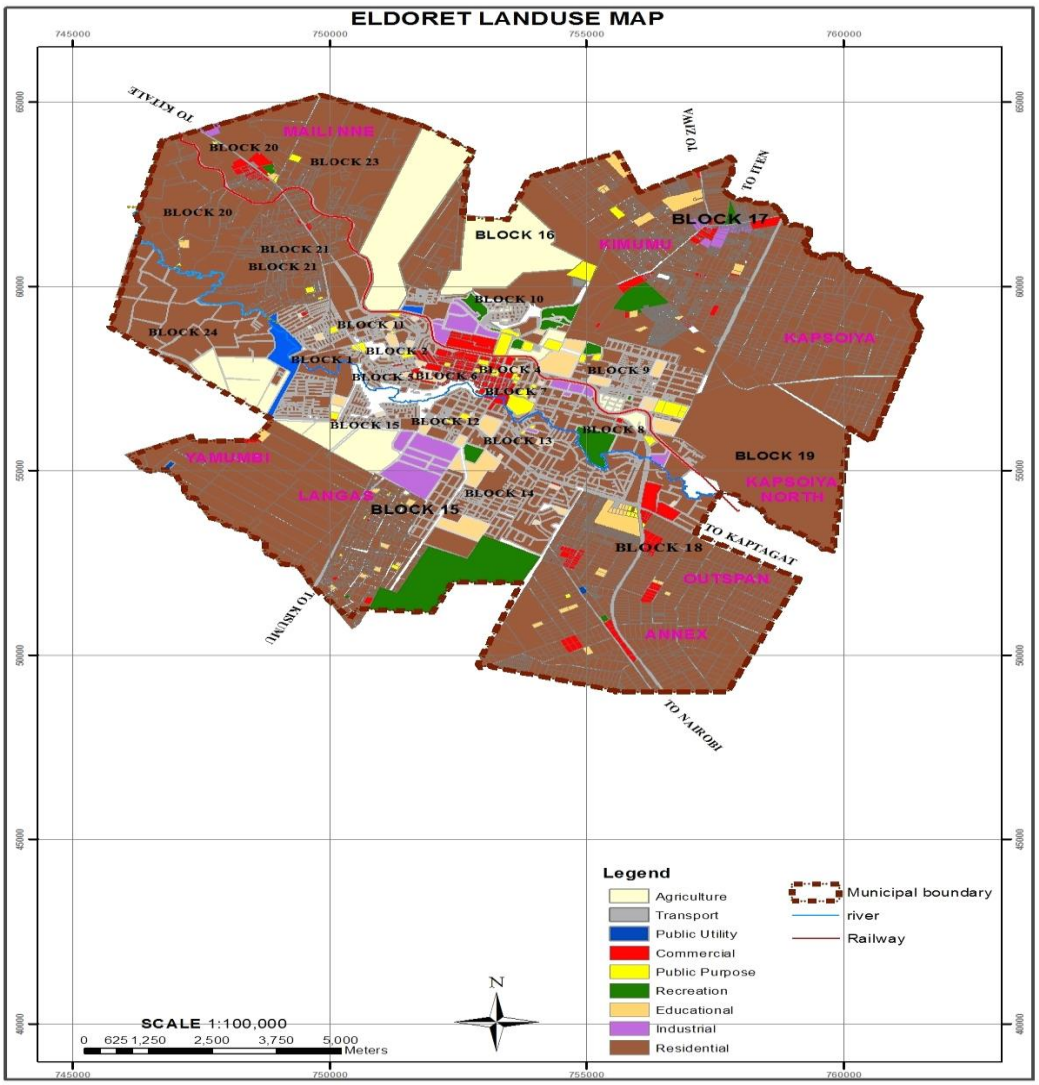

Figure 1. 2Map of Eldoret Town; Source: Digitized from CPPO; 2016

The rapid growth of Eldoret has had serious implications for planning and the provision of services including; housing, health, education, recreation, electricity, water supply, sewerage disposal, and urban development control. Eldoret is the administrative headquarters of Uasin Gishu County. The population was 193, 830 in

the 1999 census (GOK, 2001). The table 1.1 shows population dynamics and trends of Eldoret town from 1948 to 2009.

Table 1. 1 Population of Eldoret 1948- 2009. Source; CBS, KNBS, Population Census Reports for 1948; 1962; 1969; 1979, 1989, 1999, 2009

Year	**Population**	**Average Inter-Censual Growth rate percent per annum**
1948	8,193	-
1962	19,605	6.2
1969	18,196	-1.07
1979	50,500	10.2
1989	111,882	8
1999	197,144	4.9
2009	289,380	3.35

The population of Eldoret was clustered according to five Locations of Kibulgeny, Kapsoya, Chepkoilel, Pioneer and Kapyemit according to 2009 Population census. Table 1.2 shows the population distribution of Eldoret Town.

Table 1. 2 Population Distribution, By Sex, Number of Households, Area, Density and Administrative Units in Eldoret Town. Source: KNBS, 2010

Location	Sub location	Male	Female	Total	Households	Area in sq. Km.	Density
Kibulgeny	Total	26,072	25,763	51,835	15,410	27.8	1,866
	Kilimani	16,123	17,093	33,216	9,645	9.8	3,406
	Kamukunji	9,949	8,670	18,619	5,765	18.0	1,033
Kapsoya	Total	16,121	17,317	33,438	8,497	43.4	770
	Kapsoya	16,121	17,317	33,438	8,497	43.4	770
Chepkoilel	Total	21,726	20,620	42,346	10,945	22.9	1,852
	Kimumu	7,765	7,318	15,083	3,559	13.8	1,097
	Sigot	13,961	13,302	27,263	7,386	9.1	2,994
Pioneer	Total	47,684	45,752	93,436	28,252	46.5	2,011
	Langas	47,684	45,752	93,436	28,252	46.5	2,011
Kapyemit	Total	34,403	32,735	67,138	19,612	20.3	3,323
	Kapsaos	14,288	14,305	28,593	7,818	14.7	1,951
	Huruma	20,115	18,430	38,545	11,794	5.6	6,943
Total Population		146,006	142,187	288,193	82,716	160.9	1,791

1.9 Land Tenure

Land within the original Municipal boundary was government land. Land ownership within Eldoret Town can be categorized as;

i. **Government – owned land**

Land owned by the Government includes land already in use or reserved for future use by the government and land for public use. It used to be administered by the Commissioner of Lands, and has now been replaced by the National Land Commission under the new Constitutional dispensation. It constitutes only a small proportion of the total land in the Town.

ii. County-owned land

The County Government of Uasin Gishu owns a small portion of the total land within the Town. It includes some undeveloped land earmarked for public utilities, especially health facilities, and for residential developments. The areas owned mainly falls within the defunct Eldoret Municipality Block 5, 9, 11, 12 and Block 15.

iii. Leasehold

This form of land tenure includes land that is privately leased from either the government or the County Government for a of term lease ranging from 33 to 99 years.

iv. Freehold

The freehold category of ownership covers more than half of the Town because the Township boundary extensions have incorporated privately owned (freehold) agricultural land into the Town. Some of the privately owned land especially in the extended area is still used for agricultural purposes but it is increasingly being converted to residential and commercial uses. Following the subdivision and sale of the former East Africa Tanning Extract (EATEC) land, more land in such areas as Moi Annex area and Pioneer Ngeria have been released for urban development and thus creating a peri-urban development area.

1.11: Organizational Structure

The thesis is organized into six chapters. Chapter one is an introductory chapter, focusing on the background to the study, problem statement, objectives, hypotheses, research questions, motivations of the study and some aspects of the study area. Chapter two deals with literature review; involving empirical, theoretical and conceptual frameworks underpinning the study.

Chapter three presents research design and methodological framework within which the study is based. Chapter four and five are the core chapters, presenting results and discussions. Chapter six draws conclusions and makes recommendations for better

urban planning and development control. It also points out areas of further research. Appendices are attached to the end of the last chapter.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This chapter delves into the literature which is pertinent to the study. What emerged from the literature review in relation to research problem informed the subdivision of literature into various components including, history of Urban Development control, Urbanization and urban development control; tools for urban development control; effectiveness of urban development control instruments and strategies for improvement of urban development control. Theoretical and conceptual frameworks underpinning urban development control, are also presented in this chapter.

2.2 Urban Development Control Perspectives

Development control also known as planning control is seen as a mechanism to maintain standards. It is a process laid down by legislation, which regulates the development of land and buildings. It is the professional activity carried out by town planners in order to ensure compliance with the approved master plan, thereby ensuring orderliness (Ola, 2011). It is an attempt to ensure that what is arranged before hand is carried out to the letter or decisions are made to reconcile conflicting interest. Development control involves conscious efforts that are geared towards the actualization of proposed land uses on the ground (Ahmed, 2011).

According to Chapin (1979), Urban Development control is an action instrument in the guidance system in planning. The guidance system has two components-decision guides and action instruments which include;

a) Decision guides involving some type of land use policy, perhaps as part of a general or comprehensive plan,
b) Action instruments may be the more important components of the guidance system, being the means by which government intervenes most directly and decisively in activity, development, and environmental processes in the public interest. Planning activities and decision guides, as well as the political system, will back up the evolution, coordination and administration of action instruments,

or to put it another way, action instruments are the outcome of the other components.

Regulations based on the police power (zoning, subdivision regulations, housing, health, and building codes, and other regulations/ restrain the type, intensity, and location of activities, land uses, and development and reinvestment processes. Regulations, public investments, and incentives/ disincentives tool-combine with policies, plans, and other decisions guides constitute the guidance system.

A component of land use planning activity system, examines planning as the process of identifying and analyzing problems and exploring and assessing options open to an urban community in the pursuit of general goals and specific land development objectives. The land development plan, like the land use plan, would be an integral part of the guidance system, with or without a comprehensive plan as a framework. The land use planning methodology developed is generally aimed at providing decision makers and residents with a means of steering development and redevelopment forces of the market so that the built environment more closely corresponds with what its residents desire it to be.

Chapin (1979) further elucidates development control in terms of land use planning programme which is conceived as a series of activities purposefully organized to bring about a built environment that corresponds as closely as possible to the wants and needs of the metropolitan community. The programme includes both a land use design aspect (which defines the built environment sought) and a guidance system planning aspect (which defines the means by which this built environment can be attained). Ahmed et al (2011) quotes Keeble (1972) as noting that the scope of development control is extraordinarily wide. 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.

Development control is one instance of the role of monitoring change. Another is recording of events to assist in periodic consideration of whether modifications to policies and prospective projects are necessary or desirable. In this case one must not only consider the accuracy of forecasts regarding the nature of development process, but in addition the effectiveness and costs of the adopted policies and projects. This in

turn means considering their actual welfare effects in contrast to their predicted welfare effects on which plan evaluation prior to implementation was based (voogd, 1983).

According to Payne et al (2004), urban development control instruments and regulatory frameworks are important as they address the following ten aspects;

1) Achieve orderly land development which is essential for the efficient and equitable growth of urban areas;
2) Facilitating efficient land management and the environmentally sound use of land;
3) Attract and guide in Ward and Local investment in that regulations themselves are seen as permitting a reasonable return on investment, while also protecting the public interest in terms of social welfare, public health and the environmental investors are averse to risk;
4) Maximize public revenues through the use of land based and other form of taxation in mobilizing financial resources for service delivery and other essential functions by Local authorities;
5) Protection of the environment and public health, as it relates to many people getting exposed to indoor air pollution caused by inefficient cooking and heating, which harms and kills many women and small children. Inadequate sanitation leads to people defecating in open spaces which are a health hazard, stagnant water caused by inadequate drainage can likewise be a source of disease;
6) Mitigation of the impact of disasters in such areas as in environmentally hazardous sites such as steep hillsides prone areas;
7) Help the poor access improved housing services and credit as it concerns Standards which stipulate the level to which officially accepted housing and infrastructure development should conform. Permitting modest initial standards of development will enable the poor to enter the legal housing market and improve their housing overtime;
8) Protection of occupants from unscrupulous developers, for example protection of tenants or future owners from problems caused by careless or exploitative methods of development. Such problems may include excessive site development or inadequate day lighting, access or drainage ;

9) Public authorities regulate to minimize such harmful effects as pollution, congestion, overcrowding, and noise, smell and so forth, and to prevent the growth of inappropriate urban forms;
10) Allow for common land uses by specify the amount of land to be set aside for such uses, and the standards that must be observed (Payne et al 2004).

There is a dilemma on how to ensure effectiveness of urban development control instruments as how one can tell good plans and decisions from bad ones is the central question that Sillince (1986) was answering. The judicial procedure provides an imperfect means of evaluating plans and planning decisions. A decision of the plan is good because a majority of the committee voted for it or because the correct methods were used. This type of evaluation refers to the use of the rational-comprehensive strategy, involving a central decision-maker carrying out a comprehensive set of tasks in a 'rational, chronological order'. It is further stated that a decision or plan is good if it is in line with existing policy or if it is easily implemented, readily enforceable and fits in with existing standard operating procedure. A decision or plan is good because it keeps all options open until more detailed information is obtained. But waiting may mean that we wait for too long that problems are not tackled. Finally a decision or plan is good because it accords with precedent, with the law, or terms of reference, and therefore requires no change in principle (Sillince, 1986).

Urban planning and urban development control in particular has been criticized. In the words of Peter Marris as quoted by Ledgerwood (1985), that

> *"Planning makes people angry, because it seems to claim a control over personal spaces when they (local people) never willingly sacrificed, and which they believed democratic government was established to prevent."*

Godin (1998) further noted that urban planning has been criticized for; being too centralized; being an isolated process, undertaken without reference to the parallel task of planning for investments; failing to consult with the people affected; taking too long and thus not keeping up with constantly shifting circumstances on the ground, and for being inappropriate because current-urban plans have failed to adapt to real needs.

Williams (2005) also notes that" the planning system slows down the development process which is already long, rendering some projects economically unviable "and hence planning becoming a barrier. This is an indication that people have reservations with urban planning and development Control.

The negative aspects of urban development control instruments and the regulatory frameworks have been identified also by Payne et al (2004) as including the following;

a) Over-regulating and therefore discouraging investment. Prescriptive or proscriptive regulations are deterrent to potential investors,
b) Imposing regulations, standards or administrative procedures that increase costs to levels which many people cannot afford. The majority of urban poor are thus compelled to comply with regulations, standards and administrative procedures that are not only inappropriate to their circumstances, but are also beyond their means,
c) Failing to reflect the cultural priorities of different groups, especially in the ways people perceive and use dwellings and open spaces,
d) Official norms often prevent people from using their plots for Home Based Enterprises (HBEs), inhibit multi-occupancy, or insist on larger plot size than people can afford. Such restrictions commonly force the poor to seek shelter in informal settlements and prevent others from moving out of them,
e) Institutionalizing corruption through 'fees' for non-enforcement, as in high costs involved in complying with regularly requirements make many of those required to do so turn a blind eye,
f) Creating overlapping or contradictory conditions which expose developers or individuals to the risk of conforming to one regulation or standard and therefore contravening another (Payne et al, 2004).

2.3 History of Urban Development Control

Urban development control (UDC) has been evolving over the centuries. The early human settlements and cities in the Medieval period were under the management of feudalism. The Church and Secular Lords used to rule cities and performed development control related functions in such areas as; provision and supervision of trade; regulation of weights and measures and possession of the very valuable market buildings (Gutjahr, 1999). History of urban development control instruments and practices

Modern urban planning developed in response to the social and economic problems created by the industrial revolution over 200 years ago. There was a mass exodus of people from country side seeking for work, new opportunities and greater wealth. The social structures of the new and growing cities were not able to meet the needs for shelter, for public services like water, and waste disposal or for the treatment of health. The public health requirements formed the original focus for action in the cities, particularly as a result of the cholera epidemics which swept for example Britain in 1832, 1848 and 1866, and the high infant mortality rates (Clarke, 1995, Banister, 1999). A series of Public Health acts of 1848 and 1875 set up the an administrative and financial arrangement which together with the Local Government acts of 1888 and 1894 formed the statutory basis for planning in Britain and later other regions.

Dawson (1980) noted that the Town planning grew out of two pressures. The first came from the protagonists of garden cities, who demanded not only new model settlements, but also higher standards of amenity in existing towns and cities and the enlightened development of new suburbs.

Ebenezer Howard's ideas led to the development of the garden city concept which provided the basis for the post war plan for a series of new towns in Britain and elsewhere and to the establishment of green belts around the cities (Devas N, 1993).

The first piece of legislation to incorporate the term, town planning was enacted in 1909 (The Housing Town Planning Act). It gave local district authorities modest permissive powers to control health standards in suburbs more vigorously than those allowed under public health legislation that existed (Dawson 1980, Devas, 1993).

Under the housing, Town Planning Act of 1919, the preparation of planning schemes become compulsory for some of the larger authorities and a limited amount of joint action between authorities was permitted. An Act of 1929 allowed countries to join with district authorities in forming schemes, while the Town and Country Planning Act of 1932 enabled planning schemes to be applied to all land irrespective of whether it was likely to be developed or redeveloped, (Dawson, 1980).

In 1947, the Town and Country Planning Act was passed and is generally seen as a watershed in the development of town planning in Britain and later to other jurisdictions. For the first time, planners had effective powers to control development of all types. In this Act, development plans were prepared for all urban areas and an effective system of development control was established (Devas, 1993). One further

enactment provided an important legislative control over urban development, namely the New Town Act of 1946 (later consolidated in 1965). It drew its inspiration from the garden city movement and was further to contribute towards an integrated and balanced urban society (Dawson, 1980).

Peter Hall (1992) argues that city planning in the United States of America has evolved differently from planning in Great Britain, France, Germany and Scandinavia. He distinguishes ten periods in the brief history of planning in United States and elsewhere from 1890 to 1989. It has been noted that from 1920's to World War II planning commissions were formed and each would hire a planner to produce a master plan. This consisted of proposals for parkways, water front improvement, a new city hall and other items, and always, a zoning ordinance. The zoning ordinance, stating purpose, was often adopted, but used for development control (Alonso, 1992).

The Kenyan urban scene has evolved over the years through statutory and non-statutory instruments. Nairobi, being Kenya's capital city was established by the British colonialist in 1899 as a railway deport. By 1905, it had a population of about 10,000 and was already confirmed as the country's capital town, becoming a Municipality in 1919 (Akatch, 1995). The early growth and development of the town was controlled mainly by economic forces with no coordination of development other than by the layout of a gridiron pattern.

The first attempt of conscious planning was in 1926 when a British planning consultant was commissioned to make recommendations on zoning arrangements. However little was done to curb land speculation and development occurred in an uncoordinated manner. A master plan study was commissioned in 1948. It laid down the guidelines for the following twenty years, earmarking land for residential, industrial and other uses; it introduced the principles of neighbourhood units. It was largely responsible for the present layout of the industrial area. It proposed important extensions to the road networks including the relocation of the railway line and its replacement with the present dual Uhuru Highway; and it also proposed the institutionalization of an autonomous town planning department within the Nairobi city council. This later recommendation was not accomplished until 1981; even though another major study, the metropolitan growth strategy had reinforced the recommendations of the master plan to create a fully-fledged planning department.

The metropolitan growth strategy for the development of Nairobi up to the year 2000 was prepared, a decade after Kenya's political independence. The report which relied

on foreign capital for grandiose and ambitious development proposals which have not been achieved to date, over twenty years later. The approach adopted in the Nairobi metropolitan growth strategy had elements of master planning, structure planning and action planning. The strategic elements were not well articulated in the report. Most of the present statutory planning rules and regulations stem from the 1948 master plan and by-laws. The latter by which were mainly a collection of various pre-1948 rules and regulations, prepared largely in the light of 1932 United Kingdom town planning ordinance and 1932 British planning act.

There has not been any statutory or legal enactment in support of the 1973 metropolitan growth strategy of the 1979 Rezoning strategy which was undertaken by local planners in city Hall.

The town planning section put in operation a rezoning strategy in 1979 which was largely politically motivated. It was not technically analyzed and went against some of the fundamental recommendations of the metropolitan growth strategy, while the metropolitan growth strategy was relatively more cohesive and had sought decentralized urban development not only for Nairobi but for Kenya as a whole. The 1979 rezoning strategy sought to intensify development with Nairobi and consequently advocated for more concentrated central area (CBD) re-development. The strategy allowed for higher densities and taller buildings within the city centre and its peripheries. No attempt was made to evaluate and or improve the urban infrastructural services and utilities which would be affected by the higher densities.

Kingoriah (1980) in his study of policy impacts on urban land use patterns in Nairobi noted that the central government and local agencies have significantly influenced the land use pattern in Nairobi through the policies and actions. The existing land use patterns are mainly the result of government policies and actions. The economic organizations of land use as stipulated in the theories if city structure has taken place only to a limited extent in Nairobi. It has operated with definite policy and legal frameworks designed by the government authorities. These frameworks have restricted the operation of economic forces and have limited the tendency for these forces to influence the spatial pattern of land use within the city. Consequently, land use patterns in Nairobi that resemble the classical city structure model are mainly coincidental and are not the results of the urban land market mechanism within Nairobi.

It has been noted that urban process in Nairobi and in Kenya in general has not been effective in ensuring sustainable urban development and management. As has been demonstrated by the Nairobi example, urban planning in Kenya has largely been undertaken by foreign experts who have ended up producing highly ambitious and technical documents which have not been followed or implemented. The 1948 master plan is renowned because of its consequent by-laws which still form the back-bone of the regulations in Kenya. The standards derived from the by-laws are however very high and partly contribute to the short fall in housing delivery in the urban areas and the consequent mushrooming of illegal housing structures in both formal and informal housing estates. The by-laws also contribute to the in criminalization of informal sector participants within the city centre thereby constantly creating tension between the local authority security personnel and the large informal sector urbanites in Nairobi (Akatch, 1995).

In Kenya the domiciled laws were used to regulate developments in Kenya even after independence in 1963.The town Planning Act Cap 134 created three institutions, first was the Town Planning Advisor, whose name was Mr. Mcloughlin and the name is still featuring in some of the plans being used for development control in Kenya today. Commissioner of lands was the plan approving Authority, while Local Authorities comprising of the Municipal Councils, County Councils and Town Councils had jurisdiction to prohibit and control development and use of land and buildings in the interest of proper and orderly development of their areas. The town Planning Act was applicable to the Boma type of towns and the schedule areas. Planning continued to be applied in the urban areas and not in the rural areas leading to urban and rural conflict and formation of ribbon pattern of development, (PPRB, 2010).

The Land Planning Act Cap 303 was applicable to 3 miles peri-urban strip outside the township boundaries and 400 feet from the centre of trunk roads. The interim Planning Authority (IPA) was appointed by the Minister in charge of planning to prepare plans for the Interim planning areas. Functions of IPA were later carried out by the Central Authority chaired by the Commissioner of Lands. Despite the enforcement of the Town Planning Act cap 134 and the land Planning Act Cap 303, uncontrolled development continued unabated especially outside the towns and along trunk roads, since the Interim Planning Authority was never operationalized. The country was compartmentalized into three zones, the urban areas under the Town

planning Act, the 3 miles peri-urban and 400 feet from trunk roads under Land planning Act. The two Acts also lacked public participation and integration of environmental considerations (PPRB, 2010).When the PPA was enacted in 1996, it repealed the Town Planning Act and the Land Planning Act. Following the promulgation of the new constitution of Kenya in 2010, new laws have been formulated including, Urban areas and cities Act 2011, Environment and Land Court 2011, the Land Act 2012 and the Land Registration Act 2012.The PPA is currently under review with the purpose of being realigned to the new constitution of Kenya 2011.

2.4 Global Urbanization Trends

The need for urban development control is driven by Urbanization. Urbanization is a process of town formation and growth. It is a function of population increase, both natural and migratory, and spatial expansion of settlements to accommodate increasing population (Owuor, 2006).The world's urban population is growing at a phenomenal rate. Between 1950 and 1990, the world urban population more than trebled from 730 million to 2.3 billion. It is projected that by 2020 the world's urban population will rise to almost 1.5 billion and a staggering 93% of this increase will occur in the developing world (Rakodi, 2001; Davis N, 1993).The Figure 2.1 below shows the share of global urban population growth.

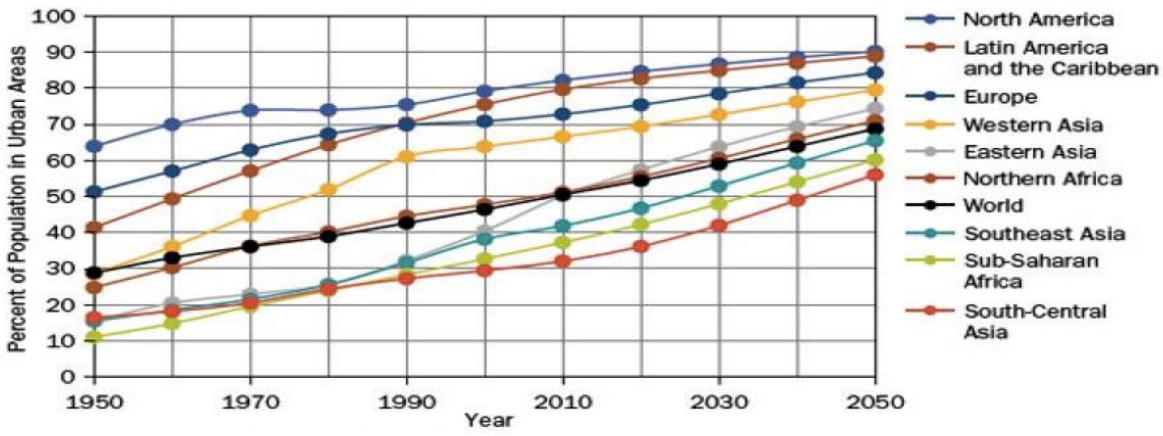

Figure 2.1 Growing Share of Population in Urban Areas by World Region, 1950-2050. Source: Acioly, 2013

According to ISOCARP (2010), urbanization process is unstoppable, irreversible, and is taking place largely in developing world. In 2003 the global urban population was estimated to be at 3 billion, while half of the world population or 3.3 billion people lived in urban areas in 2008. This number is expected to rise to 5 billion by 2030, and 80% of these urban dwellers will live in towns and cities of the developing world (Leautier, 2006; ISOCARP, 2010).Figure 2.2 shows the projected total World population in relation to urban population in billions.

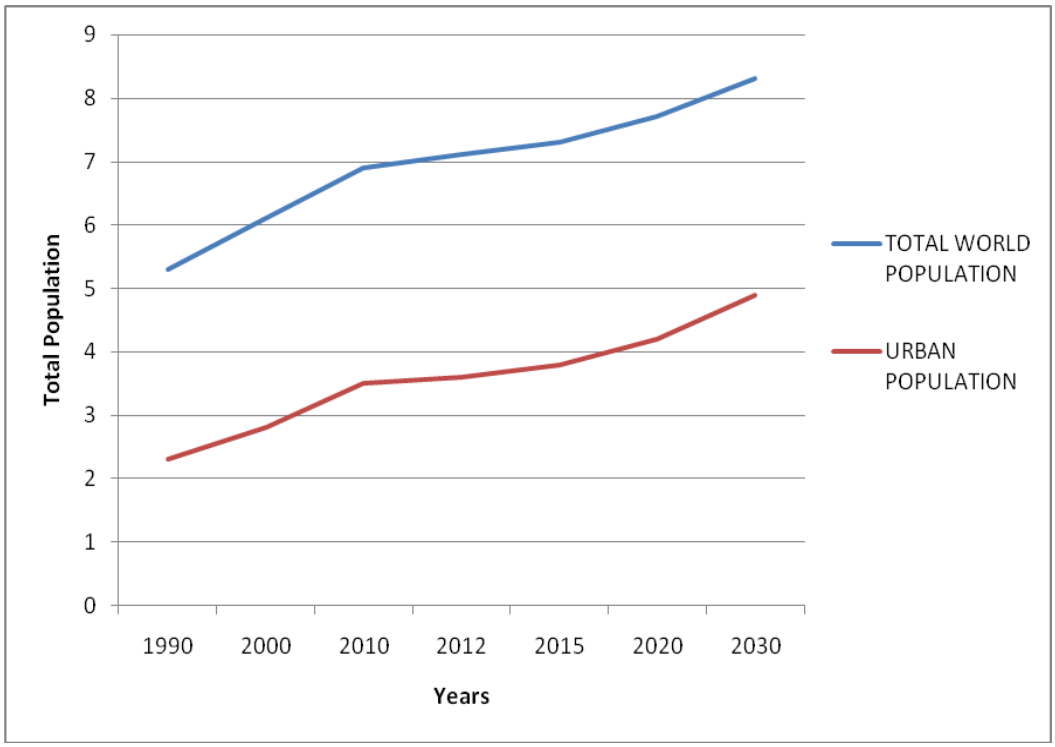

Figure 2.2 Projected World Urban Population in Billions. Source: Modified from IHS, (2013)

Africa, though currently lagging behind other regions, in terms of numbers will be home to a staggering 1.2 billion urban dwellers by 2050. Migration accounts for substantial proportion of urban population growth in the developing world, but the national growth of the existing urban population accounts for an increasing large share of the total. Urban migration has often been explained in terms of the live of the 'bright lights' and the tales of 'city streets paved with gold', contrasting so vividly with the meager conditions in the rural areas. Inappropriate styles of education, which equip people for non-existent white –collar jobs, have also been blamed. Shortage of rural land and increasing number of landless households, have forced many to seek

alternative livelihoods in the cities (Rakodi & Devas, 1993).Figure 2.3 depicts global growth rates of urban agglomerations by city size.

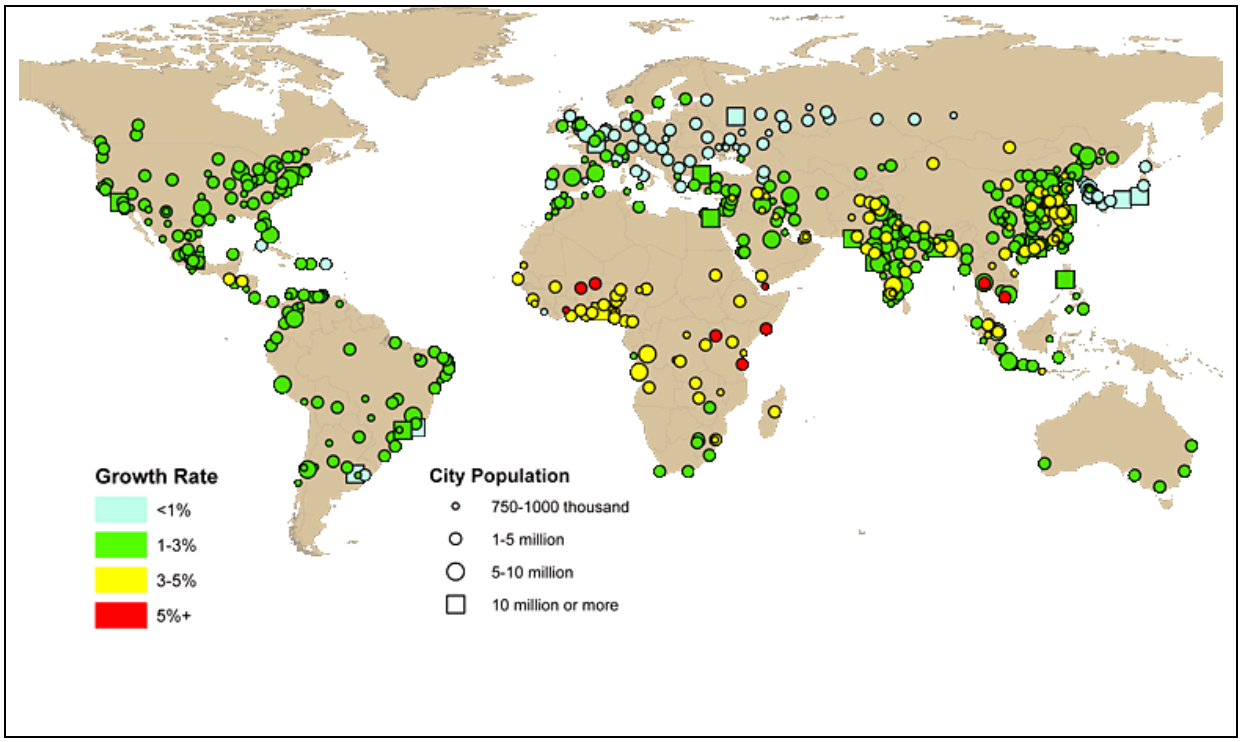

Figure 2.3 Growth rates of urban agglomerations by city size, 2011-2025. Source; Acioly, 2013

The rapid rates of urban growth are being accompanied by 'urbanization of poverty' with over half the world's absolute poor living in the urban areas. The fundamental challenge of urbanization is therefore not to contain urban growth but how to mobilize human financial and technical resources to meet the needs of urban growth (ibid).

The rapid urban growth of population has various implications of infrastructure and service needs of cities. The failure to expand water supplies, sanitation systems, housing supply and transportation to match the growth of the population has been a prime cause of misery in the cities of developing world. In many cities of the developing world, 40-50 % of the population live in slums and informal settlements The total world population is 7 billion out of which 3.6 billion (52%) are urban and it

is estimated that 862.5 million (24%) live in slums or *favelas*. One out of four people in the urban areas live in slums (IHS, 2013).Informal settlements are usually inadequately served with essential infrastructure, including inadequate road network resulting to severe connection as the volume of traffic grows. In addition, provision of services such as health and education lag behind the needs (Stren et al, 1989; Harris, 1992, Rakodi et al, 1993.IHS, 2013).

In Kenya, Authors have agreed that urbanization and urban development can be analyzed from the dimensions of; Pre-Colonial Urbanization; Colonial Urbanization and Post-Colonial Urbanization (Obudho, 1981, Anyumba 1995, Owuor, 2011).The Pre-colonial Urbanization in Kenya is largely a 20th century phenomena and a product of the British colonization. Urbanization in Kenya has a long history in the coastal region than in the interior parts of the country. Town structures may not have existed but spatial organization certainly did exist in form of invisible towns or periodic markets. Pre-colonial urbanization developed in the coastal zone as a result of triangular trade between East Africa, India and Arabia (ibid).During the Colonial period many contemporary towns and cities were established. A clearer pattern of urban centres emerged due to: the establishment of administrative centres; the construction of Kenya-Uganda Railway and road networks; large scale European commercial farming (white highlands);Caravan towns, Missionary centres and Asian community areas (*dukawalas*).Colonial urbanization shaped the urban landscape in Kenya through the following ways;

i. The network of colonial administrative centres, Caravan towns and Mission stations laid the foundation for the present urban hierarchy in Kenya,
ii. Unbalanced urban development, polarization and regional variation,
iii. Non-permanent migration to urban centres,
iv. Spatial segregation of the urban centres, city planning and regulations,
v. Urban primacy (Owuor 2011).

In the study of the history of built Form, planning and Environment of Kisumu town from 1890, Anyumba (1995), observed that Kisumu owes its structure to segregation that effectively intertwined with development controls. Race segregation was a firm instrument of planning throughout the colonial period. Only at the very end of colonialism that Asians of upper social status were allowed to break the rules

governing racial segregation in residential accommodation. He further notes that the power to effect town planning in Local Government was skewed increasingly to favour controls from Central Government. However this aspect of power relations was common to all towns in Kenya. The instruments of development control were greatly weakened, with the technicalities for planning being ignored, violated or little understood functioning planning apparatus and controls were unattainable (ibid).Table 2.1 shows Urbanization Trends in Kenya.

Table 2.1 Urbanization Trends in Kenya. Source: Owour, 2011

Trends of urban growth (1948-2009) Year	Kenya ('000s)	Urban ('000)*	% Urban	Urban growth rate (%)	No of urban centres	Nairobi ('000s)	Nairobi growth rate (%)	Nairobi % of total urban
1948	5,406	285	5.2	-	17	119	-	41.7
1962	8,636	671	7.8	6.3	34	227	4.6	33.8
1969	10,942	1,076	9.9	7.1	47	509	12.2	47.0
1979	15,327	2,314	15.1	7.7	91	827	4.9	35.7
1989	21,448	3,864	18.0	5.3	139	1,324	4.7	34.3
1999	28,686	5,360	18.7	3.4	179	2,143	4.8	38.9
2009	38,610	12,487	32.4	-**	-**	3,138	3.8	25.1

During the Post- Colonial period, urban population increased after independence as policies that used to restrict movement of Africans from migrating to the urban areas were removed. Nairobi's growth rate remarkably remained constant over the years.

There was emerging importance of small and medium-size urban centres, with regional variation in urbanization levels, trends and patterns (Owuor, 2011).

In 2010, Kenya's population was estimated at 40 million people. Figure 2.4 shows the projected urban population in Kenya in percentages.

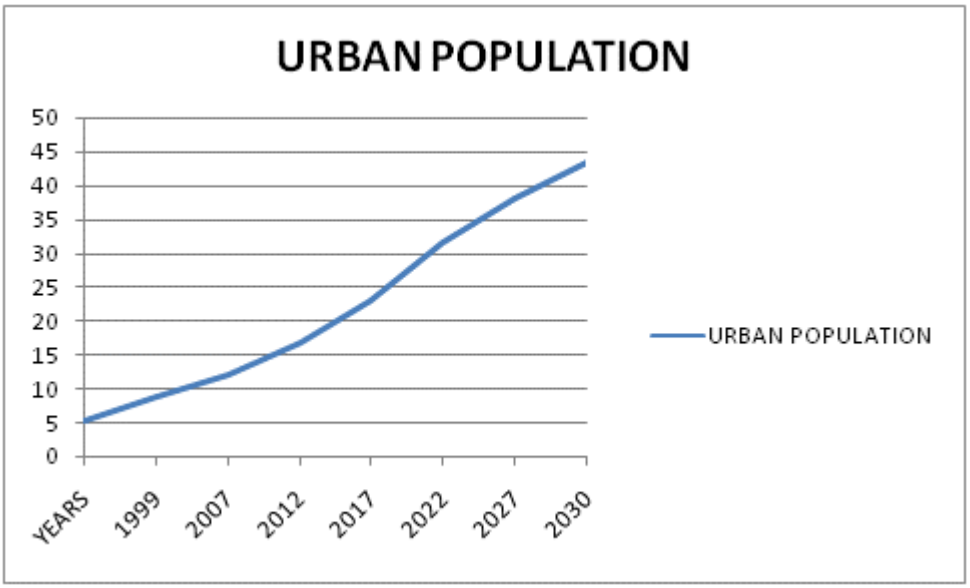

Figure 2.4 Projected Urban Population in Kenya. Source; Kenya Vision 2030 (2007)

The sources and factors of urban growth include; Rural-to-urban migration; urban natural increase; expansion in urban boundaries; daily commuters; Refugees from neighbouring countries. Urban growth is also triggered by; 'Push' and 'pull' factors; Good transport network; Strong economic base and rich hinterland. The main economic sectors that stimulate urban growth in Kenya are basically employment opportunity-based economic sectors in the; Service sector (trading and market centres, provision of governmental services); Informal sector (*jua kali* activities, casual employment); Agriculture involving, Agro-based industries (Athi River, Thika, Mumias), Horticulture industries (Naivasha),Tourism (coast and other tourist areas), Fishing(Turkana,Homa-Bay),Mining (Migori, Magadi),Manufacturing (industrial towns), (Owuor,2011).Following the adoption of the new Constitution of Kenya in 2010 and subsequent devolution of power and resources to 47 Counties, the rate of urban growth is expected to increase. In this regard there is need to put in place the right tools for urban development control in order to guide rapid urban growth.

2.5 Spatial Urban Development patterns

Globally, it is estimated that between now and 2030; urban areas are expected to triple in surface. An urban land area surface of about 319Km2, a surface equal to building a city the size of Rotterdam is being created daily in the world for the next ten years (IHS, 2015).

In Kenya, the earliest attempt to examine urban development control trends was done by King'oriah (1980) who analyzed policy impacts on urban land use patterns in Nairobi from 1899 to 1979 and established that the central government local agencies had significantly influenced the land use pattern in Nairobi through the policies and actions. The economic organization of land use as stipulated in the theories of city structure had taken place only to a limited extent. It had operated with definite policy and legal frameworks designed by the governmental authorities. These frameworks had restrained the operations of economic forces and had limited the tendency for these forces to influence the spatial pattern of land use within the city. Consequently, land use patterns in Nairobi that resembles the classical city structure model are mainly coincidental and are not the result of urban land market mechanisms within Nairobi (King'oriah, 1980, Kiamba, 1986). Harvey (1988) agrees with Kingoriah that the corpus of urban land-use theory provides a framework for analyzing the market forces shaping urban land use.

In the case of Kenya, the professionals in built environment have a role to play in influencing development pattern. For example according to the 2012/2013 National Housing Survey, the Building Surveyors had 83.0 per cent of their activities dealing with single residential houses. However valuers, Architects and Engineers carried out more of their activities on both single and multiple residential houses as opposed to commercial ones. In terms of the number of housing projects undertaken, the trend depicted by Valuers, Architects and Engineers compares very well with the aggregate trend for all Built Environment Professionals (BEPs) combined. Table 2.2 portrays all BEPs being more involved in residential compared to other types of housing units in Kenya.

Table 2.2 Percentage distribution of combined projects undertaken by all Built Environment Professionals in 2010/11. Source: KNBS, 2014

TYPE OF BEP	Single Residential House Projects	Multi Residential House Project	Multi Commercial Projects	Multi Institutional Projects	Other Projects
Valuers	47.9	38.1	10.1	3.1	0.9
Architects	45.9	32.7	4.8	15.3	1.4
Quantity Surveyors	9.3	15.0	8.9	26.8	40.0
Building Surveyors	83.0	7.6	2.1	7.3	0.0
Engineers	40.3	29.6	6.2	22.9	1.0
Others	19.5	21.2	34.9	23.0	1.5
All BEPs	45.1	27.4	8.3	13.6	5.7

It was further observed that there was a marginal increase in the number of building Plans approved from 9,852 in 2010 to 10,939 in 2011 with results revealing that flats were the most common residential types approved in 2010 and 2011 in all the defunct local authorities in Kenya. The changing socio-economic dynamics in the urban and peri- urban areas demands for periodic review of land uses to accommodate the most rewarding users. A comparison of applications of change of user and extension of user in all the categories of local authorities covered in the survey showed developers submitting more applications for the change of user than extension of user. The highest number of applications received in 2011 for both change and extension of users were at 4,911 and 570, respectively, (KNBS, 2014).

Physical Planning Department is mandated to prepare local physical development plans, regional physical and part development plans. The Department also plays an important role in advising stakeholders on matters relating to development control. Figure 2.5 below presents the number of part development plans (PDP) for housing developments approved between 2007 and 2012.

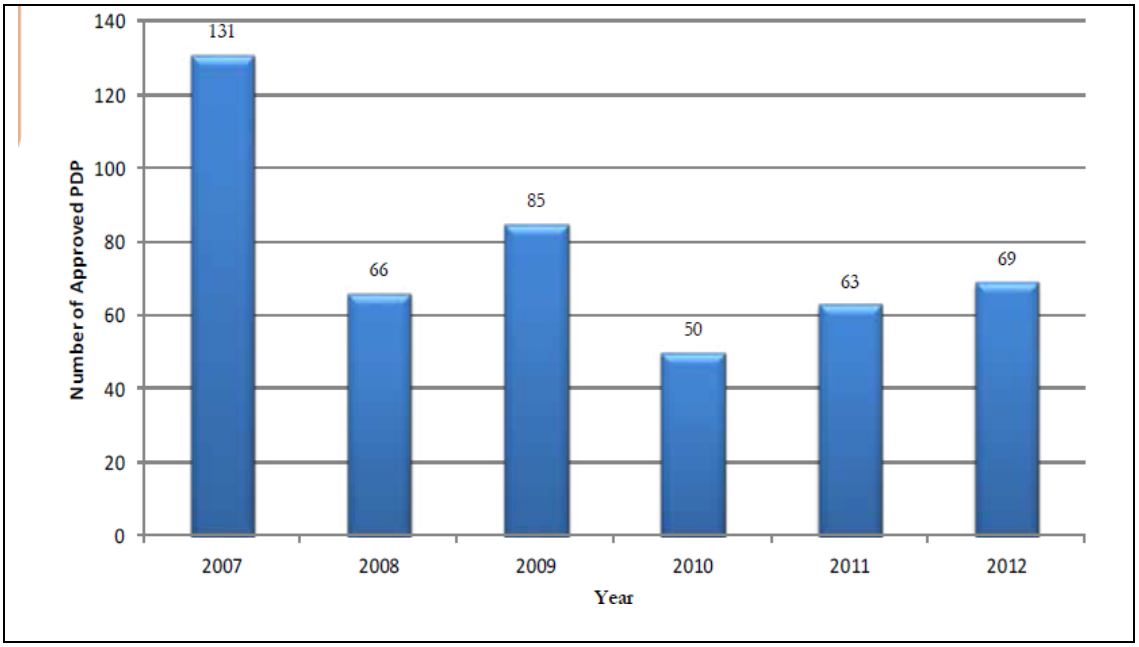

Figure 2.5 Trends in Approved Part Development Plans for Housing Development Source: KNBS, 2014

The data shows that there has been a declining trend for the part development plans in the urban areas during the review period. This is partially attributed to the stoppage of allocation of land to private developers. The slight increases in 2010 could be attributed to processing of ownership documents by government Ministries, Departments and institutions (KNBS 2014).

In a study of some environmental issues related to urban sprawl in southern Kasarani Division Nairobi city, Hayombe (1997) noted that there was a general increase in built environment from 1960 to 1990. He established that for every year about 52.76 hectares of land was transformed into built environment. Urban sprawl had directly or indirectly led to environmental problems notably; loss of biodiversity, loss of agricultural land, modification of microclimate, modification of sub-surface and surface hydrology, flood hazard, poor drainage, poor sanitation sewerage, overcrowding, water pollution, loss of water quality and inadequate water supply (UN Habitat,1986;Hayombe, 1997,2010;Nyatwanga,2007).

A further study by Hayombe in Kisumu Municipality (2010), noted that the environmental planning and management implications of land use change is evident in the reduction of urban conservation areas. This was due to reduction of green areas, wetland environments and loss of biodiversity thus compromising urban conservation

strategy. The spatial analysis showed that urban expansion transforms the natural environment at a rate of 188.3 hectares per year. Urbanization within the city-lake interface undermines the sustainability of the fragile environment. More significantly, the spatial analysis indicated that the spatial wetland had reduced from 9453.50 hectares in 1970 to only 1604.70 hectares in 2005, thus a change of 589% (Hayombe, 2010).

Nyatwanga(2007),on the other hand, while examining Urban Neighbourhood Environmental planning of Karen and Langata area of the City of Nairobi observed that there have occurred significant changes in environmental status of the study area since 1948.Undeveloped land reduced by 75 % between 1948 and 1998.This is followed by natural forest which decreased by 61.6%. For the increase, the dam construction gave the highest increase of 40488% between 1948 to 1998.Planted forest increased by1300%.Croppig activities increased by 675% in the same period while the built environment increased in the study area with residential homesteads increasing by 51%, religious organizations by 4.107%, educational institutions by 3.48% and commercial centres by 0.62%.A planted forest increased by 675% in the same period. Regressional analysis on the built-up land versus natural forest indicated that the relationship is negative (inverse relationship).The relationship yielded a strong probability values of 0.001 at 95% confidence level (Ibid).

2.6 Urban development control Tools

From a wider spectrum, planning instruments could be categorized in terms of function; regulatory mechanisms, fiscal mechanisms (taxation and subsidies), and direct public provision or ownership. They could also be categorized in terms of subject area or element; land-use, public services and infrastructure (Racodi C. and Devas 1993, Clarke 1995).Table 2.3 illustrates the elements and scope of planning instruments.

Table 2.3 Planning Instruments. Source: Clarke, 1995

Regulatory Measures
Legal regulations of land use and development, Legal regulation of land ownership, tenure and transactions, Legal controls on pollution standards, carrying capacities, hazardous areas, and cultural property, Legal controls in building and infrastructure standards, Legal regulations on provision of public services and / or their provision by contracted out private companies.
Development Promotion
Direct and indirect support to land development, Provision of infrastructure to guide urban development.
Financial Measures
Taxation of land and property, Infrastructure and services cost recovery, Subsidies for the provision of infrastructure, buildings and services.
Coordination
Coordination of spatial, financial, socio-economic and environmental impacts on land use and development, Coordination of national, regional and local policies affecting specific city land use and development, Support to low –income, disadvantaged and other target groups in the city.

Clarke (1995) further notes that country choices in development control systems to implement land use regulation and standards can be grouped under a "policy" model or an "enabler model". The policy model presupposes that all or nearly all land developed projects from the individual plot level to large projects require the developer to meet a detail schedule of planning, environmental and building standards, obtain numerous permissions and obtaining a building permit for constructions. The model assumes the availability of skilled and plentiful staff to enforce the system. The alternative 'enabling' model of development control assumes that the authority responsible for land regulations, has a positive and innovative relationship with the private sector and wishes to play a full role in promoting land development policies to support city development objectives (Clarke, 1995). The enabling approach builds on a permissive or exemption system of development control i.e. within particular land or building, use class categories, the developer can proceed with the required land use subject to the minimum of restrictions (UNCHS, 1994).

(Payne et al 2004), views urban development control instruments as regulations which are conceived as rules or orders of conduct prescribed by an authority, either requiring or prohibiting certain behavior for various purposes such as health, safety or environmental objectives. Regulatory frameworks generally comprise legal and semi-legal instruments and may include policy documents, law /legislation by-laws, customary traditions, regulations (planning, building financial, audit), standards (services and products) and procedures (procurement, design, public works, financial audit etc) related to Town planning, land development, building and public health. Regulatory frameworks are considered to consist of three main elements.

a) Planning Regulations; which stipulate what development is permitted on urban land,
b) Planning standards; which stipulate the level of quality to which all officially acceptable land and housing development should conform,
c) Administrative procedures; which stipulate developments steps that all urban developments must follow to be officially acceptable (Payne et al, 2004).

It is summarized by Philip (2007) that the type of development control tools and regulations include; master plans, zonal plans, detailed development plans and regulations regarding land use, usage of buildings, coverage, Floor Area ratio, setbacks, open spaces, height, number of storey, parking requirements, amongst others, for various developments on land and for various categories of buildings. Table 2.4 provides a summary of urban development control tools that have been applied around the world.

Table 2.4 Types of Urban Development Control Tools. Source: Author's Literature Review

Urban Development Control Tool	Purpose/Advantages	Limitations	Authors/Sources
Master Plan	comprehensive plan, blue print, traditional long term plan to guide detailed system for land use regulation and control	The production of a detailed, rigid plan which is unrelated to the forces which really shape the city	Devas, 1993& Levy, 1988). Clarke, 1995). A Mosha 1995, Clarke 1995, Anand et al 1995, UNCHS 1994, Devas 1993)
Structure Plan	The structure plan addresses a wide range of social, economic and physical development issues and allows a more flexible base for the preparation of local plans	shortcomings in the preparation and execution	Morgan et al, 1988; Simpsion, 1988; Ngugi, 2007, Devas, 1993
Action Plan	Is an implementation oriented approach to solving problems at the local level	the risk of producing uncoordinated projects and programmes which do not address underlying problems	UNCHS, 1994, Mosha, 1995 Ngugi, 2007
Strategic Plan	The output is not just a physical development plan but a set of inter-related strategies for city development		UNCHS, 1994, Mosha, 1995 Ngugi, 2007).
Zoning Plan	Zoning is the control to avoid the encroachment of incompatible uses	costly and limited implementability leading to results different from those planned	Whiteehead, et al 1983,Levy 1988 Clarcke 1995, Ngugi, 2007
City Development Strategy(CDS)	The CDS aims at policy and institutional reforms, increased economic growth and employment, implementation		Payne et al 2004, Dijk Van Dan et al,2008

	and accountability mechanisms to ensure systematic and sustained reductions in urban poverty		
Spatial plan	Spatial planning is a method of ensuring orderly distribution of people and activities in a Settlement's spatial system. Concerns itself with research and analysis, strategic thinking, architecture, urban design public consultation, policy recommendation, implementation and management.		Mireri,2005 CGU, 2014,Makworo,2012
Other types of Local Land-Use controls	(i) Site Plan Review (ii) Architectural Review (iii) Historical Preservation (iv) State Regional and Federal controls on land use (v) The Carrot and Stick Approach (vi) Pre-emption (vii) Threshold Strategy	Land use controls emanating from higher to local levels of government do not supersede local control, Rather they add another layer of control	Levy 1988; Ngugi, 2007

2.7 Application of Urban Development Control Instruments and Practices

An accurate understanding of urban development control instruments and how they are applied would provide lessons that can be learnt for improvement of the local instruments through benchmarking. Omuterema (2008) quotes Blake (2001) as having defined benchmarking as a process of identifying, learning, adapting and measuring outstanding practices and processes from any organization to improve performance. According to Otunga, (2015) benchmarking refers to the search for best practices which lead to superior performance in activities as fast as possible. It is a systematic way of learning from others and changing what is to be done (Otunga 2015).This definition supports a commitment to quality, a Standard or point of reference used in measuring or judging quality or value. Studies in urban development control practices in different contexts can inform the formulation of effective urban development instruments to be applied in Eldoret Municipality.

2.7.1 Urban Development Control in Europe

Urban development control in Britain consists of the vestiges of legislation of 1947, 1953 and 1959. The local planning authority must grant permission before any development is carried out (Eric, 1987). According to Lewis Keeble (1985), the main kinds of reasons which lead councils to refuse application for planning permission or to impose conditions are; incompatible uses; intensity of development; unsatisfactory appearance of proposed development and bad grouping of buildings.

The Town and Country Planning (Use Classes) order 1987 mandates developers to obtain permission for one use and implement that permission. An applicant can change the use of land and buildings to any of the similar uses provided by the order. If the change of use proposed is within the scope of what is permitted by the Use Class Order, then there is no requirement to seek planning permission (Cherry, 1988, Ross, 1991; Galbrailt Anne et al, 1998).

The permission under the general development order of 1988, states that instead of the developer seeking permission for development by applying to the Local Planning Authority, there are cases, covered by the General Development Order (GDO) made

by the Secretary of State where permission is automatically given for all classes of development set out in the order (Purdue, 1991; Galbrailt Anne et al, 1998).

The decision on development applications is made by the planning committee of the Local Authority in question under the advice of professional planners. In case of objections to the Development, most appeals are decided by the inspector, appointed by the Department of the Environment on the basis of 'written' representations put to him by the appellant, the Local Authority, and other interested parties if any. The Inspector who is appointed to deal with the case may decide to hold a local inquiry which is open to the public and at which all interested parties may present their cases both orally and in the form of written evidence. The Inspector is required to ensure that the final decision is the correct interpretation of policy, as laid down by the Central government and as set out in the Local Authority's statutory plans (Faludi 1973; Eric, 1987; Purdue, 1991; Reeves, 1996). The European Communities' Environment Assessment Directive of 1988 requires that an Environmental Impact Assessment (EIA) is carried out before consent for development is granted for projects that are likely to have significant environmental effects (Berry et al, 1993).

Zetter R, et al (2002) notes that conflict resolution in the United Kingdom planning system allows no third party rights of appeal and consequently the focus for any proposal is squarely on two main parties, the applicant and the local authority representing the public interests and also argued that a postmodern planning should seek to diffuse the axis and provide many different routes that empower and thereby encourage greater involvement, which could be better achieved through third party appeals. In England, around 70% of planning appeals uphold the original decision of the Local planning Authority. Planning applications must be decided in a timely manner and only 21 days is normally allowed by law for the public to express their views.

Planning applications can be viewed on the local planning authority's website and comments can be submitted by emails. If there are substantial planning grounds for refusing an application, a planning Inspector at appeal level could order the Local planning Authority to pay costs (http:/en.wikipedia/wiki 1/20/2011). The famous Greater London Plan prepared by Patrick Abercrombie is one of the instruments that has been used to guide growth and development of the City of London. The English

urban planning law also has protection over the heritage involving, old buildings and trees, under the listed buildings and Tree preservation orders (Ross, 1991).

In Federal Germany, a proposal that conforms to an approved ***bebauungs plan*** will automatically obtain permission, scrutiny being concerned with establishing conformity with the plan and with building regulations (Williams, 1992).The Communal or Municipal governments play a very active role, especially in ensuring the provision of land for future building through a long established programme of land banking. Most urban development land however remains in private hands and Municipal governments have a limited control role in this respect. Other responsibilities of local governments includes; re-plotting, that is, the exchange of plots to ensure larger scale and better coordinated development, the administration of laws to tax profits on land sales and the rehabilitation of disused or derelict land. The Environmental Impact Assessment Act require that preparatory decisions such as proposals for new trunk roads ,Federal Waterways and Airports, Structure plans under Town planning law and regional development plans under the Regional planning Act, be subjected to an EIA (Vaughan et al,1991,Philip 1993).

In the Netherlands, planning and other laws are based on the principle of ***rechtstaat or legal certainty for the citizen***. Consequently, an approved development plan or ***bestmmings plan*** has the effect of automatically conveying permission for development which conforms to it. Faludi is quoted as having noted that the systems are by no means as rigid and lacking in flexibility as a look at the legal position would indicate (Williams, 1992).Planning in the Netherlands is done in three levels, starting from the National, Provincial and the Municipality (Ollerenshaw et al, 1988).

In France the ***coed'urbanisme*** of 1954, provides a lengthy consolidated list of legal powers and planning rules and the local plan (***plan d' occupation des sols***) lays down zones of different land uses together with restrictions such as plot ratios. An approximate equivalent of the British structure plan exists in the form of the ***schema directeur***, or large scale, 30 year urban development plan for major cities. At a more detail level the ***code de i'urbanisme*** is an elaborate document governing planning and local development matters through a complex network of local government bodies and quasi-public agencies. Nearly all developments of more than a handful of houses involve public bodies and an array of instruments which remove most disputes over

betterment. When there is no approved land use plan for the Commune, it is the state which becomes responsible for issuing building permits and other authorizations regarding land use (Ollerenshaw et al, 1988, Philip, 1993).

The Nordic countries of Denmark, Finland, Norway and Sweden have a common planning tradition. A principle common to all the Nordic countries as manifest in their twentieth century planning legislation concerns the so called "Municipal planning monopoly" whereby legally binding physical plans must be approved by the Municipalities before being ratified by the state institutions. Another principle which has become generally accepted is making plans mandatory for the building of any densely built areas. This gives the Municipalities the right to veto any undesirable building projects, but no power to compel a land owner to do anything which he regards as incompatible with his own interest. In other words the landowner has retained considerable power despite the Municipal planning monopoly, and the production of a town plan has often been preceded by negotiations between Municipality and land owner (Hall, 1991). In Denmark, the town planning committee has powers to approve and reject developments, based on recommendations of the agent of the Municipality. Before a plan is approved, concerns of the immediate neighbours are taken into account. At times the town planning committee ignores the inputs of the neighbouring land users (Peterson, 2012).

The biggest change in planning in Italy came in 1977 with law No. 10, a new planning and land policy law. This begun to tighten up the land development process by stipulating that any development needed a "concession" from the local Mayor. Such concession would normally cost between 5 and 20 per cent of the project's construction costs, and amounted in effect to a development land tax. At the same time, development was to be concentrated within the designated implementation programme areas, and within the areas, land owners would have to develop their land or see it appropriated by the Local Authority (Philip, 1993).

In Switzerland development application is made to a local commune giving the following details; plot descriptions, nature of building, its purpose and cost. There is a period for objections and the applicant can respond. Approval by the commune is not the final go ahead, however, since other public laws on water supply and safety for example, must be met. In addition, private laws can be invoked by individual objectors. The permit to guide is the essential factor and it is illegal to build without one. If a building is constructed without a permit, but it would have met the requirements of planning law, it must be given permission a

posterior, with the guilty developer only being subject to a fine. Similarly, if an application to build meets the requirements of public law, permit must be given if there are reasons favoring the determination of a reserved zone or a temporary prohibition on construction (AAK, 2011).Table 2.5 gives a summary of European Urban Development Control Plans.

Table 2.5 European Urban Development Control Plans; Source: Philiph K, 1993

	England	**Denmark**	**France**	**Germany**	**Netherlands**
Name of plan	Local plan	Lokalplan	Plan de'occpation des sols	Bebauugsplan	Bestemmingplan
Coverage	About 25% of country	Wide spread	80% of urban communes	Wide spread	Virtually complete
Function	Guidelines for development and land use coordination	Implementation of structure plans and development control	Consolidated statement of planning restriction	Binding land use	
Type	Base maps with proposals for specific development and restriction and written statement	Detail land use plans and regulation	Zoning with land use and regulation for each zone	Land use plan permitted uses densities	Land uses plan permitted use densities
Basic instruments	Planning permission	Building permitbyggetilladelse	Building permit(permis de construire)	Building permit(baugenehmigung)	Building permit(bouwvergunning)
Decision By	District Council Planning Committee	Technical and environmental committee	Mayor	Chief planning officer(kreis/kreisfreestaddt)	Municipal executive

2.7.2 Urban Development Control in America

The American planning tradition for example has been particularly influential in the Caribbean, Central America and the Philippines. The American planning system is

based on two key elements; land use zoning and land subdivision regulations (Devas, 1993). In origin, these were concerned primarily with protecting private property rights and values against incursions into the local community, and ensuring that adequate public services were provided for land that was being developed. American system views land use control mainly as a local voluntary device to provide development, while the European (notably Britain and France) approach involves a greater (and more centralized) degree of public interference which requires government permission for any kind of land development initiative (Devas, 1993).

Philiph (1993) further noted that in the United States of America, the local government decides what land uses to permit, what taxes to levy and what services to provide. Cities and counties in most states now prepare and update community master plans outlining population, economic and land use patterns, but there is a dichotomy between programmes designated to limit growth and those designed to promote it (Philiph, 1993). Catanese (1984) observed that public hearing has been the traditional method in American government for safeguarding against secrecy and backroom decision making. Public hearing have come to be seen as safe channels for citizen involvement in that they provide politicians and planners with the opportunity to test ideas while assuming a neutral and objective demeanour (Catanes, 1984 , Ledgerwood,1985).

2.7.3 Urban Development Control in Australia

The New South Wales Environmental Protection and Assessment Act 1979, governs land- use, zoning and planning and development proposals. Section 123 of the Act allows any person to bring a legal action against the Department of planning, or a person contravening of the Act, to remedy or restrain any breach of the Act. The person may sue on his own behalf or on behalf of himself and others provided that those others consent. Actions must be brought before the Land and Environment Court, which has the same status and authority as the New South Wales Supreme Court. Section 98 allows any objector to a proposed plan to obtain a re-hearing in the Land and Development Court on the merits of any Council decision relating to a development designated by the Act as “likely to affect the environment” (Vaughan et al,1991).

2.7.4 Urban Development Control in Asia

In Japan the central feature of the city planning Act of Japan is that it consists of the subdivision of city planning areas into; Urban Promotion Areas (UPAs), and Urbanization Control Areas (UCAs).Compliance with city plans is ensured by the development permission that an intending developer in an UPA or UCA must obtain from the Prefectural Governor. There are provisions which exempt development permission from being sought in areas such as; UPA's development operations involving less than 1000 m^2 ,City planning areas not divided into UPA's and UCA's development operations of less than 3000m^2 and developments decided by Central Government, Prefectures, designated cities and various public agencies concerning the provision of public facilities (Mwangi,2002).The exemptions of developments from permission being granted is akin to the British Simplified Planning Zones, General Development Orders and Use Class orders. Five types of land use plans implemented by the prefectural government include; city areas plan, Agricultural areas, Forest Areas, Natural Parks Areas, and Nature Conservation Areas. Land assembly of sites is done in Japan using Land readjustment (kukaku-seiri) which serves as a tool for rational land use. It is also notable that the Prefectural Governor sets the limits of city planning areas after consultation with the Municipal representatives and with approval of the Minister for Construction (Mwangi, 2002).

In Singapore, the statutory basis of development control is in the Planning Act Cap 232 of 1998.The Act stipulates the procedures for making application for planning permission and considering what decisions to take, limits with which planning controls operate to ensure arbitrary decision or abuse of power and machinery for the legal challenge by an aggrieved person against the system. The Minister for National development may approach a person to act as a competent Authority for the operation of the planning Act. Currently there is the chief planner for the Urban Redevelopment.

Development applications are made on prescribed form and submitted to the competent Authority. A processing fee which is set up in a subsidiary Legislation is charged. Planners have produced developmental control handbooks and submission checklists to guide the applicants through various applications. Application forms are readily available in hardcopy and electronically. The planners continuously re-

examine the procedures to reduce the red-tape and processing time. The competent Authority has three months to determine an application but most applications are decided before the end of three months period. Decisions on planning applications are set forth on the planning Legislation. The competent Authority may grant the planning permission unconditionally, grant permission subject to certain conditions or refuse planning permission. The applicant can lodge an appeal if aggrieved within 60 days of the date of notification of the decision. The Ministers decision is final. The enforcement notice is issued in writing to the defaulters. The notice states the breach of planning control, measures and time to be taken to remedy the situation. An offender is liable to a fine not exceeding $200,000.00 or imprisonment of a term not exceeding 12 months or both (AAK, 2011).

2.7.5 Urban Development Control in Africa

Many countries in Africa have employed different types of planning instruments and approaches to address some of the shortcomings experienced in the development process. The instruments have been derived from different sectoral experiences in both the developed countries and other third world countries (Ketch, 1995). In general, terms legal, economic, financial and administrative instruments have been used to augment traditional planning paradigms, rules and regulations. Some of the most commonly used planning approaches include; Master planning which despite its static nature has been used by a number of countries , Action planning and structure planning approach as used in a few countries like Kenya, Uganda and Botswana. Strategic planning is used in South Africa and Egyptians new towns with Hybrid variations of land use regulations control management (Akatch, 1995).

In the Case study of the city of Gaborone in Botswana, it's planning and management reveals that, planning functions have been delegated to local Authorities with physical planners posted to undertake the planning and development control functions at the local level. The day to day management of environment is the responsibility of the Local Authority and Municipality. Local Authorities have delegated powers for controlling development in their areas of jurisdiction (Mosha, 1996).In planning of Gaborone, the master plan, zoning, subdivision regulations, building codes, urban development standards and other public policies are used to shape development.

These policies are all adopted to help protect the urban natural environment, gear infrastructure investment with development and enhance proper values. The public participation is provided for in the Town Planning Act and related legislations. Oral presentations, written requests, opinions and the media are used to let people know the upcoming developments in the areas. People are given a chance to voice their feelings for or against a proposed program. Other stakeholders participate in public inquiries and presentations. All urban centres and major villages are declared planning areas and therefore all developments including homes within the settlements require compliance with the town Planning Act of 1977, (AAK, 2011).

The overall impression one gets in reviewing the urban planning processes and experiences in Africa is that results are largely negative. This implies that planning processes have not been able to achieve the broad goals and objectives.

The arguments which have been put forward for failure of Urban Planning and development control in Africa are;

i. The urban planning processes which are largely derived from the developed regions of the world have not been adequately adapted to tackle local and unique problems in Africa
ii. The theoretical, legislative and administrative framework of the urban planning instruments is contextually irrelevant and illegitimate in the African context. The corpus of a wide range of development control legislation borrowed from Europe excludes the larger half of urban activities and developments in many African cities and towns, thereby making the legislative framework irrelevant. Housing type classification criteria for example is not relevant to local conditions (Whiteehead et al, 1983, Godlin, 1998, Ngaluma, 2007).
iii. Urban problems in African cities are unique, dynamic locally evolved and responsive instruments of city- wide urban management would be required to tackle the problem. The involvement of the larger half of the urban population in decision making is sine qua non to effective planning (Akatch, 1995).

In an attempt to address the deficiencies of the traditional planning approaches as they are applied in Africa, innovative planning paradigms have been introduced in some towns, with Nakuru Town Strategic Structure plan (SSP) being an example. The scope of the SSP entailed the integration of social and economic developmental

activities, together with investment in the support infrastructure facilities and services, with environmental considerations (Kenya, et al 1999). One of the weaknesses of the SSP is that it does not include budgetary implications in the proposals (Mwangi, 2002). Figure 2.6 shows the SSP for Nakuru Town in Kenya. The plan is intended to be used for development control for a period spanning 20 years (1999-2020).

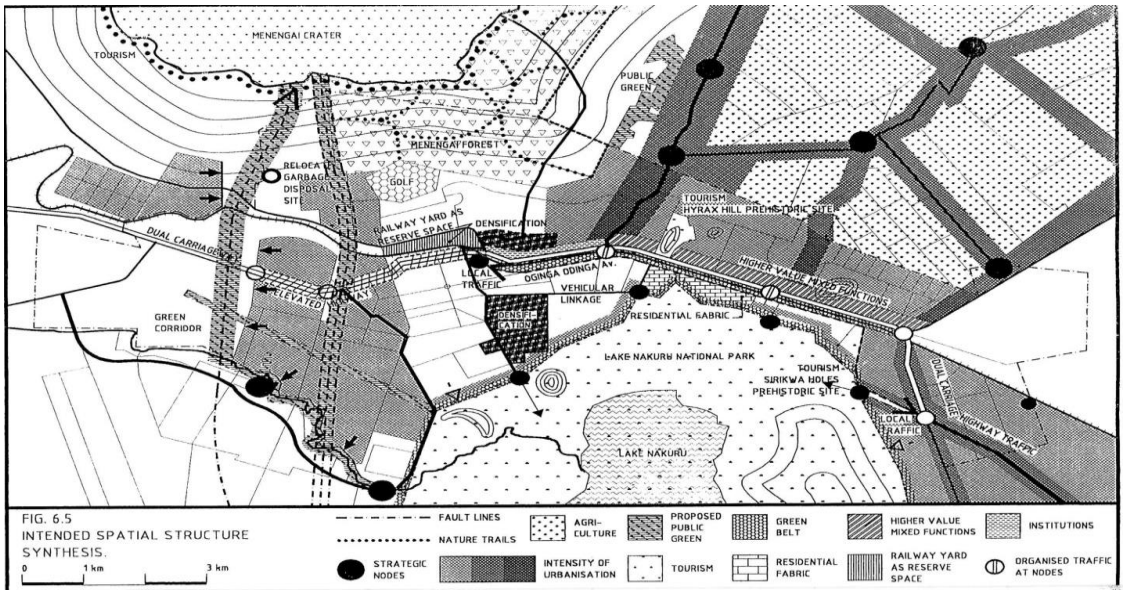

Figure 2.6 Nakuru Strategic Structure Plan. Source: Nakuru SSP, 1999

2.8 Legislative Framework of Urban Development Control in Kenya

Following the promulgation of the Constitution of Kenya 2010, the urban scene in Kenya is undergoing rapid institutional transformation and realignment. New policies and instruments have been formulated in order to be in tandem with the new constitutional dispensation. Environmental planning is explicitly anchored in the Constitution of Kenya 2010.There is a whole chapter five on Land and Environment in the Constitution. In the operationalization of the Constitution, many laws which used to touch on urban development control have been repealed and amalgamated, and new ones have been enacted, alongside with creation of new implementing institutions. The Urban development control in Kenya is therefore governed by the Constitution of Kenya 2010, statutory and non-statutory instruments, which are worth examining.

2.8.1 Constitution of Kenya, 2010

Urban development control aspects were implicitly captured in the old Lancaster Constitution of 1963. Under section 75 of the constitution, mentioned was made on the provision on compulsory acquisition of property. Acquisition of property is permitted if the property is necessary for; inter alia, public, Town and Country planning or the development or utilization of property so as to promote the public benefit. The urban development control issues are captured in various articles of the new constitution of Kenya (COK), 2010.

Article 42 states that every person has the right to a clean and healthy environment which include the right; to have the environment protected for the benefit of present and future generations through legislative and other measures particularly those contemplated in article 69, and to have obligation relating to the environment fulfilled under article 70. A clean environment can only be ensured through proper planning and development control.

Article 184(1) states that the National legislation shall provide for the governance and management of urban areas and Cities and shall in particular; establish criteria for classifying areas as urban and cities, the principle of governance and management of urban areas and Cities, as well as providing for procedures and mechanisms for participation by residents in the governance of urban areas and Cities.

In the Fourth Schedule, Articles 185 (2), 186 (1) and 187 (2) establishes the distribution of functions between the National Government and the County Government. In Part 1, the National Government is to deal with item number 21, on the general principle of land planning and the coordination of planning by the Counties, while in Part 2; the County government will deal with Control of air pollution, noise pollution, other public nuisance and outdoor advertising. The County planning and development including; Statistics, Land survey and mapping, Boundaries and fencing, Housing, Electricity and gas reticulation and energy regulation are to be performed by the County governments (COK,2010).

2.8.2 The Environment and Land Court Act, 2011

The Environment and Land Court Act 2012 repealed the Land Disputes tribunal Act.

In part (iii) of the Act on the jurisdiction of the court, states in section 13(1) that the Court shall have an appellate jurisdiction to hear and determine all disputes in accordance with Article 162 (2) (b) of the Constitution and within the provisions of the Act or any other written law relating to environment and land. Section 13 (2) in exercise of its Jurisdiction under Article 162 (2) (b) of the Constitution, the court shall have power to hear and determine disputes relating to environment and land including dispute relating to; environmental planning and protection, climate issues, land and planning, title tenure boundaries, rent, rates valuations, mining, minerals and other natural resources; compulsory acquisition of land, public, private and community land.

In Section 18, in exercise of its functions under the Act, the court shall be guided by the following principles;

i. The principle of public participation in the development of policies, plans and processes for the management of the environment,
ii. The Cultural and Social principles traditionally applied by any community in Kenya for the management of the environment or natural resources in so far as the same are relevant and not inconsistent with any written Law,
iii. The principle of International cooperation in the management of Environmental resources shared by two or more states,
iv. The principle of Inter-generational and intra-generational equity,
v. The polluter pays principle,
vi. The precautionary principle,
vii. The Principle of land policy under Article 60 (1) of the Constitution.

The matters that were previously handled by the land disputes tribunal and Physical planning Liaison committees are to be determined by Environment and Land Courts. It is also notable that when handling environmental cases, production of scientific evidence to prove environmental damage is not a requirement. Any aggrieved person can represent himself or herself in Court as every citizen has locus standi, unlike the ruling given by the court in the case of Wangari Mathai *vs* Kenya Times Media Trust whereby the case was dismissed on the basis of lack of locus standi.

2.8.3 Urban Areas and Cities Act N0. 13 of 2011

It is the act of Parliament to give effect to article 184 of the constitution to provide for the classification, governance and management of urban areas, and Cities to provide for the criteria of establishing urban areas, and the principle of governance and participation of residents. In Part II of section 12 (1) of the Act, the management of a City and Municipality is vested in the County government and administered on its behalf by, Board constituted in accordance with section 13 or 14 of the Act. A manager is appointed pursuant to section 28 and such other staff or officers in the County Public Service. Board of Cities comprises a board of eleven members, six of who shall be appointed through a competitive process by the County Executive Committee, with the approval of the County Assembly. The Chair person and vice-chair person of the board are elected by members of the board to hold office for five years. The functions of a Board of a city or a Municipality are to:

i. Oversee the affairs of the city or Municipality,
ii. Develop and adopt policies, plans, strategies and programmes, and may set targets for delivery of services,
iii. Formulate and implement an integrated development plan,
iv. Control land use, land subdivision, land development and zoning by public and private sectors for any purpose, including industry, commerce, markets, shopping and other employment centres, residential areas, recreational areas, parks, entertainment, passengers transport, agriculture and freight and transit stations within the framework of the spatial and Master plans for the city or Municipality as may be delegated by the County government.

The Powers of Boards of Cities and Municipalities include;

i. Ensure the implementation and compliance with policies formulated by both the National and County government,
ii. Make bye-laws or make recommendations for issues to be included in bye-laws,
iii. Ensure participation of the residents in decision making, its activities and programmes.

In terms of management of City County, a City County shall be governed and managed in the same manner as County government. A City or Municipal manager

for every City or Municipality established under the Act shall implement the decisions and functions of the board and shall be answerable to the Board.

It is envisaged that every City and Municipality shall operate within the framework of an integrated development plan which shall give effect to the development of urban areas and Cities and be the basis for; the preparation of Environmental management plans, provision of physical and Social infrastructure and transportation, preparation of annual strategic plans for a City or Municipality, disaster preparedness and response, and the overall delivery of services including provision of water, electricity, health, telecommunication and solid waste management. The integrated development plan will also serve as a premise for the preparation of Geographic Information System (GIS) for a City or Municipality, promote development of informal commercial activities in an orderly and sustainable manner, provide for a framework for regulated urban agriculture, and be the basis for development control. A County government is mandated to initiate an urban planning process for every settlement with a population of at least two thousand residents.

2.8.4 Building By- Laws (Grade I & II)

The bylaws are appendages of the repealed Local Government Act 265 and by extension the Urban Areas and Cities Act 2011. The defunct Local Authorities had powers to make bye-laws for maintenance of health, safety and the wellbeing of the inhabitants of their areas (Akivaga and Kulundu, 1985). They were also vested with the control and management of all trust lands, a function that has been taken over currently by the National Land Commission. The government formulated these by-laws in 1968 to regulate the character and nature of buildings and other associated works. The Grade II by-laws were revised in 1995 to facilitate the development of low-cost housing. The then Local authorities then adopted them by a resolution. The Building by-laws (Grade 1 and 11) are still in use in Kenya today.

2.8.5 The Physical Planning Act Cap 286, of 1996

The salient issues of the Physical planning Act (PPA) Cap 286 are; that the Director of Physical planning as the Chief Government Advisor prepares plans and require Planning authorities to implement them, it establishes Physical Planning Liaison committees in sections 7 – 15 of part three whose main functions are to inquire into

and determine complaints made against the Director in the exercise of his functions under the act. The liaison committees also determine conflicting claims in respect of applications for development permission; determine development application for change of user or subdivisions as well as applications relating to environmental aspects of industrial location, dumping site or sewerage treatment.

In terms of the plans and the preparation processes, the PPA recognizes the individual stakeholder and community participation in all planning circles. The legitimate plans under the act are the Regional Physical development plans which cover an area or part of a County and local (urban) physical development plans whose planning jurisdiction is a section or the entire area of a Municipality, town/urban council or market or trading centre.

Local physical development plans may further be categorized as long term (structure) plan, catering for 20 – 30 years development period and short – term plans, implementable for a period of 1 – 10 years.

The process of plan preparation becomes complete after the plan has been accepted by all stakeholders and after the expiry of sixty days notice, and upon approval by the Minister in charge of Physical planning, is when the plan becomes legitimate for use in development control. The functions of the defunct local authorities and now the County Governments under PPA are to;

i. To control or prohibit the subdivision of land or existing plots into smaller areas,
ii. To consider and approve all development applications and grant all development permissions,
iii. To ensure proper execution and implementation of approved physical development plans,
iv. To formulate by-laws to regulate zoning in respect of use and density of development,
v. To preserve and maintain all the land planned for open spaces, parks, urban forest and green belts in accordance with the approved physical development plans.

It is a legal requirement that class A and B developments should be carried out with development permission granted by the Town/Municipal Management Authority in its jurisdictional area. Contraventions of this requirement is illegal, and fines of not

exceeding one hundred thousand shillings or to imprisonment of not exceeding five years or to both are liable.

The Physical Planning Bill of 2015 which is about to be passed seeks to repeal the PPA CAP 286.It aims at aligning the PPA with the COK 2010.However the Bill has been criticized for; creating confusion and inconsistencies on the nexus between "Physical" and" Spatial" development plans; failure to align CIDP in the Bill; taking away approval powers from the County Assemblies and for failure to harmonize Survey and Land Registration processes (Kenya, 2015; KIP, 2016).

2.8.6 Physical Planners Registration Act 1999

The Physical planners Registration Act 1999 is a sister legislation to the Physical Planning Act Cap 286. It provides a framework for the Physical Planners in private practice to carry out the planning business with the planners in the public sector having an oversight role. The Act specifies who qualifies to practice and provides for the standards and codes of conduct for practicing planners. It is indicated as a foot note in the application for development permission Form PPA1 in the fourth schedule that drawings and specifications must be prepared and signed by a Registered Physical planner. Section 41 (2) indicates that the subdivision and land use plans in relation to any private land shall be prepared by a Registered Physical planner and such plans must be subject to the approval by the Director (PPA, 1996).

2.8.7 The Land Registration Act, 2012

The Land Registration Act No. 3 of 2012 stipulates that the Environment and Land Courts established by the Environment and Land Court Act No. 19 of 2011 has jurisdiction to hear and determine disputes, actions and proceeding concerning land under the act. It limits a term of lease granted to non-citizens to a period of 99 years as opposed to the previous 999 years. The act repeals several laws including; The Indian Transfer of Property Act of 1882, The Government Lands Act Cap 280, The Registration of Titles Act Cap 281, and The Land Titles Act Cap 282.The government Lands Act, Cap 280 is the Act that established the defunct office of the Commissioner of Lands, who used to administered all government land on delegated powers of the President. It regulated the alienation, use and development of government land. It was

on the basis of the act that government land was leased and enforceable conditions of development control were imposed including building development standards.

2.8.8 Land Control Act, Cap 302

The Act controls use of agricultural land by establishing Land Control Boards to vet and approve transactions relating to land such as subdivision, sale and transfer. All applications for subdivision of land are to be accompanied by a plan, prepared by a registered planner under the PPA and the Physical Planners' Registration Act 1999, before consent is granted.

2.8.9 The Land Act 2012

The Land Act 2012 in section 6 on land management and administration, the Cabinet Secretary shall regulate service providers and professionals including Physical Planners, Surveyors, Valuers, Estate agents and other related professionals to ensure quality control. Compulsory land acquisition is to be done if the land is required for public purposes or in public interest as related to and necessary for fulfilment of stated public purpose. In section 159, (1) on land sizes, it states that within one year of the coming into force of the act, the Cabinet Secretary shall commission a scientific study to determine the economic viability of minimum and maximum acreages in respect of private land for various land zones in the country. The Land Act 2012 repeals the Way Leaves Act Cap 292, the Land Acquisition Act cap 295 and the Registered Land Act Cap 300.

2.8.10 National Land Commission Act, 2012

The National Land Commission (NLC) shall perform various functions including the following;

1) Management of public land on behalf of National and County governments,
2) Recommend a National land policy to the National government,
3) Conduct research related to land and use of natural resources,
4) Monitor and have oversight responsibilities over land use planning throughout the country. The County Land Management Boards created under the act may subject to Physical Planning and Survey requirements process applications for allocation

of land, change and extension of user, subdivision of public land and renewal of leases.

The functions of the Ministry of Lands, Housing and Urban Development on the other hand will be;

i. Cabinet Secretary formulates policies on land and facilitation of implementation,
ii. Coordination and management of Spatial Data infrastructure,
iii. Coordination and formulation of standards,
iv. Regulation of services offered by professional service providers for quality control,
v. Monitoring and evaluation of the land sector performance (Kenya, 2013; Konyimbih, 2013).

2.8.11. The Inter-Governmental Relations Act, 2012

The Act establishes a framework for consultation and co-operation between the National and County governments and amongst County governments and to establish mechanisms for the resolution of inter-governmental disputes pursuant to Articles 6 and 189 of COK. It creates the National government coordinating Summit, comprising the President or the Deputy President and, 47 Governors of Counties. The Vice Chairperson of the Summit is elected. The summit shall among other things provide a forum for; monitoring the implementation of National and County development plans and recommending appropriate action and resolve disputes between the National government and County governments using mediation or arbitration strategies.

2.8.12 The County Government Act No. 17 of 2012

The County government is responsible for county legislation in accordance with article 185 of COK.It creates the County Assembly whose function is to approve County development plans. The County Executive involving the County Governor submits the county plans and policies to the County Assembly for approval as well as promoting and facilitating citizen participation in development policies and plans, and delivery of services in the county.

Section 37 of the Act mandates the County Executive Committee to;

i. Monitor the process of planning, formulation and adoption of the integrated development plan by a city or Municipality within the county,
ii. Assist a City or Municipality with the planning, formulation, adoption and review of its integrated development plan,
iii. Facilitate the coordination and alignment of integrated development plans of different Cities or Municipalities within the county and with the plans, strategies and programmes of National and County governments,
iv. Take appropriate steps to resolve any disputes or differences in connection with the planning, formulation, adoption or review of an integrated development plan and
v. Design a performance management plan to evaluate performance of the County Public Service and the implementation of county policies.

Section 48 of the Act states that the functions and provisions of services of each County Government shall be decentralized to the urban areas and cities within the County as established under Urban Areas and Cities Act, 2011.It also establishes at the level of each sub-county office of the Sub-County Administrator and the Ward Administrators. The functions of the Sub-County and Ward administrators involve coordination, management and supervision of the general administrative functions in the Sub-County unit, including; the development of policies and plans, facilitation and coordination of citizen participation in the development of policies and plans and delivery of services.

In terms of the County Planning, the objective is to ensure harmony between National, County and Sub-county spatial planning requirements. A county government shall plan for the county and no public funds shall be appropriated outside a planning framework developed by the County Executive Committee and approved by the County Assembly. The County planning framework shall integrate economic, physical, social, environmental and spatial planning. The county government shall designate county departments, cities and urban areas, sub-counties and wards as planning authorities of the county. The County Planning shall provide for citizen participation. To guide, harmonize and facilitate development within each county, there shall be the following plans; County integrated development plan (CIDP), County sectoral plans, County spatial plans and Cities and urban areas plans

as provided for under the Urban Areas and Cities Act (No. 13 of 2011).The county plans shall be the basis for all budgeting and spending in a County. There shall be a five year County Integrated Development plan for each county which shall have; clear goals and objectives, an implementation plan with clear outcome, provision for monitoring and evaluating and clear reporting mechanisms.

A county shall have a ten year County Sectoral plan as component parts of the CIDP. There shall be a ten year county GIS database system spatial plan for each County, which shall be a component part of the County integrated development plan providing;

i) A spatial depiction of the social and economic development programmes of the county as articulated in the integrated county development plan,
ii) Clear statements of how the spatial plan is linked to the regional, national and other county development plan,
iii) Clear clarifications on the anticipated sustainable development outcomes of the spatial plan.

The spatial plans which shall contain strategies for; desired patterns of land use within the County; to address the spatial construction or reconstruction of the county; provide strategic guidance in respect of location and nature of development within the county; set out basic guidance for a land use management system in the county taking into account any guidelines, regulations or laws as provided for under article 167 (2) (h) COK including;

(i) Setting out a capital investment framework for the county's development programs,
(ii) Strategic assessment of the environmental impact of the spatial development framework,
(iii) Identifying programmes and projects for the development of land within the county,
(iv) Aligning with the spatial frameworks reflected in development of the integrated development plans of neighbouring counties,
(v) Indicating where public and private land development and infrastructure investment should take place and desired or undesired utilization of space in a particular area,

(vi) Delineating the urban edges of the Municipalities within their jurisdiction and mechanisms of dealing with the rural urban interface,

(vii) Identifying areas where strategic interventions and priority spending is required,

(viii) Clear clarification on the anticipated sustainable development outcomes of the spatial planning and the areas designated for conservation and recreation.

Each County Spatial plan shall be developed by the County Executive and approved by the respective County Assemblies in accordance with procedures approved by the respective county assembly. Each county spatial plan shall be reviewed every five years and the revisions are approved by the respective County Assemblies.

Section 111 (1) of the Act states that for each City, and Municipality the type of plans which should be prepared includes; city or Municipal land use plans, city or Municipal building and zoning plans, city or urban area building and zoning plans, Location of recreational areas and public facilities.

A City or Municipal plans shall be the instrument for development facilitation and development control within the respective City or Municipality. A City or Municipal plan shall, within a particular City or Municipality, provide for;

i) functions and principles of land use and building plans,
ii) location of various types of infrastructure within the city or municipality,
iii) Development control in the city or municipality within the national housing and building code framework.

A City or Municipal land use and building plans shall be binding on all public entities and private citizens operating within the particular city or municipality. The land use and building plans shall be the regulatory instruments for guiding and facilitating development within the particular city or municipality. Each city or municipal land use and building plan shall be reviewed every five years and the revision approved by the respective county assembly. A county's integrated development plan shall be used to prepare action plans for the implementation of strategies identified by the county (Kenya, 2012).

2.8.13 Section Property Act, 1987

The Section Property Act attempts to demystify individual land ownership. The act provides for home ownership of a unit within a building. The property on air can be acquired and registered. The subjects of section property act can jointly own the title and make joint approach towards maintenance of the commonly owned parts of the development.

2.8.14 Environmental Management and Coordination Act (EMCA) 1999

The Sessional Paper No.6 of 1999 on Environment and Development, informed the formulation of the Environmental Management and Coordination Act (EMCA) 1999.The Sessional Paper emphasized on the integration of environmental issues in planning and management levels. The adoption of the National Environment Action Plan (NEAP) in 1994 marked a significant step towards integrating environmental matters in the development planning process (Kenya, 1999). EMCA provides that all projects which are out of character with its surrounding, should undergo an environmental impact assessment (EIA) and the existing developments must be subjected to Environmental Audits (EA). Section 58 of EMCA and the second schedule provides a list of projects which should undergo EIA including; urban development involving designation of new towns and shopping centres and complexes as well as transportation land uses like all major roads and railway lines (EMCA, 1999).

2.8.15 Sessional Paper No. 3 on National Housing Policy

The salient issues of housing policy are that the supply of serviced land at affordable prices in suitable locations is one of the critical inputs for housing development. The Government is to facilitate by; ensuring that legislative and regulatory instruments governing land-use planning, administration and management are regularly reviewed, and harmonized to promote housing development. Development control will be upheld and intensified to avoid illegal developments and construction; promotion of wider adoption and application of the revised Building By-Laws and Planning Regulations; encourage production and use of fire resistant building materials, and promote the use of indigenous architecture that is sustainable to local environments.

A procedure is to be put in place requiring all buildings to be re-inspected after every ten years by the Development Control agencies and re-renewal of "Certificate of Occupation". EIA will be applied on sources of building materials, such as quarries to check against negative impacts on the environment. Developers will be required to submit an EIA report together with the development proposals. Where in the opinion of the approving authority, the development activity is likely to have injurious impact on the environment; such a development will not be approved unless remedial measures are appropriately put in place, aligning the power of development control with the new categories of land ownership by empowering all planning authorities in the country to regulate the use of land taking into account the public interest, and to harmonize the institutional framework for development control to facilitate coordination, establishing development control standards, processes and procedures that are efficient, transparent and accountable taking into account International Conventions and National policies relating to the sustainable use of land and the preservation of environmental values, ensuring effective enforcement of development control, providing safeguards to ensure that development control does not amount to compulsory acquisition without compensation, ensuring that the exercise of development control takes into account local practices and community values on land use and environmental management, as well as effective public participation in the exercise of development control, and regulation of use and development of land for freehold land, urban and peri-urban land (Syagga1998,Kenya,2004).

2.8.16 National Urban Development Policy, 2012

National urban development policy is a frame for sustainable urban development. The policy was formulated in cognizant of the rapid urbanization phenomena currently being experienced in Kenya. One of the themes in this policy is national and county planning. The major issues dealt within in this theme include; integrated urban planning and development; balanced urban development; urban renewal and redevelopment and public participation in urban planning. The policy recommendations are geared to promote equity in access to resources and opportunities; social, economic and environmental sustainability; inclusivity-cities and urban areas that are central for all segments of urban residents; connectivity-urban centres that have synergy between county, national and global urban systems and

liveability areas and cities that have a good quality infrastructure and services and are secure, clean and green (Kenya, March 2014).

2.8.17 National Construction Authority Act No. 41 of 2011

The Act creates the National Construction Authority (NCA) which is established to oversee the Construction industry and coordinate its development. Other functions of the Authority are to;

i. Promote and stimulate the development, improvement and expansion of the construction industry,

ii. Undertake or commission research into any matter relating to the Construction industry,

iii. Promote and ensure quality assurance in the construction industry,

iv. Encourage the standardization and improvement of construction techniques and materials,

v. Initiate and maintain a construction industry information system,

vi. Accredit and register contractors and regulate their professional undertakings,

vii. Accredit and certify skilled construction workers and construction site supervisors,

viii. Develop and publish a code of conduct for the construction industry.

2.8.18 Occupational Safety and Health Act (OSHA) 2007

Occupational Safety and Health Act (OSHA) 2007 is implemented by the Department of Occupational Health and Safety which is one of the agencies that has urban development control jurisdiction. It is concerned with approval of projects, involving roads, bridges and commercials. It is responsible for approval of building plans especially before demolition, erection and renovation with the view to avoiding on site disasters such as drowning or burial of personnel during construction. It ensures safety of people on the construction sites.

A review of literature on the legislative frameworks in Kenya therefore reveals that there are many instruments that govern urban development control. However despite

the existence of these instruments, environmental problems in the urban areas are persistent and hence the need to examine how the instruments are applied and to make appropriate suggestions for their improvement.

2.9 Effectiveness of Urban Development Control Instruments

Urban planning and urban development control in particular has been criticized. In the words of Peter Marris as quoted by Ledgerwood (1985), that

"Planning makes people angry, because it seems to claim a control over personal spaces when they (local people) never willingly sacrificed, and which they believed democratic government was established to prevent. "Godin (1998) further noted that urban planning has been criticized for: being too centralized; being an isolated process, undertaken without reference to the parallel task of planning investments; failing to consult with the people affected, taking too long and thus not keeping up with constantly shifting circumstances on the ground, and being inappropriate for current-urban plans that have failed to adapt to real needs.

Williams (2005) also notes that" the planning system slows down the development process which is already long, rendering some projects economically unviable "and hence planning becoming a barrier". This is an indication that people have concerns about planning and development Control.

Chadwick (1987) describe Physical planning in developing countries as the expression of socio-economic policies of governments which should be action oriented and should concern itself with strategies of further development of cities, rather than trying to control over-much whatever has been built already. Thus, the provision of essential services to both existing and new areas becomes the focus of attention, rather than absurd police measures to control Erishaws or Jitneys, or the number of Pedlars or market stalls, or the sending-back to the countryside of the under-employed (Chadwick, 1987).

In Ankara, Turkey the problems of poor urban designs of the city is associated with the practice of controlling development which is constrained by the challenges of authority confusion involving the Metropolitan areas being divided into three portions, where the confusion is intensified by the authorities of different

municipalities including the greater municipality, the district municipalities, and the 'belde' municipalities.In addition, inflexibility of master plans that were used hampered Ankara's Urban design framework (Ceylan, 2003).

According to Ola (2011) the problems of development control in Lagos state as a whole arise from gradual deviation from master plan of Lagos and deregulatory authorities on development through distortion, alteration and deviation from planning standards. The main violators include both the public and private sectors aided by the' inefficiency, indiscipline officials and compromises made by government agents in charge of development control**.** It is noted that the exposure and open confrontation revealed that those who know the planning law best and are supposed to be planning the environment are now the culprits. The regulatory authority had turned a blind eye to the numerous contraventions of town planning laws being committed by some developers in that precinct. Institutional coordination problems arise between the Ministry of Local Government through local authorities and the Ministry in charge of Planning particularly in allocation of open space and its abuse of the scheme by the developers violate planning regulations. There has been weak management in the Urban Management authorities as well as failure of Urban Management authorities to attract qualified staff (Ola, 2011).

In the city of Nairobi, it is believed that 80% of the buildings are constructed without approval, despite the existence of many urban planning and development control instruments, and their institutions. In Dares- salaam in Tanzania, 35% of the houses are on authorized plots (Racodi, 1992).While studying on the effects of urbanization on the use and control of land at Ngong fringe area of Nairobi, Simiyu (2002) indicated that 20% of developers obtained building permits or had approved building plans while 54% contravened planning regulations. The reason cited for non-compliance included lengthy procedures, unrealistic standards, high processing fees charged and lack of awareness. Ondola et al (2013) while examining the effectiveness of housing policies in Kisumu City observed that 80.73% of the population sampled agreed that there exist unauthorized housing units within the neighbourhood and 19.27% disagreed that there exist unauthorized housing units within the neighbourhoods of Kisumu City thus depicting high rate of proliferation of informal settlement within Kisumu.

Mwangi (1997) noted that the information on the formal sector is scanty as most developers do not submit their plans for approval. Even in affluent Karen and Langata, in Nairobi, site plan and building plan approvals were sought by 41.7% of the developers in Karen compared to 50% of property owners in Langata. It was again observed that in Kisumu and Nakuru 57.7 % and 72.8 % of tenants respectively, were single-room households whilst 27.4% and 22.1 % were two roomed households. It was again estimated that 90% of households in Nairobi slums occupy single rooms of 9-14 square metres and accommodate from 3-5 people (Mwangi, 1997). The Urban development control laws including the Public Health Act do not exclusively deal with rental housing, but contains provisions on environmental Health in housing which apply to all forms of shelter including rental housing.

Makworo (2012) quotes Makworo and Mireri (2011) as having noted that despite there being a legal framework for provision of public space services in the City of Nairobi, the City Council of Nairobi had failed to live to its mandate, as the public spaces in the City continue to suffer environmental degradation due to weaknesses in the political governance system of the city. Makworo (2012) further notes that the City Council of Nairobi has increased densities of low density residential in Parklands and Lavington through authorization of high plot ratio without a corresponding upgrade of the capacity of public space infrastructure. This has resulted in an increase in vehicular densities and strain in sewerage and storm water drainage systems. Largely, City Council of Nairobi had failed to allocate adequate resources for public space environmental management. To get out of this problem, Makworo and Mireri suggest, among other measures, strengthening of the capacity of the City Council of Nairobi towards public space environmental management (Makworo, 2012).

According to the Kenya National Housing Survey (KNHS) of 2012/2013 which sought to establish the experience of Built Environment Professionals (BEPs) with clients on seeking building plans approval. The results showed that 30.2 % of interviewed BEPs reported that all their clients had no problem in going through the approval process. Further 15.9 per cent of the interviewed BEPs indicated that between 1-10% of their clients did not bother to go through the building plans approval process. A similar proportion of BEPs indicated between 11-20% did not also bother to go through the approval process. The proportion of BEPs who reported

over 80% of their clients who do not bother to go through the approval process was 6.4 per cent (KNBS, 2014).

A number of factors contribute to lack of or poor urban development control. The proportion of the population living in poverty has increased in most developing countries to as much as 50% of the population in some cases. With a large proportion of the urban population in poverty struggling to make a living, compliance of urban development regulation is not in their scheme of priorities. Lack of comprehensive urban development policy that are in line with the needs of the people and the current socio-economic realities such as urban poverty has contributed to the high degree of non-compliance to urban development and planning regulations.

Scholars in Africa have concerns on the application of domiciled standards. Otiso (2005), in his assessment of the colonial Urbanization and urban management in Kenya, noted that the use of inappropriate planning and housing standards, were used to actively discourage African Urbanization. He avers that planning and housing standards were used to outlaw African housing, were inappropriate because they "were imported by foreign professionals from a very different context and often at a very different time. Mwangi (1997) in dealing with environment, urbanization and tenancy in Kenya, further observed that the supply of informal housing built without following planning procedures or local authority by-laws is growing much faster than formal housing.

With reference to urban low income housing in Zimbabwe, Mafico (1991) quotes Mabogunje et al (1978) as having said that standards should evolve from people's needs; often standards tend to reflect middle class technocratic perceptions of what these needs are. In order to be acceptable and enforceable, standards must meet several criteria which Mabogunje et.al have set including; cultural compatibility, social responsiveness, that is flexibility to the ever changing social conditions, economic feasibility, physical and biological harmony and temporal relevance. Zimbabwean planning and housing standards do not live up to most of the stipulated standards (Mafico, 1991).The housing standards in Zimbabwe are putting houses beyond the reach of the poor. The poor are therefore compelled to degrade the environment while executing their survival strategies (Feremenga, 2005).

The existing standards, by-laws, codes and regulations pertaining to housing and buildings are very restrictive and do not take account of the available local materials and appropriate building technology for low income groups. This has consequently resulted in the mushrooming of informal settlements (UN Habitat 1999, Simiyu, 2002, (*erepository.uonbi.ac.ke/.../**Nduthu 2015***).

Among the factors that have been cited for ineffective UDC is the involvement of too many actors and processes. In Peru for example; building a home on state owned land requires 207 procedural steps at 52 government offices (UN Habitat, 2004). One has to undergo some kind of 'merry-go-round' or paper chasing from various urban development control institutions in order for the plans to be approved and to meet the standards and requirements of each of the actors.

A study by Ahmed el al (2011) in WA town in Ghana noted that the reasons cited for non-acquisition of permits by developers included length of processing and ignorance. Developers who have building permits also expressed their frustration about the length of time that is required to acquire a permit. This goes to confirm the reason why some developers do not have permits. In issuance of permit, it took four (4) applicants more than the ideal duration of three (3) months in acquiring permit. This was probably due to the irregularities of statutory planning committee meetings. This results in people building without permit after submission of application. The frustrations people go through do not give an enabling environment to comply with planning legislations and development control initiatives. It was also realized that most people who develop without permits go unpunished. The implication is the high number of unauthorized developments in the Municipality (Ibid).

In Kenya the law requires that all developers must submit their development proposals to planning authorities for approval. This has been reported to take unnecessary long period of time thus delaying developments in Kenya and most of the African local authorities. Developers have had to go ahead with their developments with no regard for submitted plans (AAK, 2011, Rukwaro, 2011). From the real estate perspective, a study on land applications for title deeds registration in the City of Nairobi, established that the effectiveness levels of approval processes is measured when the process is taken from submission to completion (Mwangi, 2008).The

findings indicated an overall completion rate of 11.4%, 8.35% and 18.6% for land subdivisions, extension of leases and change of use respectively. However it does not mention the completion rate of building plans.

The Kenya National Housing Survey of 2012/2013 indicated that on average the defunct Local Authorities used to take from 1 to 90 days to approve building plans (KNBS, 2014). Hayombe (2010) in his studies at Kisumu Municipality observed that the performance of development control was reported as 85.9% for unsatisfactory performance and is related to the Municipal planning variable; while others ratings were fair (8.2%) satisfactory (0.8%) and excellent (4.8%).It is poor development control that causes haphazard development in the Municipality, especially in the informal settlements leading to deteriorating environmental quality in most neighborhoods in such areas as Bandani, Manyattta, Migosi, Nyalenda and Nyawita in Kisumu (Anyumba, 1995 & Hayombe, 2010).

Explicit urban development and planning regulations have been adopted especially in Sub-Saharan counties. The various Acts regulating urban development seem to be outdated and not conforming to the countries current social, economic and political circumstances. Planning regulations and standards have been considered to be too static and inflexible for instance the development control code, the building and zoning building guides and hence facilitating non-compliance (Kibwage 1996, Mwaniki,1997,UN Habitat,1999).

While studying on Urban Neighbourhood Environmental Planning of Karen and Langata area of the City of Nairobi, Nyatwanga (2007) noted that the legal provisions guiding sound urban development are not adequate and their implementation and monitoring was lacking due to weak institutions which were ill-equipped and incapable of executing their mandate effectively. This was reflected in their overlapping tendencies, they did not provide strategy for community participation and the public lacked locus standi when their rights were violated.

In the Kenyan case, there is enough evidence to demonstrate the ineffectiveness of instruments of urban development control. For instance a four-storey building collapsed in the morning of Wednesday, March 9, 2016 near Deliverance Church in Nairobi's Zimmerman area. The building had been marked in 2014 as unsuitable for habitation after construction Safety Officials from the Nairobi County Government

and the National Construction Authority found it had no pillars and its floors were weak. The collapsed building is shown in the Figure 2.7.¨

Figure 2.7 Shows a Four-Storey building which collapsed in Zimmerman area in Nairobi on 9th March 2016. Source:http://www.the-star.co.ke/news/27/3/2016;11:00 hrs

2.10 Strategies for Better Urban Planning and Development Control

Different approaches have been suggested for better planning and urban development control in various contexts. The starting point is to manage rapid urbanization because urban centres are now home to more than half the world's population and they are the seat of global decision- making and drive global consumption, production and resource allocation patterns. They are also at the forefront of both the climate change and the biodiversity challenge, given that the conversion of earth's land surface to urban uses is one of the most irreversible human impacts on the global biosphere.

Urban Expansion is one of the primary drivers of habitat loss and species extinction (Griselda et al 2014).

The strategies for sustainable environmental management of cities is given by Ross et al (2000) and identifies some priorities for action in order to address the environmental problems or challenges of the city. These can be applied as general principles to cities around the world;

1) Address the nature of decision making by encouraging all stakeholders to foster a culture of working towards a common interest,
2) Working with the natural ecosystem not against it by designing methods of developing the built environment to co-operate with natural functions in order to improve urban health. In the case of Bangkok, this involved an understanding of the floodplain systems on which it is constructed and managing future development to maintain and enhance these systems rather than to overcome them,
3) Understanding peoples' behaviour patterns including what people do which contributes to the nature and extent of environmental problems and the extent to which people are exposed to them (Frances, 2005),
4) Gaye (1996) suggests the concept of entrepreneurial cities, involving the citizens getting organized to become city entrepreneurs in the popular urban economy or the informal sector. The popular urban economy is a source of wealth which adds significantly to the GDP of Cities, and environmental improvement.

According to the Njonjo Commission of inquiry into the land question (Njonjo, 2002), it is stated that urbanization process should take into account controls of spatial growth in order to generate an economic and social environment for urban development. The Strategy of re-conceptualization of zoning and subdivision control, not as exclusionary mechanisms within and across residential areas, but as tools for the creation of integrated viable urban communities sharing common services, is suggested (Njonjo, 2002, Ombura, 1997).Integration of environmental concerns with development objectives should be reinforced. Thus, improving environmental management in urban areas will by and large require an institutional approach which focuses on the intensive application of scientific knowledge in management (Ombura 1997).

While focusing on the integration of Non –motorized transport systems in the planning and development of Medium sized towns in Kenya, Mulongo (2005), found out that the land use and zoning characteristics contributes significantly towards the identification of a given mode of transport. For Eldoret town, given the mixed type of settlement with no specific area designated for certain land use activity, the tendency has been one where movements are virtually witnessed everywhere thus making it difficult to distinguish a permanent route from a periodic one. He further argues that zoning determines the travel patterns thus giving a town its origin-Destination (O-D) patterns, Trip generation and distribution and composition of transport modes (Mulongo, 2005).Implicit in this study is that the current problems of traffic snarl-ups as experienced in Eldoret Town is attributed to the zoning patterns which determine travel patterns. Traffic congestion can be effectively mitigated through re-zoning and relocation of land uses that attract and generate a lot of traffic.

In examining the land use conflicts and in-optimal spatial patterns in peri-urban areas of the city of Nairobi, Ayonga (2008) established that there is lack of appropriate land use policy and institutional frameworks to handle the mixed land uses in peri-urban Nairobi. There is no framework for development control in peri-urban areas in Nairobi and hence the need to develop one.

While studying on the interface between urban agriculture and food security among the low-income producers and sellers of horticultural food crops, in Eldoret Municipality, Mugalavai (2008), advocated for urban agriculture as a means of catering for the landless population by offering them with accommodation and jobs where appropriate frameworks and structures are put in place to cater for cluster interactive models. It is observed that proper physical planning and urban planning; appropriate rain harvesting efficient irrigation systems and good land husbandry mechanism are important aspects of improving urban agriculture and settling the jobless poor in places that may be designated for continuous urban agriculture activities that would benefit integrated livelihood groups and the communities. She challenges urban planners to be held accountable to plan with the urban poor livelihood options in mind thus generating green cities jobs, social and environmental health, good nutrition and health, as well as economic growth, stability and capacity development (Mugalavai, 2008).

Training of Urban Control personnel is considered as one of the strategies of effective urban development control. Personnel involved in urban development Control should be encouraged, trained and rewarded as when due. Efforts should be made to streamline the conditions for carrying out responsibilities within their contexts. Personnel should be encouraged to ensure that undue excuses, delay and corruption should be avoided as much as possible because the bulk of the problem in Metropolitan areas for example in Lagos is as a result of corruption on the part of the officers in authority (Ola 2011).

Ndegwa (2001) quotes Raymond (1978) as having said that the reason why Physical planning is ineffective is because local government bodies can ignore it. And the reason why it can be ignored is that in almost all states, plans are developed under the aegis of local governing bodies. It is suggested that there ought to be a legal requirement that the local governing bodies should adopt plans for them to be enforceable (Ndegwa, 2001).

The process of urban development control is replete with a lot of challenges in both developed and developing countries. To surmount development control challenges various approaches have been adopted in different countries. The introduction of the simplified planning zones, General Development Orders (GDO) and Use Class Orders without primary legislation, meant that planning permission was not necessary to be sought for each particular development proposal falling within the designated zone (Allmendinger, 2001). It also meant that developments of any class specified in the planning zones may be undertaken without the permission of the local planning authority. These development met resistance from the professional planners and the Royal Town Planning Institute (Reade, 1987: Morgan et al, 1988).

In Kenya, the Njonjo Commission noted that the Physical Planning Act CAP 286 is applicable to all parts of Kenya including subdivision of agricultural land with cost implications. To solve this problem, it was proposed that exemption of planning of agricultural land under section 2 of the PPA was to be done,(Njonjo,2002).In addition, Njonjo (2002) observed that in view of the widespread public interest aroused by the sometimes improper allocation of public utility plots throughout Kenya, where a local physical development plan has been prepared, the Director should ensure that a Billboard giving full details is erected on the property affected by the proposed

development when giving notice to the public in accordance with Section 26 of the Act. The Director should also ensure that the 30-day period for inspection does not commence before the erection of the billboard, (Njonjo, 2002).

Nyatwanga (2007), in his study on Urban Neighborhood Environmental Planning in Karen and Langata, Nairobi observed that neighbourhood planning has not yet been institutionalized in Kenya, but has been applied in self help/Community projects in urban areas where community participation has realized much success. The residents of Karen and Langata area have used community participation approach to informally initiate some planning activities for the area through Karen and Langata District Association (KLDA).It is feasible to use these already established institutions to effect neighbourhood environmental planning by creating Karen and Langata borough, for use in making rational decisions and taking appropriate action on matters of environment of their neighborhood (Nyatwanga, 2007).

In focusing on the strengths and weaknesses of alternative land delivery processes, the findings of the research conducted by Musyoka (2006) showed that plot buyers have their own ways of considering their tenure. One such way is to develop the plot, which makes it difficult for others to claim it. Of the three study sites of Kamukunji, Munyaka and Langas, it is Langas that security of tenure is most uncertain, because the initial shareholders are embroiled in a dispute over ownership of Langas farm. According to the key informants, in the case of Eldoret, there is an unwritten understanding between the Municipal Council and rights holders in the areas with unregistered subdivisions to use their existing plot documents as proof of ownership. This makes it possible, in theory, for the Municipal Council to collect rates in the informal areas, as well as exercising development control (Musyoka, 2004, 2006).Regularization of Existing Buildings in Nairobi City County involves a process which is similar to new building plans to be processed but have to be accompanied by, Architect's report; and Structural Engineer's report on workmanship (City Council of Nairobi, 2010).

Mwangi (1994) argues that planning law which existed in form of ordinances and orders should be consolidated into a new planning Act. More interaction between the local authorities and the local communities, and clearly stated levels of policy making

and jurisdictional planning are some of the areas to be improved in the model. The integrated model suggests organizational relationship and implications for land ownership and its development. Ayonga (2008) further noted that there is lack of appropriate land use policy and institutional frameworks to handle the mixed land uses in peri-urban Nairobi. He proposes that the undue peri-urban formations in optimal land use patterns and conflicts in space use in rural –urban interface of Nairobi can only be managed well by creating a unified land use system coordinated by a lead agency.

Wangari Mathai (2009) takes the issue of development control standards further by advocating for the need for governments in Africa to revise their building codes and by requiring that all windows and doors have permanent screens on them to keep mosquitoes and (and other insects) out. Screens on windows and doors would offer some immediate and affordable protection against mosquitoes which cause malaria which is one of the leading causes of mortality in Africa.

Feremenga (2005) calls for an urgent need to review the nature and effectiveness of Zimbabwean planning system in order to address the question of standards. It is argued that standard setting should encompass considerations of the country's environmental, technical and social conditions. They should also relate to the quality and quantity of resources that are available. For instance, in determining the kinds of building materials, floor space and requisite services and facilities, the task involved is to strike a balance between health, cultural and safety requirements on the one hand, and available financial resources for house construction.

Under the Hyogo Framework Action guidelines which provide different standards for disaster Management, Mireri,(2005) and Harday et al.(2014), advocates for modifications to building codes and urban norms for planning for underground electricity, removable street lights, suitable urban forest, standards for large signs/bill boards and review of housing materials (to prevent these from becoming missiles in strong winds).Short-term plans should be prepared which should incorporate standards that respond to climate change variables. It is further noted that the quality and design of housing and infrastructure are important elements in preventing or lessening the effects of disasters. Decision-making in the context of the built

environment has implications for adaptive capacity as well, since it guides how spaces are designed, constructed, renovated and used (Hordijk et al, 2014).

Up to date records and in form of a Land information system are indispensable for urban development and management. Implementing a strategy on developing a Land Information System entails collecting all relevant data pertaining to existing land ownership; scanning them and uploading the data on computers. This is in order to facilitate easy access to land records and retrieval of the same for development control decisions. It is also important that preparation of spatial plans is fast tracked as they serve as the basis for decision-making (Makworo 2012, CGU, 2014).However for this approach to work there is need for provision of adequate resources.

There are new approaches to urban development control in various parts of the world involving paperless applications for development permission. In Britain for example, architectural drawings and other supporting documents are transformed in electronic form and submitted on-line, either via the Local Planning Authority's website or via the UK-wide "planning portal" which provides a nationwide clearing house on planning information and facilities. About half a million planning applications are submitted throughout the UK each year. Of those, around 60% relate to 'householder applications' that is for extensions or alterations to an individual's house. Only about 30% of household planning applications are significantly altered before being granted, or are actually refused permission as unacceptable (http:/en.wikipedia/wiki 1/20/2011).

Arising from poor urban planning and development control, new planning paradigms have evolved especially in developing countries. Some countries have relocated some services away from initial settlements such as capitals to create new settlements like in the case of Chandigarh, Dodoma, Abuja and Brasilia. In the case of Curitiba, capital of Parana state in south-central Brazil is a fast growing city of over 1.4 million people. It has been called a planner's city because it is a visibly orderly well planned city with an efficient network of public services. Strict enforcement of zoning laws has been accompanied by incentives to compliance, and in particular a computerized supply of information about the legal requirements for planning consent, and a fast track system for approving conformity plans (Davey, 1993).

In many countries around the World, Environmental Impact Assessment (EIA) is used as an urban development control tool. The Provisional Environmental Permit is the initial environmental approval that allows any proposed development to commence on Environmental grounds. There is a time limit on the validity of the environmental decision by Environmental Protection Agency (EPA).The decision is effective for a period of eighteen (18) months from the date that the proponent is advised about the decision. The Provisional Environmental Permit is regularized within a time-span of 24 months of its issuance and project commissioning. The basic requirements for the regularization; that is the granting of the Environmental Permit are; satisfactory commencement, operation and performance of development, observance of relevant permitting / approval conditions; compliance with stipulated mitigation and other management undertakings outlined in the Environmental Impact Statement (EIS). Failure to satisfy these conditions shall render the Provisional Environmental Permit invalid. Where the undertakings are applied, the proponent shall pay a fee prior to collection of the Provision and Environmental Permit. In some countries such as in Netherlands a Commission for EIA has been set which has development control function (Brilhante Ogenis et al, 2002).

A more recent phenomenon across the continent of Africa is the visualization of high-technology satellite towns and the futuristic redevelopment of capital cities. According to Vanessa Watson (2014), Sub-Saharan Africa's larger cities are currently re-visioned in the image of cities such as Dubai, Shanghai and Singapore, which claim top positions in the world class city leages. Draped in the rhetoric of "Smart Cities" and" Eco-Cities", these plans promise to modernise African Cities and turn them into gateways for International investors and showpieces for ambitious politicians (Watson, 2014). Examples of these include satellite towns such as Tatu City and Konza Technology City (Greater Nairobi); Kalungulu City (Kampala);Eko Atlantic City and Lekki-Epe corridor (Lagos); Raphta City (Dar es Salaam) and Luanda Sul (Luanda), as well as the redevelopment of capital cities such as Kigali, Nairobi, Lagos, Kinshasa,Dar es Salaam and Maputo.

Development of these cities is intended to be mainly driven by the private sector, and also developed with foreign investments and catering exclusively for higher income earners. These projects have been criticized, especially with regard to their elitist undercurrents and the fact that, in some instances, low-income communities have to

be evacuated to make way for them (Kadiri, 2012).The new Urban Fantasy plans have been noted to be having no reference to any kind of participation or democratic debate that has taken place. The tendency to describe new tower block complexes as self-contained, "City within a City", examples from Dubai are internet City and Waterfront City means that populations that live, work and shop in these gigantic gated communities therefore never need to interact with the rest of the City. However, it is recognized that while these developments are indeed quite elitist and inward-looking, they are a result of the failure of urban planning to provide adequate responses to local development challenges. Similarly, mass housing for the poor has been developed by state agencies in far and disconnected location (Watson, 2014, unhabitat. org*/pmss/getElectronicVersion.aspx?nr=3537).*

In Kenya, there is a paradigm shift in urban planning involving creation of techno-cities, or/ techno-polis, ICT/Smart-cities and Resort cities, which are considered to be within the purview of the flagship projects of Kenya Vision 2030.According to Pacione (2009), the principles of Smart growth in City planning include; mixed land use patterns, compact building designs, range of houses and choices, attractive communities with a strong sense of place, preservation of open spaces, directing development towards existing communities, transport choices ;fair and cost-effective development decisions and stakeholder collaboration in development decisions.

The developments of new Smart and techno-cities are expected to change the urban scene in Kenya as new settlements are created. The Nairobi 2030 Metro Strategy was unveiled by the Kenyan Government in 2008. Its stated aim is to make Nairobi "a World class African Metropolis" and the emphasis on world class appears in almost every section of the document (Watson 2014). Tatu City is planned to be built on productive coffee land that will accommodate 70,000 residents and 30,000 day visitors. The developers claim that Tatu City will attract discerning residents, companies and retailers who wish to live, work and play in the most modern, well-planned urban development in East Africa (Watson, 2014).

Konza City is to be built on a 5000 acre" technology Park" and will accommodate 30,000 residents on land in Konza located 60 km from Nairobi. It involves setting up of a hospital, studio centre, IT centre, Research centre, a Technology and Science

centre, Tourism International centre and light electronic manufacturing facility, Technology university, International schools, Headquarters for Multinational companies, Assembly plants, Hotels, a Financial district, office blocks and a Mass transport system. Konza city has been modeled around the success of similar technology centres like Cyber Jaya in Malaysia, Cyber City in Mauritius, Egypt's own Smart Village and Silicon Valley in the US (Watson, 2014). The implementation of the Konza city is estimated to cost Ksh. 1.2 trillion (US $ 14.5 billion).

Konza City activities started with EIA, getting stakeholders involved, Physical planning, feasibility studies and master planning. Unlike the way other urban centers have been managed, Konza city does not involve acquisition of land, the investors give out their plans and visions, the Think tanks are to put them into structures and could finance them. The Konza Technology Authority (KTA) is going to act as the regulator in the area meaning that it will have an urban development control jurisdiction. KTA will ensure much more coordinated development around the vicinity. History repeats itself; KTA is akin to what Ebenezer Howard of Garden city movement had suggested as a Development Corporation to privately manage urban development. In Britain, Corporations were used for construction of New Towns (Low, 1991). KTA has created a buffer zone of 10 km radius from Konza city's centre to be within their jurisdiction, as a strategy for containing mushrooming up of shanties. However, for KTA to operate effectively it must have a legal framework which is currently lacking in Kenya for urban centres offering specialized functions. KTA is likely to conflict with other existing statutory urban development control institutions, both in the National and at the County government level unless there are institutional re-engineering and realignments. Figure 2.8 shows Konza Technocity Zoning Plan.

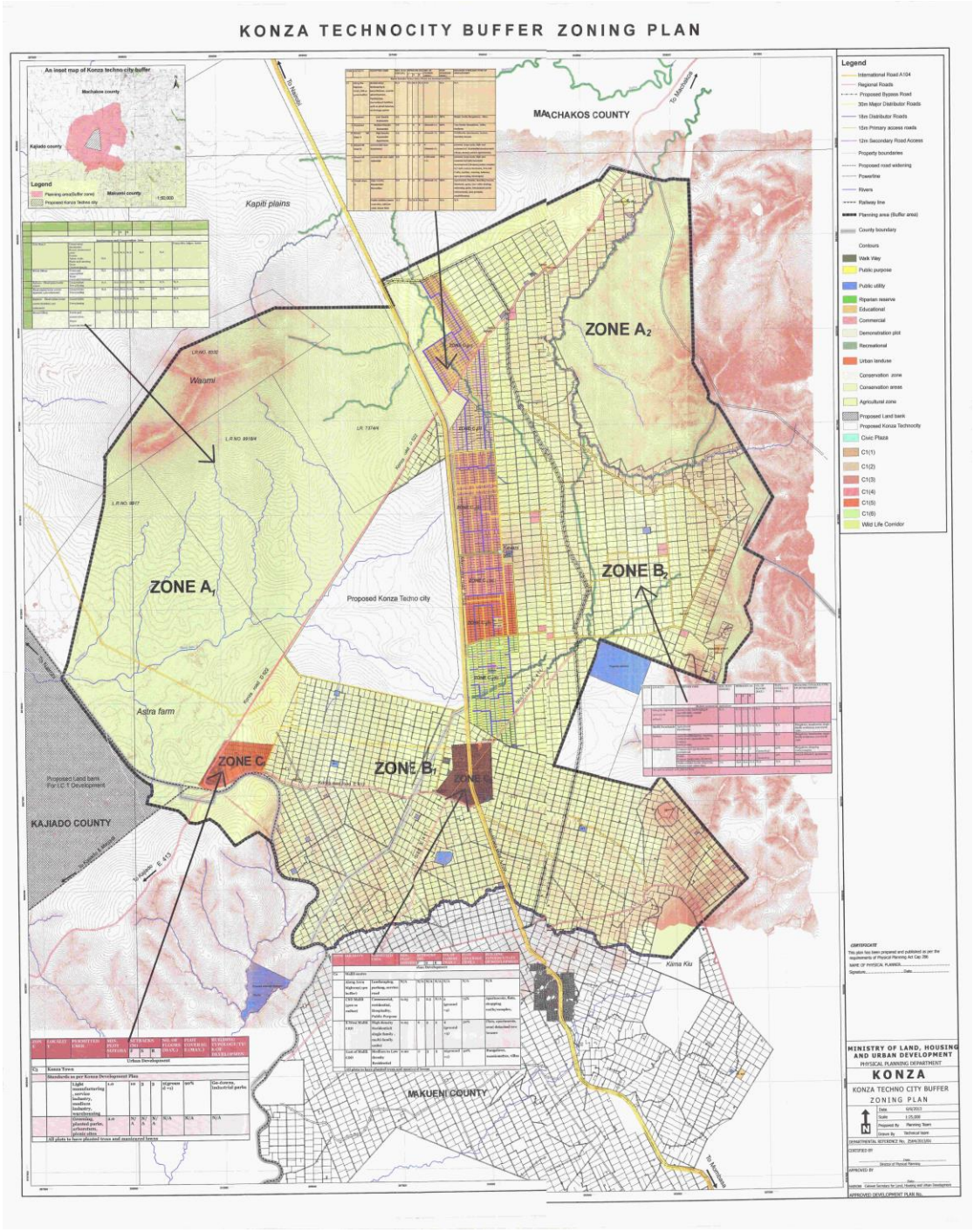

Figure 2.8 shows Konza Technocity Zoning Plan. Source; Ministry of Lands Housing and Urban Development, 2015

Machakos is a proposed satellite city located next to the existing and older town of Machakos, which is close to Nairobi. The interesting aspect of this proposed satellite is that it is being promoted by Government of Machakos County rather than by national government, reflecting a regional initiative under Kenya's new system of

devolved government. The new Governor of the County, promises an airport that will compete with Nairobi's Jomo Kenyatta International Airport, and free land for investors in Machakos City, indicating a degree of regional competitiveness emerging in Kenya (Watson, 2014).

The literature on strategies for better urban development control reveals that the strategies have been examined within the broader context of urban environmental planning. Studies have not delinked urban development control measures as an isolated aspects of the wider urban planning realm. The nexus and the praxis between strategies of City/Urban planning and urban development control are not clear. The study therefore, identifies specific strategies for better urban development control.

2.11 Theoretical Framework

The aim of planning theory is to make planning better, i.e. normative planning. Theories- in- planning deals with what planning is trying to produce, while theory of planning takes the planning process itself as phenomenological base for development of organizing and explanatory concepts (Ledgerwood,1985,Low,1991) and that planning theory has to be associated with spatial theory. Controlling is part and parcel of an integrated planning of urban centres. AAK (2011) quotes Lai (1994) as observing that public planning assigns and restricts land development rights and development control intervenes in the process of land development, construction, occupancy and use to enable and constrain transactions in accordance with prescribed rules. The theories that informed the study are worth examining.

2.11.1 Theory of Urban Spatial Development

The theory of urban spatial development, until recently, has been primarily a static theory of economic equilibrium. The models of Alonso determine a complete spatial equilibrium between the supply and demand for urban land (Wheaton 1982).The bid-rent formulation rests upon the assumption that different activities will have bid-rent curves which vary in form according to their need to be at the centre of the city. This in turn depends upon the nature of the activities, their ability to take advantage of highly priced central sites and their sensitivity to transport costs, For example a number of industrial activities have a need to be close to the centre for reasons of

labour availability, transport services and marketing services, but their need is less than that for commercial uses and they are less sensitive to small variations in accessibility, therefore their rent gradient is less steep and they cannot compete successfully for the very central sites. Residential activities are normally the largest user of land in the city. They may desire a fairly central location, although suburban qualities are increasingly preferred but they cannot derive sufficient utility or profit to outbid commerce and industry. In effect, they become a residual use, consigned to the lowest levels of bid- rent curve with locations furthest from the centre. This theory provides for the rationale for the arrangement of land uses and values. The overriding fact from this is that land use is seen to determine land values. However state interventions through planning regulations, transport policy and the provisions of public sector facilities influences urban structure (Philip 1993).

The critics of the theory of urban spatial development argue that spatial development of cities occurs incrementally over time in successive rings from the center of employment outwards. The development of each ring is done with myopic foresight and is therefore determined exclusively by market conditions at the time of development (Wheaton, 1982).

2.11.2 Systems Theory

In the 1960's, Brian Mcloughlin and George Chadwick made contributions to the theory of process of town and regional planning based on a broader theory of systems and cybernetics. They assumed that planning is a more general and commoner activity than planner's consideration, and is centre on man and his environmental relationships. Thus, the whole man-nature system provides a fundamental working framework. Planning theory has evolved in three stages: Master plan or Blue print Era of 1950s to mid-1960s exemplified in early development plans coming after the 1947 town and country planning Act of Britain; systems theory view of planning from 1960s championed by the planning advisory group (PAG) of 1965, and planning as a continuous participation in conflict resolution or collaborative/ communicative view of planning in late 1960s and early 1970s (Ayonga, 2008; AAK 2011,).

The system view of planning is derived from the science of cybernetics which is essentially a new way of organizing existing knowledge about a very wide range of phenomena. Its central notion is that such phenomena can usefully be viewed as complex interacting systems which are separated to different parts and the interactions between them is analyzed. Then by introducing appropriate control mechanisms, the behaviour of the system can be altered in specific ways to achieve certain objectives on the part of the controller. It is necessary to understand the operations of the system as a whole in order to control it effectively; otherwise, actions taken to control one part of the system may have completely unexpected effects elsewhere. The systems view of planning is the idea of interaction between two parallel systems; the planning or controlling system itself and the system (or systems) which it seeks to control. This notion of constant interaction should be kept in mind throughout the account of the systematic planning process particularly as it applies to spatial planning using the term 'spatial' in the widest sense. To include for instances notions of economic space (i.e. the costs involved in traversing distance), and psychological or perception space. To control these relationships, in a mixed economy situation, the physical planner has two main drives; First the power to control public investment, especially in element of infrastructure such as roads, railways, airports, schools, hospitals and public schemes and secondly, the power to encourage or discourage initiatives from the private sectors for physical developments, through incentives and disincentives to industrial development, controls on land use and environmental regulations. Both these forms of power vary in their scope and effectiveness from one nation or society to another. Thus different countries invest different proportions of their Gross National Product in public infrastructure; differentiations have differing controls over physical development, though in none is there a complete lack of such controls, or a completely effective central control. Therefore, the urban and regional planner is never completely ineffective, or completely omnipotent. It exists in a continuous interaction with the system he is planning; a system which changes partly, but not entirely, due to processes beyond his mechanisms of control (Ayonga, 2008).

Mcloughlin (1969) argues that the planning process assumes that 'it proceeds in a straight line through a sequence of processes, which are then constantly iterated through a 'return loop'. Having taken a basic decision to adopt planning and to set up a particular system, the planner then formulates broad goals and identifies more

detailed objectives which logically follow from these goals. He then tries to follow the consequences of possible courses of action which he might be taken with the aid of models which simplify the operation of the system. Then he evaluates the alternatives in relation to his objectives and the resources available. Finally, he takes action through public investment or controls on private investment to implement the preferred alternative. After a specified interval he reviews the state of the system to see how far it is departing from the assumed course, and on the basis of this he begins to go through the process again.

This model has been in use in Kenya during the regime of structure planning. The model still makes and takes the planner as the know-it-all, and therefore still has an inherent technological approach to planning. The main difference with master planning is the rational comprehensiveness approach which holds that all societal goals must be comprehensively articulated in a plan, and that all alternative plans must be generated to address the myriad societal goals. The preferred plan is the one which addresses the majority of societal goals and optimizes resource allocation and the choice of such an optimum plan must be scientifically evolved. The second aspect of the structure plans as informed by the systems view of thinking is the monitoring and evaluation and the flexibility of every stage to change course in case of any new evidence emerging from the sensory component of the system that may change the original assumptions.

The disadvantage of this model is that it exerts a lot of pressure on the part of the planner, and requires plenty of data and yet such data is always scarce in contexts such as those in the developing world. Some of the most critical assumptions of the model are that the planner has a freehand to design space. The second assumption is that there is a section on research to continuously nourish the system with data in order to aid in decision making or to allow monitoring of development control model. Thirdly, that the departments of planning, the development control section, and that of policy are not only in tandem but housed under one roof as well (Peter Hall 1989,AAK,2011).

This literature brings to the fore several aspects of development control including: the stages of the spatial planning theory, entire system and sub-systems and interactions thereon, public participation and continuous change needs. Planners or the regulatory authority’s ideas are not taken as the final word. Preparation of planning proposals

requires stakeholders' involvement so that they can own the process of development control (AAK, 2011).

2.11.3 Procedural Theory

There are two major theories in the process of planning; substantive theory and procedural theory. Substantive theory is theory in planning while procedural theory is about the act of planning. The components of procedural theory are; the rational model, incrementalism and mixed scanning. Rational planning is viewed as a process for determining appropriate future action by utilizing scarce resources in such a way as to minimize the expected attainment of a set of given ends (Shefer and Voogd, 1990). The rational activity has also been defined to be behaviour which is purposeful, and which strives to achieve an independently conceived end. Goal directed behaviour is then a model of rational action. Goals not only determine behaviour but they also offer a standard by which to judge achievement, and by which those responsible can be held accountable (Sillince, 1986, Peter Hall, 1988).

The idea behind the model is to make the planning process as rational and systematic as possible. It starts with the view that government action should proceed according to the rational comprehensive strategy, a central decision maker, carrying out a chronological sequence of tasks, goals, then alternatives, then evaluation of alternatives using goals. Lists of precise steps in the model include;

1) Define the problem,
2) Clarify values,
3) Goal selection, choose one or more goals relative to the problem,
4) Formulate alternative plans or programmes,
5) Forecast the consequences of the alternatives developed in the previous step,
6) Evaluate and select one or more courses of action (alternatives),
7) Develop detailed plans for implementing the later alternatives selected,
8) Review and evaluation.

Once implementation has began it is necessary to periodically review the process and results to date with a view to deciding whether the original plan should still be

followed or whether, as is usually the case changes and adjustment are necessary (Faludi,1973; Conyers 1982 ; Levy 1988, Sillince,1989).

The theory is relevant to the study because planning is fundamentally a process of decision making and that many planning techniques are defined to help the planner make better informed and in particular more rational decisions. There must be a premise for development control decisions for development permission to be granted in an urban area which in most cases is based on, spatial plans, statutory and non-statutory instruments. A rational activity aspires to be an objective knowledge, unaffected by personal bias or political dogma. It requires that decision processes are made and their justification be explicitly stated (Sillince, 1986, Hambleton, 1986).

2.11.4 Urban Management Theory

The Management activity is divided into five elements of management, which are defined as forecast and plan, organize, command, coordinate and control. Fayol describes these elements as;

i. Planning involving foreseeing, forecasting, examining the future, deciding what needs to be achieved and developing a plan of action,
ii. Organizing in terms of providing the material and human resources and building the structure to carry out the activities of the organization,
iii. Command takes into account optimum return from all employees in the interest of the whole organization,
iv. Co-ordination as it relates to unifying and harmonizing all activities and effort of the organization to facilitate its working and success and;
v. Control involves verifying that everything occurs in accordance with plans, instructions, established principles and expressed command (Mullins, 1985).

Dijk (2006, 2008) defines urban management as dealing with issues which cities are facing, while managing at the same time the risks these cities are facing. The role of Urban Management is crucial in improving human and economic development in a rapidly urbanizing world. Rapid urbanization calls for new institutional responses in redefining roles and responsibilities of different levels of government, and in capacity building at the local level to more effectively deal with Urban Management (Mumtaz et al, 2001). A

strategic urban plan has to provide some of the fundamental objectives for urban management. The two need each other in order to have meaning. Management without a plan is pointless, and planning without management remains a paper document (Mumtaz et al, 2001).

2.11.5 Sustainable Development Paradigm

Ebenezer Howard of the Garden city movement is among the first exponents to think about sustainable development. Ward, (1992) observed that the applicability of garden city idea is greater now than it was a century ago. Not only are there still basic housing and community needs to be met, but in the last decade of the second millennium, attention is becoming more focused on environmental and quality of life issues. This concern is expressed most completely in the modern environmental concept of sustainable development (Ward, 1992, Frances, 2005).The Environment paradigm gained momentum during the Stockholm Declaration on the United Nations on human Environment conference which took place in Stockholm from 5th- 16th June 1972. The Stockholm conference adopted the basic declaration on the Human environment, an action plan which contained109 specific recommendations, focusing on assessment through establishing an Earth watch, plus related educational and detail resolutions on institutional and financial arrangements.

The principles of Stockholm Declaration of the United Nations Conference on the Human Environment which are applicable to urban development are three out of twenty six principles. They include principle 13 which stipulates that States should adopt an integrated and coordinated approach to their development planning so as to ensure that development is compatible with the need to protect and improve environment for the benefit of their population. Principle 14 of the Declaration recognizes rational planning as constituting an essential tool for reconciling any conflict between the needs of development and the need to protect and improve the environment. Principle 15 states that planning must be applied to human settlements and urbanization with a view to avoiding adverse effects on the environment and obtaining maximum socio-economic and environmental benefits for all (ibid).

Sustainable development as a broad political Vision was defined in 1987 by the World Commission on Environment and Development also known as the Bruntland Commission, defines the goal of sustainable development as that meets the needs of the present generation without compromising the ability of future generation to meet their own needs. It is development that is not at the expense of future generations.

Most definitions refer to viability of natural resources and ecosystem over time and to maintenance of human living standards and economic growth (Hardoy and Satterthwaite, 1993, Ojwang and Juma, 1996, Keiner, 2004).Keiner (2004) takes the concept of sustainable development a notch higher by including the concept of Evolutionability of mankind. Evolutionable development meets the needs of the present generation and enhances the ability of future generations to achieve well-being by meeting their needs free from inherited burdens. The vision of an evolutionable development is the development towards a society that neither wastes nor destroys its means of existence. The use of raw materials (resources) and the stress on ecosystems should not go beyond the capacity of rehabilitation so that future generations will find a reasonably intact environment with enough resources which enables them to live in the same better world than we do today (Keiner, 2004).

Spatial planning which is the discipline that steers the development of our present and future living space has been assigned the tasks of implementation of projects in cities and case regions for evolutionable development to be determined, and the guiding principles of spatial planning could be oriented towards the concept of evolutionability. Planning instruments could be reshaped in order to increase the capital stocks so as to create more environmental, economical and societal qualities (Ibid).

The concept of evolutionability is not meant to replace the principle of sustainability completely, but to guide sustainable development into the desired direction; that the ability of future generations to meet their needs and to achieve collective and subjective well-being will not just be compromised but expressed in positive terms will be larger.

Payne et al (1990), cites critical policies that follow from the concept of sustainable development, including; reviving growth, changing the quality of growth, meeting the essential needs for jobs, food, energy ,water and sanitation; ensuring a sustainable

level of population, conserving and enhancing the resources base, reorienting technology and managing risks; and merging the environment and economics in decision making. It must also be seen within the context of development paradigm in which human and ecological costs are accorded equal importance with economic costs. The sustainable development approach presupposes that human settlements, whether urban or rural, need to be seen together in terms of interdependence of the utilization of resources, economic activities, and overall process of production and consumption (Payne et al, 1990).

Hardoy and Satterthwaite (1993) further elucidates the concept of sustainable development as reflected in United Nations Universal Declaration of Human Rights, to encompass meeting each person's right to a standard of living, adequate for health and well-being including food, clothing and medical care and necessary social services. It also stresses the right to vote with representative government structures. The "Sustainable" component requires no depletion of environmental capital.

The achievement of good environmental performance among all city and Municipal governments requires an appropriate set of incentives and regulations at national level as well as sufficient power, resources and accountability for city and municipal governments. The Earth summit (June 1992) in addition to the single issue of negotiations, governments discussed and were invited to sign Agenda 21, one of several documents emerging from the summit. In the words of its introduction, the document is intended as an action plan for 1990's and well into the twenty first century elaborating strategies and integrated programme measures to halt and reverse the effects of environmental degradation and to promote environmentally sound and sustainable development in all counties. Agenda 21 contains 40 chapters divided into broad sections; social and economic dimensions; conservation and management of resources for development, strengthening the role of major groups; and means of implementation (Hardoy and Satterthwaite, 1993).

In its discussion of all subjects related to sustainable development, Agenda 21 includes mention of urban environmental problems including urban health, health risks from environmental pollution and hazards, the provisions of environmental infrastructure, and planning for human settlements' in disaster prone areas, promotion of sustainable human settlement development and the environmentally sound

management of toxic chemicals, hazardous wastes and solid wastes and sewage-related issues. The programme areas of Agenda 21 which have implications for urban and Regional planning have been identified as; Chapter 8 on integration of environment and development in decision making; Chapter 10 on integrated planning and management of land resource, Chapter 18 on protection of supply and quality of water resources, Chapter 28 on strengthening of the role of Local Authorities and Chapter 40 on improving information for decision making (UN Habitat, 1994; Muigai, 1995).While Agenda 21, includes many practical suggestions to assist in achieving sustainable development, it does not have the power or resources to ensure the implementation of these recommendations. It only encourages and persuades nations to take appropriate actions. (Hardoy and Satterthwante, 1993).The UN Habitat initiated localizing Agenda 21 Programme operations in three cities on pilot basis for implementation of the local Agenda 21 approach. The programme offered a multi-tier support system for selected cities in Nakuru in Kenya, Essaouira in Murocco and Vinh city in Vietnam, (Kenya, 1999).

A strategy for dealing with problems arising from rapid urbanization rates and therefore sustainable cities necessitated a joint action within the purview of Millennium Development Goals (MDG's) currently referred to as Sustainable Development Goals (SDG).Under goal number 7 of MDG, which is to ensure environmental sustainability, the principle of sustainable development is to be mainstreamed into the country's policies and programmes, and reverse the loss of environmental resources. Other targets within goal 7 of MDG's are to have by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation; and to have achieved, by 2020 a significant improvement in the lives of at least 100 million slum dwellers. MDG 8 involves development of a global partnership for development (Kenya, 2010). Kenya did not achieve MDG goals.

It has been noted that cities meet the needs of inhabitants by transferring environmental burdens elsewhere. Some cities environmental management fails to meet the environmental needs of their inhabitants because the environmental burdens of the city are placed to a larger extent on the city's own land and population. Frances (2005) quotes MCGranaham and Satterthwaite as having helped to bring this into

sharper focus by suggesting that there is 'Green' and 'Brown' agenda upon which cities seem to focus. The green agenda focuses on reducing the impact of human activities on the environment such as reducing water use, resources depletion and reducing pollution. The Brown agenda focuses on problems which are of more immediate concern to city inhabitants such as the way the urban environment affects the health and livelihoods of urban residents. In terms of strategies for achieving sustainable human settlements, the Local Agenda 21 encourages local governments to involve community groups and the public in the decision making and policy making processes. Frances (2005) again re-emphasizes Rees (1997) suggestion that there is much that can be done incrementally in achieving sustainable cities. A sustainable city is characterized by:

i. A compact, mixed urban form that protects the natural environment, biodiversity and food-producing areas,
ii. The natural environment permeates the city's spaces and embraces the city, while the city and its hinterland provide a major proportion of its food needs,
iii. Freeway and road infrastructure is de-emphasized in favor of transit, walking and cycling infrastructure, with a special emphasis on rail, Car and motorcycle use are minimized,
iv. There is extensive use of environmental technologies for water, energy and waste management-the city's life support systems become closed loop systems,
v. The central city and sub-centers within the city are human centres that emphasize access and circulation by modes of transport other than the automobile, and absorb a high proportion of employment and residential growth,
vi. The city has a high quality public culture, community, equity and good governance. The public realm includes the entire transit system and all the environments associated with it,
vii. The physical structure and urban design of the city, especially its public environments are highly legible, permeable, robust, varied, rich, visually appropriate and personalized for human needs,
viii. The economic performance of the city and employment creation is maximized through innovation, creativity and uniqueness of the local environment,

culture and history, as well as the high environmental and social quality of the city's public environments,

ix. Planning for the future of the city is a visionary debate and decision process, not a predicted and a provided computer-driven process;

x. All decision making is sustainability-based, integrating social, economic, environmental and cultural considerations as well as compact, transit-oriented urban form principles. Such decision making processes are democratic, inclusive, empowering and engendering of hope (Dijk 2006).

Frances (2005) further suggests a number of strategies that can be adopted to ensure sustainable cities which include;

1. Integrating Planning in ways that maximize resource use efficiency,
2. Make use of the multi-function potential of green spaces, for example as carbon sinks for food production or climate modification,
3. Maximize livelihood opportunities and self-sufficiency opportunities for example encourage recycling of waste as compost or wastewater or rainwater for irrigation,
4. Protect ecological integrity of the urban ecology in order to reduce ecological load imposed on distant ecosystems,
5. Aim for Zero impact development, and where destruction of ecosystem is necessary compensate by rehabilitation elsewhere (Frances, 2005).

Mcauslan (1992) outlines the benchmarks of sustainable urban planning law as aiming at encouraging, strengthening or introducing a system of planning, regulation and management process which is, equitable, flexible, environment conscious, participative and easily manageable, simple to understand and use, efficient and administratively fair. The environmentally conscious bench mark recognizes that development and environmental conservation can indeed go hand in hand. To allow or do nothing to prevent urban development in areas needed for water catchment, or where industrial pollution is likely to affect residential areas, or in ecologically fragile areas, will result in development disasters; cities or islands with inadequate clean water leading to an epidemic of water borne illnesses; more Bhopals, loss of local livelihoods for fishing and the like. Any law therefore, should facilitate the integration of environmental consideration into the development process and require that a proper balance be drawn between conservation and development. (Mcauslan, 1991).

At the macro level, developing sustainability in an urban context must satisfy the following requirements;

a) Equity, social justice and human rights,
b) Basic human needs,
c) Social and ethic self-determination,
d) Environmental awareness and integrity and,
e) Awareness of inter-linkages across both space and time (Hardoy and Satterthwaite, 1993).Figure 2.9 illustrates the components of Sustainable Urban Development.

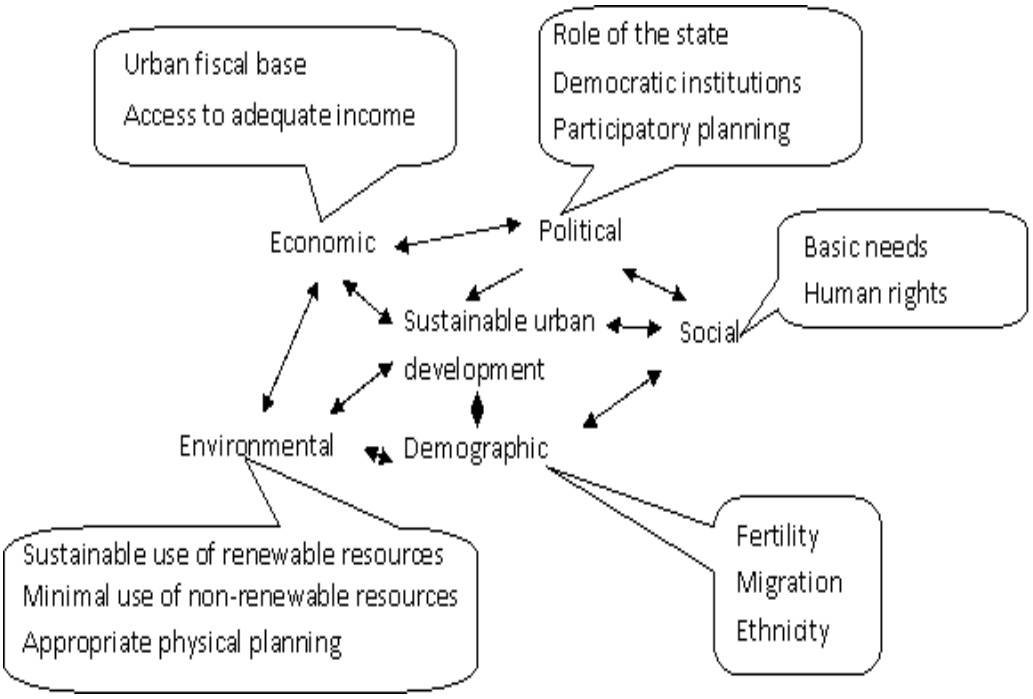

Figure 2.9 Components of Sustainable Urban Development. Source; Adapted from Paddison, (1996)

2.11.6 Participation Concept in urban Development Control

The United Nation's centre for Human settlements (Habitat) defines participation as the voluntary involvement of people in making and implementing decisions directly

affecting their lives (UN Habitat, 1991). Participation is also defined as the process whereby the community, directly or through civil society organizations shares influence and control over decisions, actions and required resources to improve their living and working conditions (Acioly, 2006). Participatory approach, Co-management, partnerships, participatory planning and social networks are some of the concepts that have gained ground in the area of urban environmental management, (Mwangi, 2002).The commonly held belief is that participation in the planning process is required if implementation is to be successful. Through participation in the planning process, it is assumed that people will be supportive in the planning process and the political decisions needed for the fulfilment of plans (Catanese, 1984).

Allison (1975) distinguishes three major forms of participation notably;

(i) Public participation as a right of all citizens to be involved in policy -forming processes,

(ii) Pressure participation as the practice of organized groups of citizens for attempting to influence the policy forming process,

(iii) Passive participation as a general public awareness of issues, by its very existence, modifies the policy-making process,

According to the UN Habitat (1994), Participatory approaches will lead to;

a) Clearer objectives for planning interventions,
b) Feeling of ownership and utilize peoples extensive knowledge about their local environments,
c) Awareness creation through media campaigns and working groups among others,
d) Strengthening of urban management instruments and encourage community in environmental protection, the constructions and provision of activities and services; and
e) Promote transparency and accountability in the planning process.

As the word has taken on some form of the mantle of democracy, participation is a good thing because it is a method for producing better decisions. Increasing participation can ‘improve decisions in a less theoretical way’ by maximizing the detail of information assumed by the decision (only the wearer knows where the shoe pinches) only by allowing participation can full practical implication of a policy be

grasped (Alison, 1975).Ledgerwood (1985) makes reference to Arnstein (1971), American analyst of participation in planning, as indicating that true participation requires actual sharing of power over decisions and over the benefits resulting from decisions. This could be interpreted today to mean participation as a collaborative management (Co-management) process.

In the book of Short (1989), on 'the Humane city; Cities as if people mattered', it is stated that better cities can be created if all citizens are both empowered and engaged. Engagement implies the involvement of people in all the various activities of their public life and democratization in the way social goals can be arrived at. Engagement can take two forms; goal-formulation allows people to be involved in setting social priorities and implementation involves turning goals into reality. The term 'engagement' means real participation involving direct public control, delegated responsibility or power sharing. Full engagement involves both goal formulation and implementation, which can be applied in urban development control (Short, 1989).

It is mentioned by AAK (2011) participatory planning approaches emphasized public participation and reduce the role of the planner to that of a negotiator or an advocate whose principle aim is to promote public interest. The majority of the people or groups in society have different interests and values, and the challenge of the planners is to negotiate to enable some of the groups and individuals to drop what they hold as dear in order to promote what appears good to majority of the citizens. By this, it means also that a small group of people using positions of influence or money can influence planning decisions to the disadvantage of society.

Public communication is two-way communication and collaborative problem-solving with the goal of achieving better and more acceptable decisions. Participatory development is the most important approach towards enabling communities to help themselves and sustain efforts in development work. Communities are no longer viewed as recipients of development programs; rather, they have become critical stakeholders that have an important role to play in the management of programs and projects in their areas (Chapin, 1979). Public participation in development activities are motivated from an administrative perspective by the need to facilitate useful information exchange regarding local conditions. Public participation also enables

individuals and groups to influence the decision from a development agency in a representational manner.

According to MCauslan (1992) participation concerns with involvement, with much greater effort to find out the needs and concerns of urban majority and cater for them and encouraging the majority to develop either own environment on their own ways via self-help schemes. The study considers participation as crucial in ensuring compliance with urban development instruments. Development control can be made self-regulatory by adopting the use of neighbourhood Associations and pressure groups, which can provide an external check and conscience to developers and urban development control institutions who contravene Zoning and Development regulations.

2.11.7 Relevance of Theories and Concepts to the Study

The study is underpinned by number of interrelated and inter-connected theories and concepts which include; theory of spatial development, systems theory, procedural theory, urban management theory, sustainable development paradigm and the concept of public participation. The theory of urban spatial development presupposes that different urban functions and land uses are spread all over the jurisdictional areas of cities. The land uses in the urban setting compete for space with the activities which attract high returns being located in the CBD while land uses which have less value are located in the periphery. This theory helps to explain why certain type of developments dot across the urban areas. The major factors that influence urban development patterns include; distance to the CBD, infrastructure availability and planning interventions. If developments are not properly located in the suitable sites, they can have injurious impacts on environment. Construction of buildings haphazardly leads to encroachment of environmentally fragile ecosystems and its associated negative environmental effects. The theory informs decisions on growth and development of cities and urban development control as well.

The systems theory is relevant to the study as cities and urban areas serve as ecosystems with a myriad of interdependent and interacting parts. There are various land uses which occupying space in the designated urban area and must be balanced

against standard land use criteria. There are nine urban land uses which must be guided through urban development control in order to arrive at the recommended standard area to be covered. The urban land uses and the corresponding area coverage include; Residential (40%), Industrial (10%), Educational (10%), Recreational (5%), Public Purpose (15%), Commercial (4%), Public Utilities (3%), Transportation (3%), deferred land (2%) and Agricultural land (8%).These land uses must be balanced for sustainable development of cities. If some land uses are given more weight than others, it will affect the entire growth of development of cities. Even with residential land use alone of 40%, it must be distributed equitably according to low class, middle class and high class residential neighbourhoods. If one class is given preferential treatment, the entire residential housing system will be affected. One net result of such action will be proliferation of slums and informal settlements. Urban development control is a multi-stakeholder process. The players in the sector include the County Government, Ministry of Lands, Housing and Urban Development, National Environmental Management Authority (NEMA), and National Land Commission (NLC), Service providers such as KPLC, ELDOWAS, Road Authorities, Kenya Civil Aviation Authority, National Construction Authority and Developers amongst other stakeholders. All actors in urban development control system must be allowed to operate harmoniously. If one urban development control institution is sidelined, then the entire framework will be interfered with resulting in unattractive urban environment. The systems theory in a nutshell states that everything affects everything else and hence the need for concerted efforts for better planning and urban development control.

The procedural theory elucidates the nitty-gritty of modus operandi in urban development control. It helps to explain how planning ought to be done including the processes and steps that are involved in urban development control right from conceptualization stage to a level where development is considered as suitable for human habitation. Urban management theory is about planning, organizing, staffing, controlling and directing all activities that influence urban development in the designated urban area. It is about allocation of functions to various institutions and the resources that are needed for deliverance of those functions. Urban management theory informs the institutions in-charge of urban development control to move in one direction as opposed to pulling each other.

Sustainable development paradigm and evolutionable development is about ensuring zero impact on the environment in the process of carrying out urban development control activities. It is concerned with building sustainable cities, which the future generations will find them livable. It advocates for avoidance of environmental burdens and errors from occurring and from being transferred to the future generation. The future generations should inherit an environment that is free from urban penalties or not to commit their future resources to ameliorate the burdens and negative conditions that were created by their ancestors. Participation is about involving individuals and communities in urban developments that affect them. Participation helps to give inputs to development proposals. It also provides an external check to development control institutions especially where there are some oversights on their respective parts.

2.11.8 Conceptual Framework

Urban development control is a process that shapes up cities and towns. Some urban areas have beautifully designed plans but the implementation machinery through urban development control is poor leading to creation of unattractive urban environment. The thesis here is that despite the existence of many instruments to inform urban development control, urban environmental problems continue to persist. The problem is ineffective urban development control instruments that cause urban environmental problems. The application of urban development control tools has not offered desired results as manifested by the existence of environmental problems such as informal settlements, pollution, traffic congestion, land use conflicts, and inadequate provision of public facilities amongst other environmental challenges. Urban development control is a multi-stakeholder process involving both the County and National government institutions as well as individual citizen and community participation. The independent variable in the conceptual framework is Urban development control tools while the dependent variable is the effectiveness of urban development control tool.

The independent variables are represented by statutory and non-statutory plans, institutions in-charge of urban development control, urban zone characteristics and applicants or proponents. The effectiveness of urban development control tools were measured using dependent variables of; compliance with planning standards; timeliness and cost effectiveness in processing development control applications, rating of urban zone quality, performance of urban development control institutions and establishment of urban environmental problems and challenges. The intervening variables are the strategies that are needed to improve urban development control process. The conceptual model is inter-linked to a number of inter-related theories and concepts that inform urban development control including theory of Urban Spatial development, systems theory, procedural theory, urban management theory; sustainable development paradigm and participation concepts. This is due to the fact that urban development control is a joint venture involving a set of processes, procedures and controls that should result in sustainable urban development control and therefore best practices. Figure 2.10 depicts a Conceptualized model of urban development control.

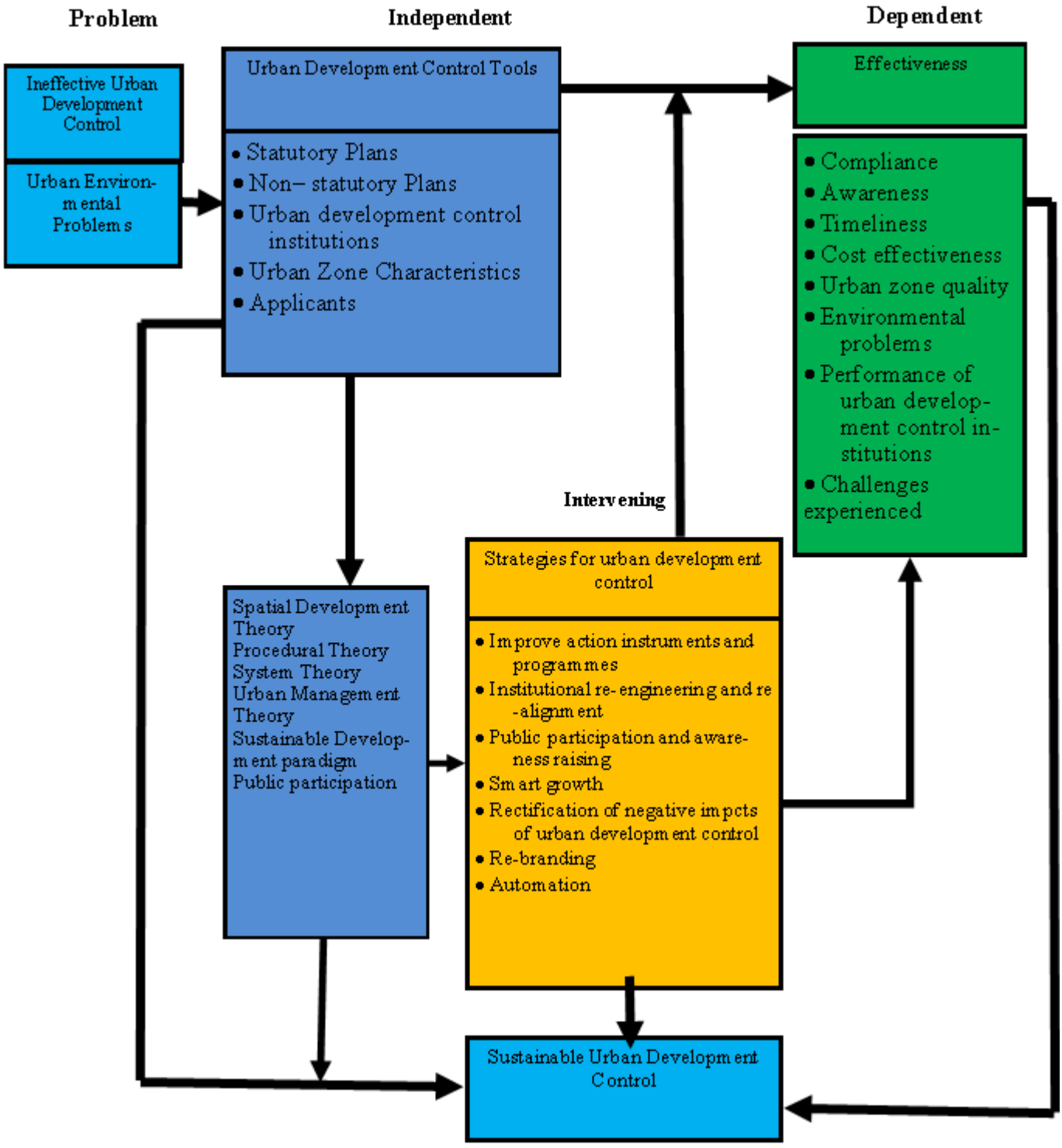

Figure 2.9 A Conceptualized Model of Sustainable Urban Development Control. Source: Author's Construct

2.11.9 Knowledge Gap

Urbanization process is unstoppable and irreversible and it is more rapid in developing countries. It is expected that by 2030 over 5 billion people in the planet will be living in the urban areas. In terms of the geographical spread, urban areas are expected to increase their built-up area by three times by the year 2030. Globally an urban area of about 320 km2 is built-up daily. In Kenya urbanization trend is among the highest in the developing world and by the year 2030, half of population will be urban. It is projected that at the rate of 3.35% Eldoret town will be home to 584,782 people by the year 2030.This implies that there will be need for effective urban development tools for guiding urban development. Despite the existence of a myriad of urban development control instruments and institutions governing urban development control, environmental problems continue to persist in urban scene. The common urban development control related environmental problems include; traffic congestion, environmental pollution ,encroachment of environmentally sensitive and fragile areas such as riparian reserves and wetlands, flooding, proliferation of slums and informal settlements, collapsing buildings and inadequate provision of public utilities.

The policies and action instruments that inform urban development control in Kenya are many including the Constitution of Kenya 2010 and its supporting legislations such as; the Urban Areas and Cities Act 2011, PPA, County Government Act 2012, National Land Commission Act, 2012, Land Act 2012, Occupational Safety and Health Act 2007, Public Health Act Cap 242; National Construction Authority Act, EMCA, 1999, Land and Environment Act, By-laws and Urban and Housing Policies amongst other statutory and non-statutory instruments. The urban development control framework has a role to play in creating sustainable urban livelihoods. There is a disconnect between the architecture and design of urban development control instruments and the actual application of urban development control instruments and practices on the ground. Application of instruments of urban development control is at variance with practice, which the study seeks to reconcile. Environment problems associated with urban development control arise because actualization processes are not in tandem with theoretical and practical standards. Besides putting together all tools of urban development control, the jigsaw of the study is to provide a link

between how urban development control instruments ought to be applied vis-à-vis the actual usage on the ground. The study contributes towards solving challenges associated with urban development control with the ultimate goal of ensuring sustainable urban livelihoods. The study also contributes to knowledge in terms of methodology involving assessment and review of the efficacy of urban development control tools. Many countries around the world are still applying the Town Planning Act of 1947 in either original or modified form with a lot of implementation challenges. The methodology used in this study on determination of effectiveness of urban development involved identification of a list of subjects of laws/or instruments including proponents, Landlords or households who formed research participants and who sought development permission from the County Government of Uasin Gishu. The study made a follow-up of the subjects of law applicants in order to establish what happens after an approval for building plans have been granted, from the dimension of the fact that' the shoe-wearer knows where it pinches. 'The findings of the study are useful in policy information.

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CHAPTER THREE

METHODOLOGY

3.1 Overview

The chapter discusses the methodology of investigation and research design that was adopted for the study. It deals with methods of primary and secondary data acquisition, sampling procedure, methods of data processing and data management. The operational constraints of the study are also outlined at the end of the chapter.

While getting started with the research process the sequential model of research as advanced by Gill and Johnson, (1997) as quoted by Matt henn et al (2006) was adopted where a broad area of research was identified and a study on the effectiveness of urban development control instruments and practices was zeroed in with detail treatment being given to urban development control, was selected, an approach was decided, plan was formulated, and collection of information and findings presented. The research process is more or less similar to the cyclical model of the research process of Franfort-Nachmias and Nachmias, (1996) which is depicted in the diagram below;

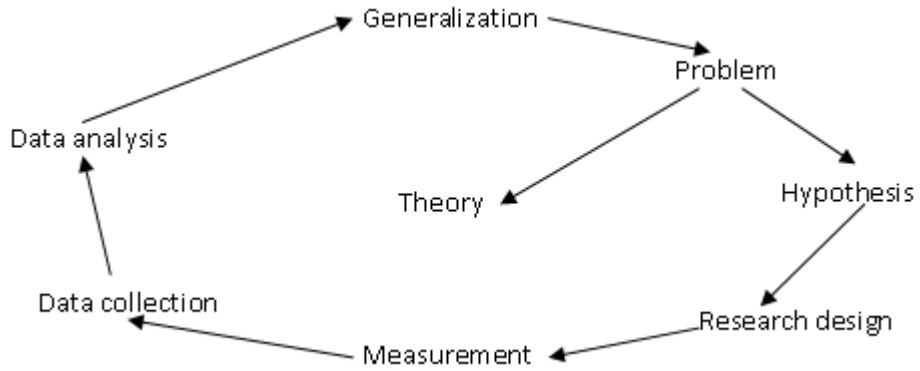

Figure 3.1 Research Process. Source: Matt henn et al, (2006)

3.2 Research Design

Research design situates the researcher in the empirical world and connects the research questions with data. Matt henn et al (2006) defines research design as the basic plan for a piece of research. Kombo (2006) notes that it is an arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance with research purpose. It constitutes the blueprint of collection, measurement and analysis of data. Research design includes four main ideas; the first is the strategy, the second is the conceptual framework, the third is the question of whom or what will be studied; the fourth concerns the tools and procedures to be used for collecting and analysing empirical materials (Matt henn et al, 2006). Five major types of research designs are identifiable notably; Descriptive Design; experimental design, correlational design, cross-cultural research design and case study design (Kombo et al, 2006). The study adopted the use of case.

3.3 Sampling Procedure

The study on the effectiveness of urban development control instruments and practices as they are applied in Eldoret Town focused on. The focus of the study was on the subjects of laws or urban development control instruments and practices. The target population was on plot owners, Landlords, developers or, proponents from Eldoret Town who sought planning permission from various Departments within the County Government of Uasin Gishu and the National Government. The purpose being to solicit their views and experiences on the effectiveness of urban development control instruments, relating to buildings. The interest was to get their opinions about urban development control processes from the time a building plan is submitted for planning permission to a level when the building is constructed and completed, and the owners are issued with compliance and occupation certificates. The target population was obtained from the register which contained a list of names of people, or developers/proponents who submitted their drawings for approval in the County. The details were mainly obtained from the records in the County Physical planning Office of Uasin Gishu County. The applicants were drawn from various neighbourhood sections and zones within the defunct Eldoret Municipality. There are over twenty urban zones or neighbourhoods in the area covered by the defunct Eldoret Municipality area with different zoning characteristics.

3.3.1 The Sampling Frame and Size Determination

A combination of purposive, stratified, simple random sampling procedures were adopted in the selection of four urban zones in Eldoret Town, out of 20 urban zones, and 4 zones with different urban zone characteristics were randomly identified for detailed analysis. Purposive sampling method was used to select Elgon View neighbourhood zone since it is the only existing Low Density neighbourhood in Eldoret town. According to O'leary (2005), purposive sampling is considered more appropriate when the universe happens to be small and a known characteristic of it is to be studied. In purposive sampling, the researcher uses his own expert judgement and purpose to decide whom to select into his sampling frame.

The zones which were selected for detail analysis were, Elgon View zone of Block 13 and 14, representing Low Density residential zone, Langas informal settlement which falls within the High density area, Kimumu, Block 30 a Middle Income zone and, Maili Nne comprising of Block 20, 21, 23 zone covering, Kingongo, Kapyemit and Mile Nne area representing, a mixed use and peri-urban zone. Purposive sampling was used to pick Elgon View residential neighbourhood, as it is the only distinct high class Urban Zone in Eldoret Municipality. Kimumu, Langas, and Mile Nne were randomly picked from among other Urban Zones using the Lottery method, or probability sampling. Under this sampling design, every item in the universe has an equal chance of inclusion in the sample. In the sampling procedure, the target respondents was organised according to the zones. A list of the applicants which constituted a study population was obtained and transferred onto a number of chits with one name on each of the chits which were all of identical appearance and thereby eliminating bias (Peters, 1994). All the chits were put in one container and a process of picking the required number of chits began by scientifically identifying subjects of laws to be interviewed, from the four selected urban zones of Elgon View, Kimumu, Langas and Maili Nne.

Table 3.1 shows the population, sample and the number of respondents interviewed in the sampled Urban neighbourhood Zones in Eldoret Town.

Table 3.1 Selected Respondents Interviewed in EMC. Source: Author

Urban zone	Population(N)	Sample Size (n)
Elgon view	110	33
Kimumu	157	47
Langas	133	40
Mile Nne Peri-urban	227	68
∑ n	627	188

When determining the sample size, a method suggested by O'Leary (2005), Mugenda 2003 and Kothari (1987) was adopted, which involves the use of 30% sample rule. In this regard 30% of respondents were selected from the entire population in each of the selected neighbourhoods as shown in table 3.1.

To enhance in-depth understanding of the effectiveness levels of urban development control instruments and practices in Eldoret Town; private and practicing designers were identified using purposive sampling strategy. The practicing consultants who were interviewed were; Architects, Quantity Surveyors, Engineers, Physical planners and Environmental planners, most of whom operate from private offices in the CBD area of Eldoret town. In total, 22 Practising designers were interviewed in Eldoret Town who gave their views and perspectives on the application of urban development control instruments and practices. Appendix III shows a questionnaire which was used to garner data from Practising Designers or the experts in Eldoret Town.

3.4 Research Sites

The study involved selection of respondents for interview from four sampled urban zones in Eldoret Town, notably, Langas neighbourhood, Mile Nne Peri-urban area, Kimumu neighbourhood, and Elgon View urban Zone. An accurate understanding of the dynamics of these research sites was found to be important. Table 3.2 shows broad urban zone characteristics of the research sites;

Table 3.2 Zoning Characteristics of Research Sites. Source: Author's Data Analysis

Sampled Zone/Area	Zone/Block Number	Urban Zone Characteristics
1. Mile Nne	Block 20,21,23	Mixed Development/Peri-urban
2. Elgon view	BLOCK 13 & 14	Low Density Residential
3. Kimumu	Block 30	Medium Density Residential
4. Langas	LR 8500	High Density Residential

3.4.1 Langas

Langas informal settlement was originally a white settler farm, allocated to Mr. Gordon Edward Goby and Mr. Lioned Roy Nesfied Strange on 1st November, 1954 for Agricultural purposes only for a term of 954 years. Langas which measures 1050 acres (425 hectares) was registered under LR, Number, 8500.After independence it was acquired by the Kalenjin land- buying group. In 1974 the farm was locally subdivided amongst shareholders in proportion to each member's shares. In the late 1980's Physical Planning Department prepared Advisory Plan for Langas which provided the basis for further land subdivision and infrastructure provision. The then Eldoret Municipality extended its boundaries to include Langas settlement in 1988.The Council then chose part of the farm (Phase 1) for upgrading under the World Bank funded Third urban Project. Langas benefitted under this project through the provision of Municipal piped water supply, surveying of plots, electricity, waste management and tarmacking of the loop road linking Langas to Kisumu road.

According to Langas Advisory plans, Langas area was divided into two sections; phase one and phase two. The Advisory plan number ELD 17/89/6A and ELD 17/98/46 provided land use policies. Langas Phase one was further subdivided into Blocks, 1, 2, 3A, and Block 4 for purposes of planning and service delivery. The World Bank funded Third urban project upgraded Langas, which out of 420 hectares in Langas area only 228 hectares comprising of Langas phase one was improved. The area was subdivided into 4 Blocks 1-IV, the boundaries of which are defined by the 20m tarmacked loop road. The initial plan had a total of 1624 plots. Due to rapid

expansion and development of Langas settlement, there are over 3071 plots which have been created over the years as depicted in table 3.3. The Focus Group Discussion (FGD) estimated the number of plots in Langas to be between 5000-6000 plots. The plots have no title deeds and agreements are used as proof of ownership.

Table 3.3 Number of Plots in Langas. Source: County Physical Planning Office; 2015

Langas Phase	Section	Number of plots
1	1	311
	11	236
	111	665
	1V	1905
11	1	567
	3	354
	3	122
	4	123
	TOTAL	3071

Langas had a population of 37,906 people in 1999 and by 2010 it had increased to about 54,495 people. Langas is a high density; low income area depicting mainly poor structures. The Advisory plan for Langas generated various land use categories as shown in table 3.4.

Table 3.4 Land Uses in Langas. Source: County Physical Planning Office, 2015

Land Use	Total Area (Ha)`	Percentage %
0-Residential	236.60	55.67
1-Industrial	6.25	1.48
2-Educational	17.154	4.0
3-Recreational	6.0	1.4
4-Public Purpose	10.58	3.0
5-Commercial	56.48	5.37
6-Public Utility	0.51	0.05
7-Transport	91.41	21.12
Total	425.0	100.0

Langas is currently attracting more investors and people living and working there because of its proximity to Eldoret National Polytechnic and Eldoret International Airport. The extension of sewerage network and water supply to Langas has influenced property values and therefore many developments are coming up in Langas.

3.4.2 Maili Nne

The sampling area of Maili Nne is situated to the Western part of Eldoret Town. It covers Maili Nne Market Centre number 46 and its peripheral areas of Eldoret Town's Block 21 and 23 also known as Kingongo and Block 20 area of Kapyement. The Maili Nne and its environs is sandwiched between Sosiani River to the South and Milimani ridge to the North. The defunct Eldoret Municipality boundary near Sirikwa quarry designates the area to the Western part and it is defined by the Pipeline and Kahoya Estate to the Eastern part.

Maili Nne area came as a result of the subdivision of LR Number 10492 which was the original number and gave rise to Block 15. Further subdivision resulted in Block 15, and later Block 21 and 23, upper Kingongo and Block 20.The land tenure of the area is purely freehold. The major structuring elements at Maili Nne and its environs are river Sosian, the Railway, A 104 Eldoret- Webuye road and the ridge. These have influenced the settlement patterns of the area.

This urban Zone is rapidly experiencing social and economic transformation as a large portion of it falls within the peri-urban area. The major installations in the area are; the Kenya Pipeline, the Kenya Ports Authority (KPA), Moi University West Campus, Sirikwa Quarry, Raiply Factory, Maili Nne Lorry Park, and a number of Petrol Service Stations. These facilities are instrumental in influencing Eldoret town's expansion to the West side. The average land values away from the main road are about six hundred thousand Kenya shillings (Ksh.600, 000) per 1/8 of a plot. Rates payable to County per acre per year is one thousand two hundred shillings (Ksh. 1200)

In terms of planning, the area is governed by a zoning plan No ELD/17/2007/03, which was prepared in 2006.It has detail provisions for residential, industrial, educational, recreational, public purpose, commercial and transportation. Maili Nne trading centre number 46 which is a commercial node in the area has its own development plan which is approved but has its implementation challenges. The Focus Group Discussion (FGD) pointed out that there are slums which are mushrooming up in the area including; Bondeni, Shirika Baringo, Keroka, Emkoi, Umoja, Kingongo and Maili Nne.

3.4.3 Kimumu

Kimumu is defined by Eldoret Town boundary to the North Eastern side of the defunct Eldoret Municipality, Marula River and Munyaka, Rock Centre boundary. Kimumu was originally owned by a white settler by the name Marubia with acreage of 3000 acres. In 1972 the Settlement Trust Fund (SFT) acquired the land and subdivided into 2 ½ for new settlers. During the subdivision, 40 acres were set aside for Ainaptich Market centre, out of which an open Air Market, a Health centre, a Bus Park, a Primary School, and a Slaughter slab, were created during Physical planning. Three cattle Dips each measuring 5 acres were donated for use in the settlement scheme. The Department of Probation was given 50 acres. It is notable that University of Eldoret (formerly Chepkoilel University) is situated outside Kimumu scheme.

The major factors which attract development in Kimumu are the University of Eldoret, especially students requiring hostel accommodation, a big open Air market,

proximity to the CBD, its location in relation to Iten-Ziwa-Kitale road, and the availability of land, much of it lies undeveloped.

In terms of infrastructure, Kimumu is served by motorable urban roads; the water supply is undertaken by ELDOWAS. However Kimumu lacks a Municipal sewer and most householders use septic tanks and pit latrines as means of sewage disposal. This places the environment to be seriously at risk as Kimumu experiences the problem of high water table and water logging especially during the rainy seasons.

The developments in Kimumu are guided by the use of a structure plan number ELD /17/89/22, which has provisions for; High, Medium and Low density residential, educational, and recreational, community centre, Health center and a neighbourhood centre. There was no provision for light industrial, public utilities and transportation especially vehicular parking. The permitted minimum subdivision of land in Kimumu is ¼ of an acre. On average the land values in Kimumu is about Seven hundred thousand Kenya shillings (Ksh.700, 000) for a quarter of a plot, depending on the location.

3.4.4 Elgon View Zone

Elgon View neighbourhood area of Eldoret Town falls within Block 13 and Block 14. It is defined by river Sosiani to the North; Pioneer- Ngeria Annex to the south, Nairobi Road to the East and Race Course to the West.

There were three original farms in the area; Lower Elgon View, Upper Elgon View, Sugunanga (RDC Haiton) and Race Course. Unlike other research Zones, Elgon view falls within Eldoret Town Physical Development plan of 1981, number ELD 17/81/13. It is an exclusive Zone for High income, Low density residential and it is the only existing neighbourhood for the well-to-do category of population in Eldoret Town. This Zone has all manner of infrastructure facilities ranging from sewered sanitation services, water supply and electricity. Access to Elgon View is gained through the tarmacked roads of; Kisumu road, Elgon view road, Ramogi Drive and the old Nairobi road.

The planning and Development standards allowable in Elgon view are minimum plot subdivision of ½ an acre, with Bungalow and Maissonette accompanied by servant

quarter. The major installations in the zone and its environs include; Eldoret Polytechnic, Moi Teaching and Referral Hospital, CPC Factory, Moi University Annex School of Law and a number of schools existing in the area. The FGD indicated that Elgon view is undergoing rapid spatial changes due to its nearness to the CBD. This is evidenced by emerging developments within the Zone including commercial developments, public purposes and offices such as Dr. K.A Shah and Veterinary Clinic and AIC services, ACK church, Antonio's Restaurant, Office for the Coordination of Humanitarian Affairs (OCHA) - UN; Sam Youth Driving School, Mechai International, Industrial Workshops, Jacaranda College , Mamamias Hotel and the Red Cross 5 -Star Hotel. It is these new users that have put the residents of Elgon View to be at loggerheads with urban planning and development control agencies in Eldoret town. Figure 3.2 shows study research sites in Eldoret Town.

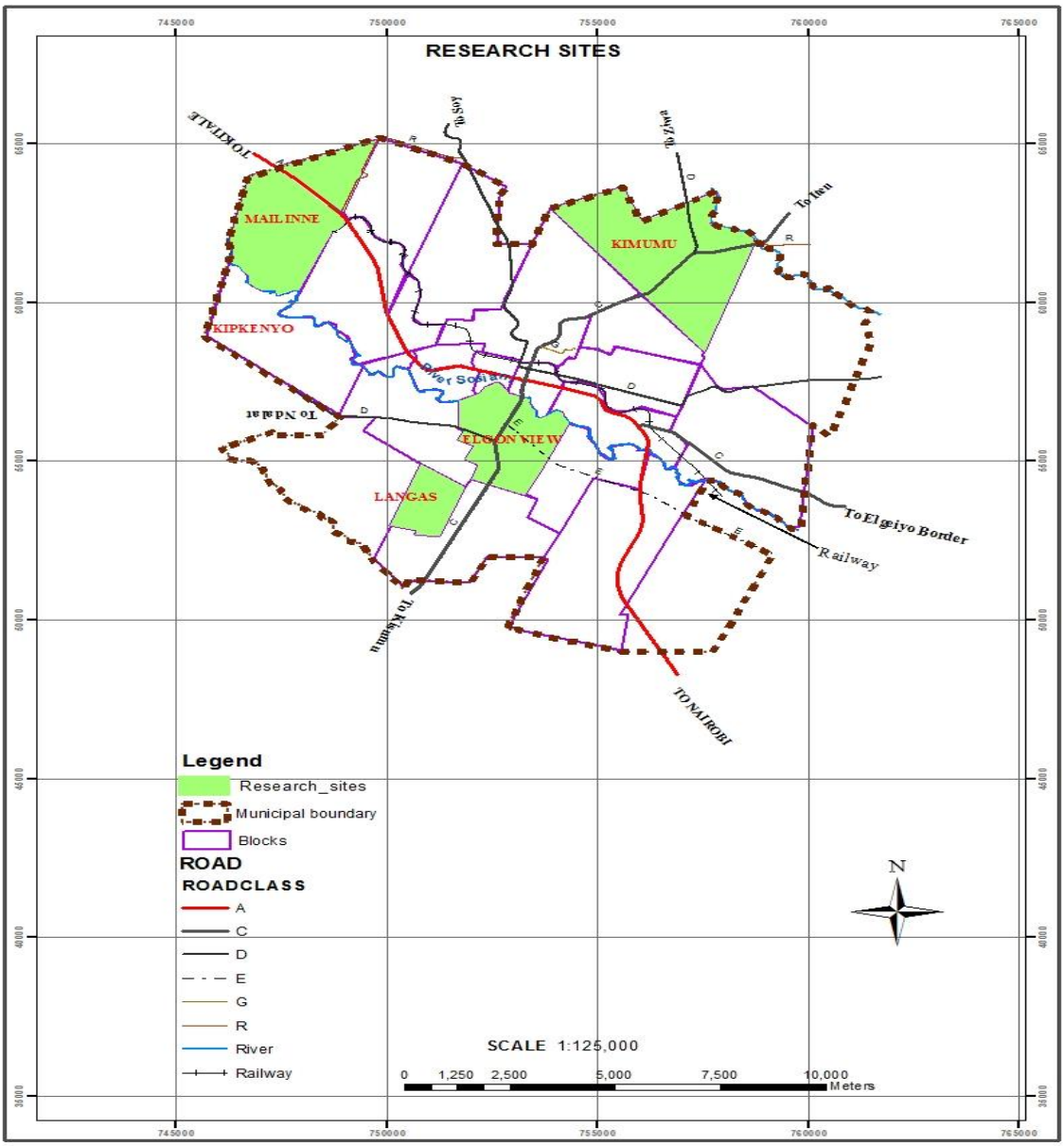

Figure 3.2 A Map Showing Research Sites in Eldoret Municipality. Source: Author's Design

3.5 Preparatory Fieldwork Activities

The study was conducted with the help of six research Assistants, who were recruited on the strength of their knowledge and experience in dealing with urban development control instruments and practices in Eldoret Town. The research Assistants had qualifications in Architecture and Engineering, with one of them being an M.phil student in the school of Environmental Studies; University of Eldoret. Each research Assistant was assigned the task of administering questionnaires in the selected urban

zone that he was familiar with. Priority was given to research assistants who lived in the selected research sites, because of their sound knowledge of the urban zone. The researcher carried out training for research assistants for Five days, during which time pre-testing of research instruments on a sample of thirty respondents, for household questionnaires, and ten responses for the interview schedules for urban development control institutions and practicing designers, were done. Similar numbers of research instruments were pre-tested by the Author in Kakamega town, which is a medium sized town in Kenya, and have the similar characteristics with Eldoret town.

The lessons learnt from pre-testing of research instruments in both environments were used to polish up the questionnaires and interview schedules which enhanced their validity. The research Assistants administered household questionnaires in Kimumu, Elgon View, Langas and Mile Nne area, with guidance and oversight being given by the Researcher. The Chiefs and their Assistants, together with the Village Elders were requested to help the research Assistants to identify and locate the sampled respondents in their respective urban zones. The interview schedules and the Key informant interviews were conducted by the Author himself. The researcher also spent some time at the Uasin Gishu County and National Government offices of, Lands office, National Construction Authority, Physical Planning office, Eldoret Airport Authority, Housing Department, ELDOWAS, NEMA KPLC, Municipal Court, Land and Environment Court, Occupational Safety and Health Department; Public Health, Public Works, Engineer's and Fire Departments for interviews and for carrying out the task of document analysis. The National Council of Science Technology and the County Government of Uasin Gishu County, granted permission to undertake this study. Appendices VII and VIII show research permits.

3.6 Data Acquisition Methods

The study adopted the use of primary and secondary sources of data in order to put this study in proper perspective.

3.6.1 Primary data

When gathering primary data, interview schedules and questionnaires were used during fieldwork.

3.6.2 Interview Schedule

An Interview schedule was designed for use in the collection of data from the development control institutions in the study area. The development control institutions targeted included; Uasin Gishu County and National Government offices of, Lands office, National Construction Authority, Physical Planning office, Eldoret International Airport ,Housing Department, ELDOWAS,NEMA KPLC, Municipal Court ,Land and Environment Court, Occupational Safety and Health Department, Public Health ,Public Works ,Engineer's and Fire Departments.The purpose of contacting these institutions was to establish the scope of their operation in urban development control, indicating the challenges encountered in managing the built environment in Eldoret town and to point towards better planning and urban development control. Appendix I shows an Interview schedule which was used to acquire data from various urban development control institutions.

3.6.3 Questionnaire

Three sets of questionnaires were designed. The questionnaire, in Appendix II was designed for households. The questionnaire targeted subjects of laws or the individuals, property owners, or Landlords who submitted applications for building plans to the County Government of Uasin Gishu for approval. The purpose of contacting these respondents was to get their views on their experiences when making building plan applications, through construction of the buildings to finality, indicating the strengths, weaknesses and challenges of urban development control instruments and practices in Eldoret Town.

The questionnaire for households and developers had six sections. Section A captures the background information of the respondents, section B deals with the site/plot characteristics, C focuses on development applications processes, D, Building development and construction, and section E contains environment issues touching on Urban development control.

It was considered important to get the professional view of the practicing designers/or experts who are operating within Eldoret Town, on the effectiveness of urban development control instruments used by the County Government. Appendix III provides a list of issues and questions that were used in gathering data from

Architects, Engineers, Physical planners, Environmental planners, Contractors, Quantity Surveyors and Lawyers practitioners in Eldoret Town.

3.6.4 Focused Group Discussions

The Focus Group Discussions (FGD) method was used to acquire data in the various research sites. In the FGD, the intention was to stimulate discussion among the people in the selected urban zones and to bring out responses that otherwise might not have been reflected in the other questionnaires. Matt henn et al. (2006) suggests that FGD enables research participants and respondents to clarify their views and opinions or, on the basis of engaging with others, to articulate issues more clearly and challenge opinions expressed by others. Appendix IV provides a list of issues which were a subject of FGD in the selected urban zones in Eldoret Town. There were 9 FGD's conducted for various research sites of Elgon View, Kimumu, Langas and Mile Nne area, including one that was organized specifically for Practising designers and consultants who are based in Eldoret Town CBD area. The FGD's for selected Urban Zones had between five to eight members drawn from various stakeholders including the Chairmen of respective neighbourhood Associations, Environmental improvement groups, business community representatives, Builders and contractors, Real estate agents, Village elders, and women representatives. The members of FGD comprised of people who had lived in the various urban zones for quite some time and therefore had sound knowledge of their environment and the issues at stake.

3.6.5 Observation Method and Photography

Observation is a systematic method of data collection that relies on a researcher's ability to gather data through his or her senses (O'Leary Zina, 2005).To observe is to notice, using a full range of appropriate senses; to see ,hear ,feel, taste and smell. Under the observation method, the information sought by way of investigators direct observation without asking the respondents any questions. The researcher observed the manner in which buildings in various urban zones had been constructed, noted areas of non-compliance with urban development control instruments and the attendant effects. What was observed was captured through photography and note taking.

3.6.6 Measurement and Mapping

A Global Positioning system (GPS), tape measure and the scale rule were used to confirm measurements for areas and acreages for research sites using maps, plans and diagrams that were collected or used in the fieldwork. The distance between the boundary of the road, and the position of the building (building line) or the frontage, and the distance between the property boundaries on the sides of a building (setbacks) were measured physically on the ground with a view to determining the level of compliance with planning and development control standards, and other instruments. The field survey also entailed the use of GIS, and AutoCAD tools for mapping and for drawing of maps and diagrams for use in the study.

3.6.7 Document Analysis

Document analysis refers to the collection, review, interrogation and analysis of various forms of texts as a primary source of data (OLeary, 2005).Document analysis refers to both a data collection method and a mode of analysis. The documents are pre-produced texts that have not been generated by the researcher. Rather, the researcher's role is limited to gathering, reviewing and interrogating relevant documents. The data gathered under document analysis were mainly, Physical development plans, Part development plans, subdivision schemes, building plans, survey maps, legal documents such as laws which include, the Urban Areas and Cities Act,2011,The Land Act 2012; EMCA,1999,PPA Cap 286; OSHA, Eldoret Municipality By-Laws,2009, court rulings, Minutes of Physical Planning Liaison committees, Uasin Gishu County committee minutes, National Lands Commission Minutes and minutes of County Environmental Management Committee meetings; Court rulings and historical archival information.

3.6.8 Secondary Data

Literature pertinent to the study was garnered through reading of books, journals, papers, reports, government of Kenya's publications and legislations dealing with urban development control instruments. Library research was a continuous process throughout the study period, and was carried out in University libraries of; Moi University, University of Eldoret, University of Nairobi, Masinde Muliro University

of Science and Technology, and the National Bureau of Statistics Library at Herufi House, Nairobi. In the course of studies, the Author benefitted from scholarships for further training in Netherlands and Israel in July 2013 and January and February 2014 respectively, and as such the training materials and the libraries of the Institute for Housing and Urban Development studies (IHS) in Rotterdam and the Weitz centre for Development Studies in Rehovot Israel were useful. Besides providing current literature, the training was an eye opener to the researcher as the Author was able to see how other cities are organized in the outside world.

The world is a global village, the internet and websites provided current literature important for the study. Seminars and workshops that the researcher attended during the study period also provided up to date and pertinent literature that enhanced better understanding of the study.

3.6.9 Triangulation and Benchmarking

Triangulation involves using more than one source of data to confirm the authenticity of each source (O'Leary, 2005).This method was used to obtain confirmation or verification of urban development control instruments and practices, alongside with benchmarking. The best practices of urban development control instruments and practices were identified through benchmarking, mainly by use of the Journals and Internet. Benchmarking was used to focus on case studies on how urban development control instruments and practices are applied in other contexts.

3.7 Data Management and Analysis

The raw data so gathered was systematically coded, quantified and assigned numerical values in order to facilitate the statistical analysis and presentation of data. The data was entered in the computer using the Statistical Packages for Social Science (SPSS) version 21. The Microsoft Excel package was used to present data in tabular form and for depicting descriptive statistics such as frequencies percentages, means, standard deviations, pie charts and bar graphs. The Chi-square non-parametric test was used in data analysis with the aid of SPSS.

3.7.1 Assessment of Effectiveness levels of Urban Development control Instruments

In determining the effectiveness of urban development control instruments and practices, scale construction techniques, or summated/Likert-type scales were used for measuring attitudes of people. The opinionnaire or attitude scale was integrated in the questionnaires which were used to measure expressed opinion and draw inferences from it about peoples real feeling. Carter, (1990), further elucidates, Semantic differential as a method of measuring community/urban neighbourhood zone feelings. Its basic idea is simple; perhaps the major criticism being that it is too simple. A sample of residents is asked to assess or rate the community against a set of paired bi-polar adjectives that is descriptions which are the exact opposite of each other, like good-bad. To avoid too stark a contrast and choice this rating is based on a scale which usually runs either from 1 to 5 or 1 to 7. For example, to test the quality of neighbourhood, a ranking of very good; good, fair, poor and very poor. Each respondent is asked to rank or tick what is considered the most appropriate descriptions. These can be numbered 1 to 5 so that a figure can be given for each answer; a total for all the respondents can be found and the mean or average calculated; and also standard deviation, that is the extent to which answers group about the mean or depart from it. A larger number of paired adjectives can be used and a profile of the urban zone is constructed which can be compared with other urban zones (carter, 1990). White and Burton (1983) christens this method as a perception study which is considered appropriate for studies of human settlements dominated by people and man-made objects and situations.

The summated scales used ranged from (I) Very good (ii) Good (iii) Fair and (IV) Poor. The determination of effectiveness was arrived at by asking the respondents to rank the effectiveness levels using the Likert Rating scale with the following parameters;

i) Extremely Effective (EE)
ii) Quite Effective (QE)
iii) Effective (E)
iv) Least Effective (LE)
v) Not Effective (NE)

Determination of compliance with urban development control instruments was further arrived at using measurements of whether developers maintained allowable minimum building lines and setbacks or violated building and development standards. The variables under considerations for measurement of effectiveness of urban development control instruments were drawn from all stages, from submission of building plan for development permission to finality or a stage when an occupation certificate or Compliance Certificate is issued for the building to be inhabited. Table 3.5 provides a number of variables used for assessing effectiveness levels of Urban Development Control Instruments and Practices in the study.

Table 3.5 Variables for Assessing Effectiveness Levels of Urban Development Control Instruments and Practices. Source: Author

Criteria/ Description of variables	**Ranking/Indicators**
Time taken to process application	Days
Aware of zoning standards	Yes/No
Variation between approved plan and constructed plan	No/Yes
Compliance with building line (3m)	Complied
Compliance with setback (2.5m)	Complied
Complaint against illegal development	Yes/No
Would you like standards to be changed	Yes/No
Presence of illegal structures	Yes/No
Challenges faced by applicants	Yes/No
Rating of performance of urban development control institutions	Very Good, Good, Satisfactory, Poor
Number of times building was inspected	More than 5 times
Status of approval of perimeter fences	Approved/Not approved
Existence and status of approval of other structures	Yes approved/No structure
Rating of neighbourhood zone quality	Poor, Satisfactory, Good, Very Good
Environmental problems in plot and zone	Environmental Problems

The sum total of each of the variables considered for determination of effectiveness of urban development control were expressed in percentages in order to give an indication of the level of compliance with urban development control tools.

3.7.2 Chi-Square

The x^2 tests whether the observed frequencies of a given phenomena differs significantly from frequencies which might be expected according to assumed mean hypothesis. The data must be in form of frequencies and not in absolute values, i.e. in nominal rather than interval form (Gregory, 1989, Kothari, 2009). The chi-square enables us to see how well does the assumed theoretical distribution fit to the observed data. If the calculated value of x^2 is less than the table value at a certain level of significance, the fit is considered to be a good one which means that divergence between the observed and expected frequencies is attributable to fluctuations of sampling. But if the calculated value of x^2 is greater than its table value, the fit is not considered to be a good one (Kothari, 2009).The chi-square is then calculated as follows:

$X^2 = \sum (O-E)^2 / E$,

Where;

O is the Observed frequency of the cell in the row and column,

E is the Expected frequency of the cell in the row and the column.

The chi-square is used to analyze the relationship between spatial development trends of buildings and urban zone characteristics of; zoning density, land values and infrastructure availability. The chi-square is to explain whether distribution and scattering of developments or buildings in four urban zones of Elgon View, Langas, Kimumu, and Mile Nne, could be as a result of the zoning density, land values, infrastructure availability and other urban zone identifiable variables. The X^2 provides a link between infrastructure availability and the urban zone characteristics in Eldoret Town.

3.7.3 Time Series Analysis

Time series analysis was used to project and extrapolate the spatial development trends involving the number of developments from 1990 to the year 2030, thus giving

an indication of the rate at which the urban environment will be transformed and the resultant deleterious environmental exigencies. Time series analysis is used for example, if one simply has historical trend data. All one can do is try to project this trend into the future (Wyatt, 1989).

3.8 Limitations of the Study

A number of challenges were experienced in the course of carrying out the study. Locating the target respondents especially the Landlords was a challenge. Some respondents could not be traced as some had sold out their properties and relocated elsewhere. To solve this problem the next household in the neighbourhood list was identified and interviewed. Similarly some respondents especially the well-to-do category of the population in Elgon View refused to open their gates for the researcher to interview them, even after several appointments had been made. The researcher once again had to interview the next neighbours.

There was a lot of suspicion from respondents on the motive of the research. Others thought the researcher was acting on behalf of the County Government of Uasin Gishu and that they were worried that their buildings were going to be demolished, and as such measurements of the plot coverage of buildings was found to be difficult. The acquisition of data from some institutions was not allowed. The institutions in question were Eldoret International Airport and the Department of Occupational Safety and Health. The data that the researcher needed from these institutions were considered as classified and could not be divulged.

A summary of research matrix used in the study is presented in table 3.6.

Table 3.6 Research Matrix

Objective	Instrument /Method of Data Collection	Respondents Actors	Data and Variables	Analytical Tools/ Methods
1. To establish the spatial urban development trends in Eldoret Town	• Interview schedule • Questionnaire interview • Mapping and measurement • Observation	CGU,CPPO, Urban Development control institutions	• Number of building developments • Plot coverages • Urban zone characteristics of land values, infrastructure availability and environmental issues • Planning areas	• Time series and analysis • Projections and extrapolation • Mapping and computations • Chi –square statistics
2. To assess effectiveness of Urban development control instruments and practices in Eldoret Municipality	• Questionnaire interview • Observation • Measurement and mapping • FGD	• Subjects of laws • Landlords • Private practicing designers in EMC • Neighborhood associations • Development applicants	• Time taken to process application • Variation between approved and constructed plan • Compliance with building lines • Compliance with setbacks • Complaints against illegal development • Need to change standards • Presence of illegal development • Challenges faced by applicants. • Rating of performance of urban development control institutions • Number of times building inspected • Status of approval of perimeter fence • Existence and status of approval of other structures • Rating of neighbourhood zone quality • Environmental problems in plot and zone • Court Rulings	• Summated rating scales • Cross tabulations • Descriptive statistics. • Chi-square test
3.To examine Challenges of application of Urban Development control tools	• Interview Schedule • Household interview • FGD	County Government Surveyor Physical planner Landlords Environment officer Proponents/Applicants	• Operational Challenges at household and institutional levels	• Descriptive Statistics

CHAPTER FOUR

RESULTS

4.1 Overview

This chapter presents data from the field and according to the research objectives. The study objectives were to; assess spatial urban development trends in Eldoret Town; assess the effectiveness of urban development control tools and practices being applied in Eldoret town; examine the challenges associated with the application of urban development control tools; and to explore appropriate strategies for improving the usage and application of urban development control tools. The chapter begins with examination of the general characteristics of the sampled urban neighbourhood zones.

4.2 Urban Zone Characteristics of the Selected Neighbourhoods

The background information on Urban Zone Characteristics of the Selected neighbourhoods which were sought included; zoning characteristics, plot sizes, land tenure, user of plots, housing typologies and densities, infrastructure availability, and membership of respondents in neighbourhood Associations. This information is vital in providing insights on the overall picture of the planning and urban development control status of Eldoret Town.

4.3 Land use characteristics of Urban zones

The size of the plots and the user categorization determines the type of development in a zone. Figure 4.1 shows the findings of the study with regard to land use categories. Most of the plots 164 (87.2%) were classified as residential, while 23 (12.2%) were commercial.

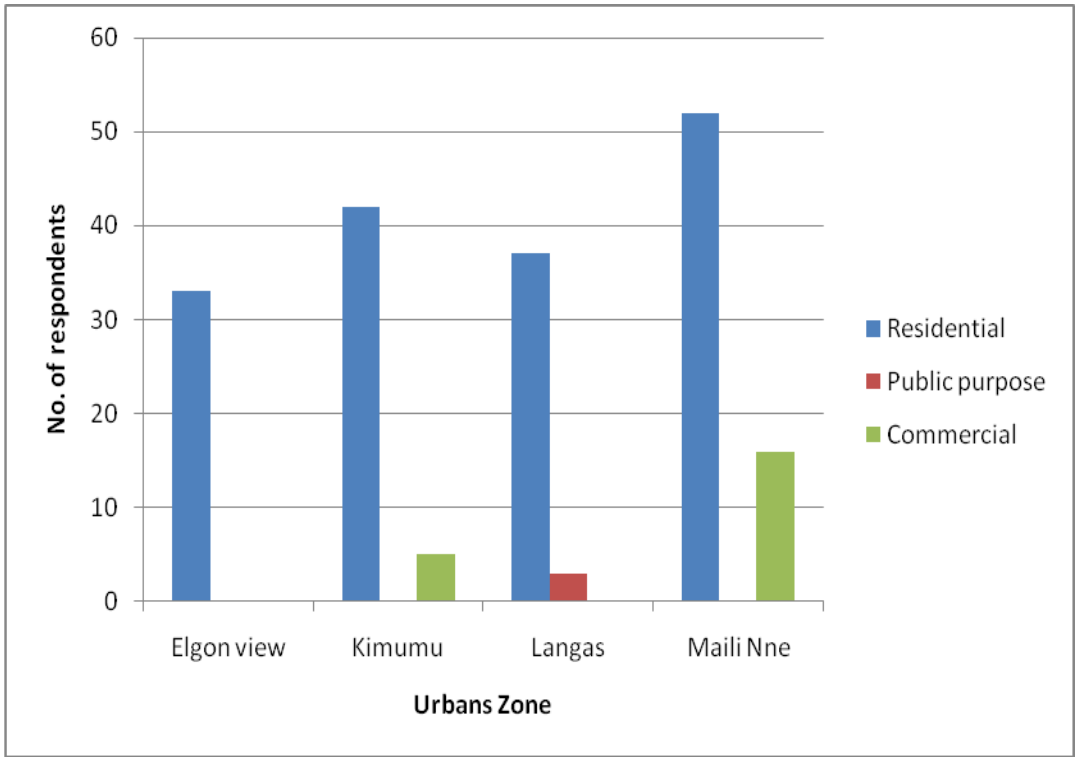

Figure 4.1 Land use of selected urban zones. Source: Field Data

The study revealed that in general, majority of respondents 58.9% (83) own quarter of an acre plots. It can also be observed that 22 respondents (15.6%) said that their plots were an eighth of an acre, while only 3 respondents (2.1%) had one acre plot. The respondents with half an acre plots were 33(23.4%), with majority 19 (57.6%) coming from Elgon view. The majority of respondents who had an eighth of an acre plots were from Kimumu and Langas (95.5%), as shown in Figure 4.2.

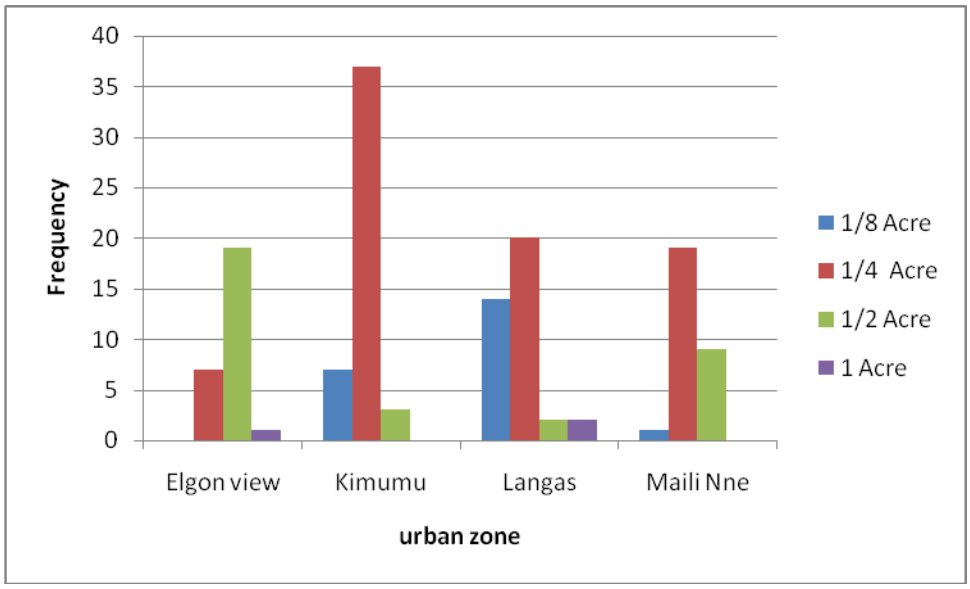

Figure 4.2 Plot Sizes in Acres. Source: Field Data

The statistics on plot sizes go hand in hand with the land values as seen in the table where the value of plots in Elgon view shows that 23 (82.1%) have a value of over three million Kenya Shillings, while in all the other zones, none of the land values exceeded Ksh. 3 million. In Langas, 13(37.1%) of respondents had land whose value fall between Ksh. 200,000-400,000 category as shown in Figure 4.3.

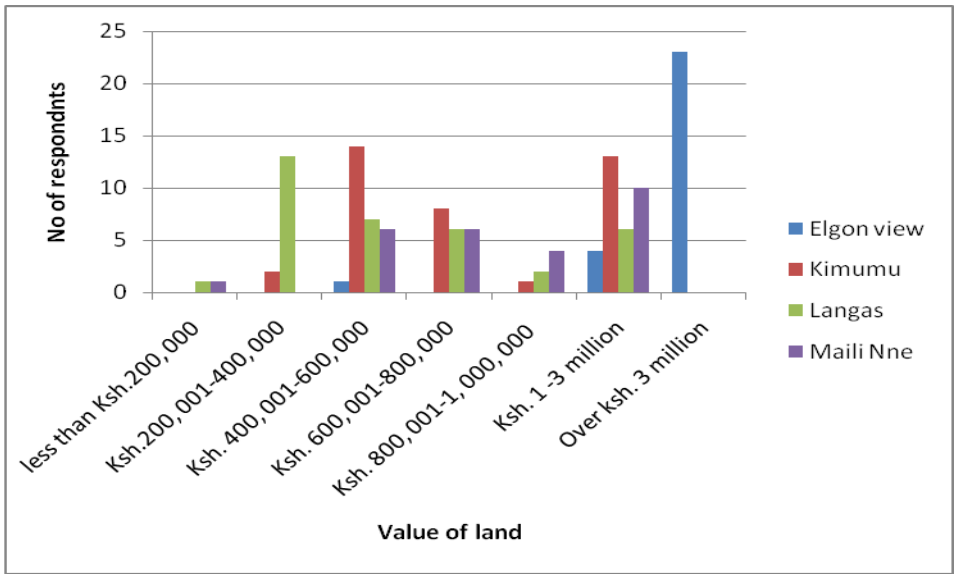

Figure 4.3 Land values in the sampled Neighbourhoods. Source: Field Data

Land tenure refers to the manner in which land is held**.** It was noted that 115(62.8%) plots are freehold, 29 (16.0%) are Government lease, 23 (12.5%) are Municipal/County leases and 16(8.7%) are on private lease agreement. Figure 4.4 depicts land tenure position in Eldoret town.

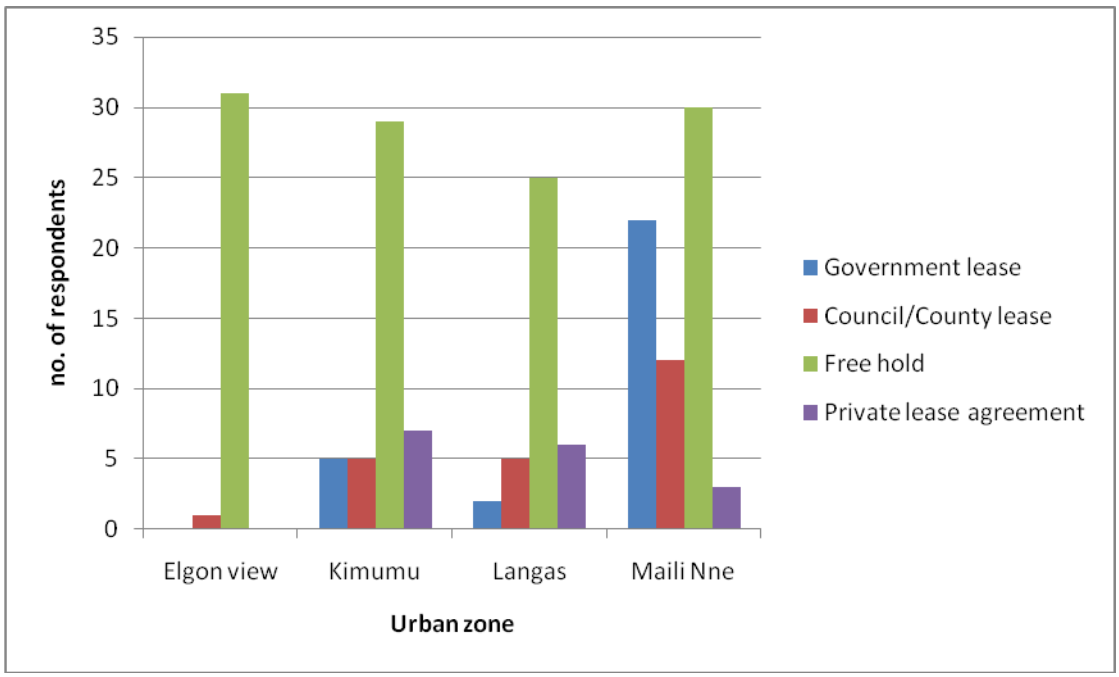

Figure 4.4 Land Tenure System of Sampled Urban Zones. Source: Field Data

A question was asked on how the selected respondents had utilized the remaining portion of their plot, other than the space occupied by existing and approved building. It was observed that in Eldoret Town, many plot owners have utilized the remaining part of the plot for open grass, or lies undeveloped, and therefore accounting for 42% (64) of the respondents. Some plot owners 25% (38) had set aside parking spaces within their plots, while 29% (19) and 21% (14) of the households had earmarked within their plots portions for urban agriculture and development of mainly temporary buildings respectively. Figure 4.5 shows land uses at a plot level in the selected urban zones in Eldoret Town.

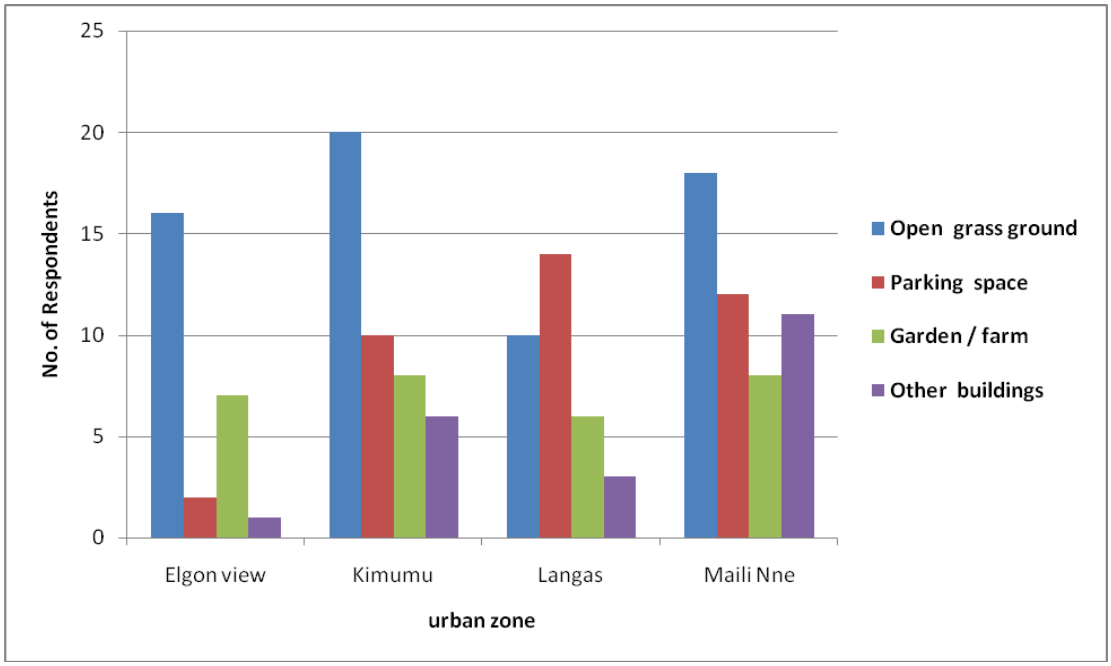

Figure 4.5 Space use for the remaining part of the plot. Source: Field Data

4.4: Type of Building Developments

The study sought to identify housing typologies in the selected neighbourhoods. It revealed that housing types included; Maissonettes, Flats, Town houses, Bungalows, Servant quarters and temporary structures. Figure 4.6 shows type of developments in the selected neighbourhoods.

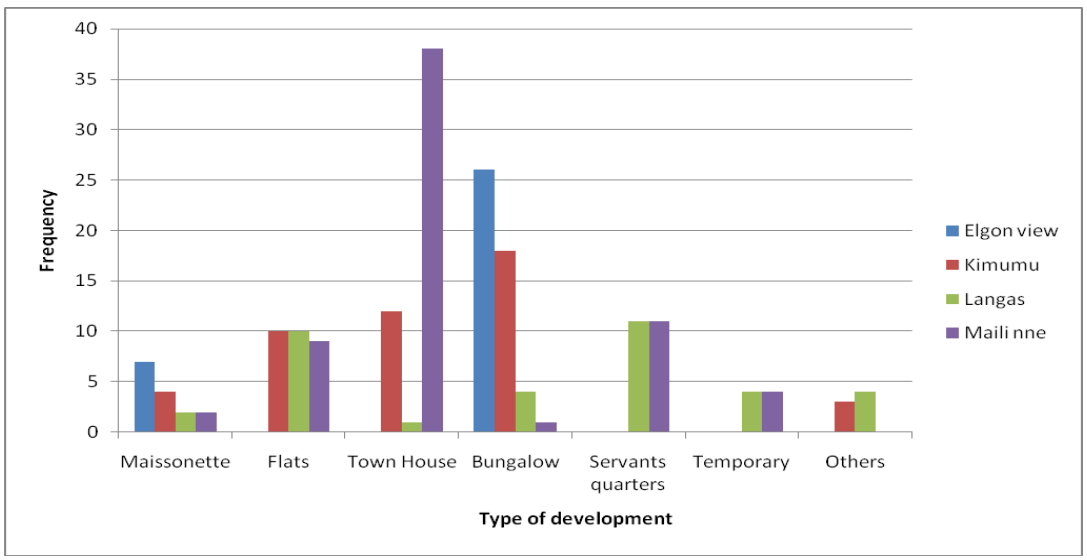

Figure 4.6 Housing Typologies in Selected Urban Zones. Source: Field Data

The Figure shows that 28.2% (51) of the buildings are Town houses, 27.1% (49) are Bungalows, and 16.0% (29) are Flats while 12.1% (22) are Servants' Quarters. In Elgon view, 26 (78.8%) of the buildings are Bungalows while the rest are Massionates. Kimumu has the second highest number of Bungalows (18) while Langas has four and Maili Nne has one. It is only in Kimumu and Langas where building developments categorized as others are found. These include single rooms for renting out as residential, shops and stalls. Maili Nne has the highest number of Town Houses (38). Distance to a tarmac road is a major consideration in location of various types of developments. Majority of the respondents said that their properties were located within a radius of less than 2 Km from the tarmac. The study sought to find out the distances from developers property to the tarmac and the findings are presented in Figure 4.7

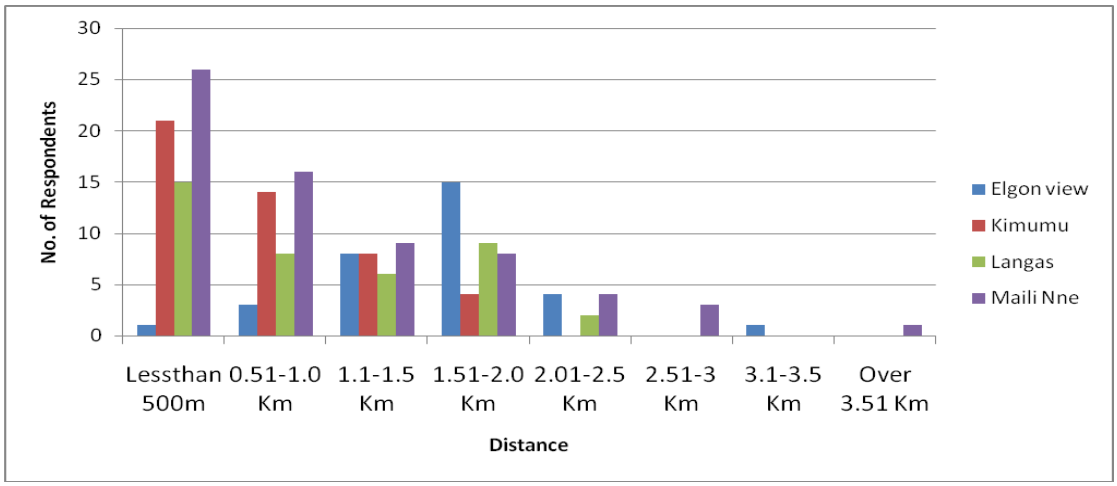

Figure 4.7 Distance to Tarmac Road. Source: Field Data

A study established the number of people who live in various selected urban zones and neighbourhoods and found out that 3% of respondents had one or two people living in a plot, 26% had between three to five people in a plot, while 29% of the respondents had six to ten occupants in the same compound. Langas and Maili Nne areas had the highest number of people residing in a plot and ranged from eleven to twenty people. The number of occupants in a plot has a direct bearing on the demand for infrastructure facilities and services. Too many people living in the plot can contribute to overstretching of the existing facilities and attendant negative environmental effects. Figure 4.8 shows housing density of the selected urban neighbourhood zones of Eldoret Town.

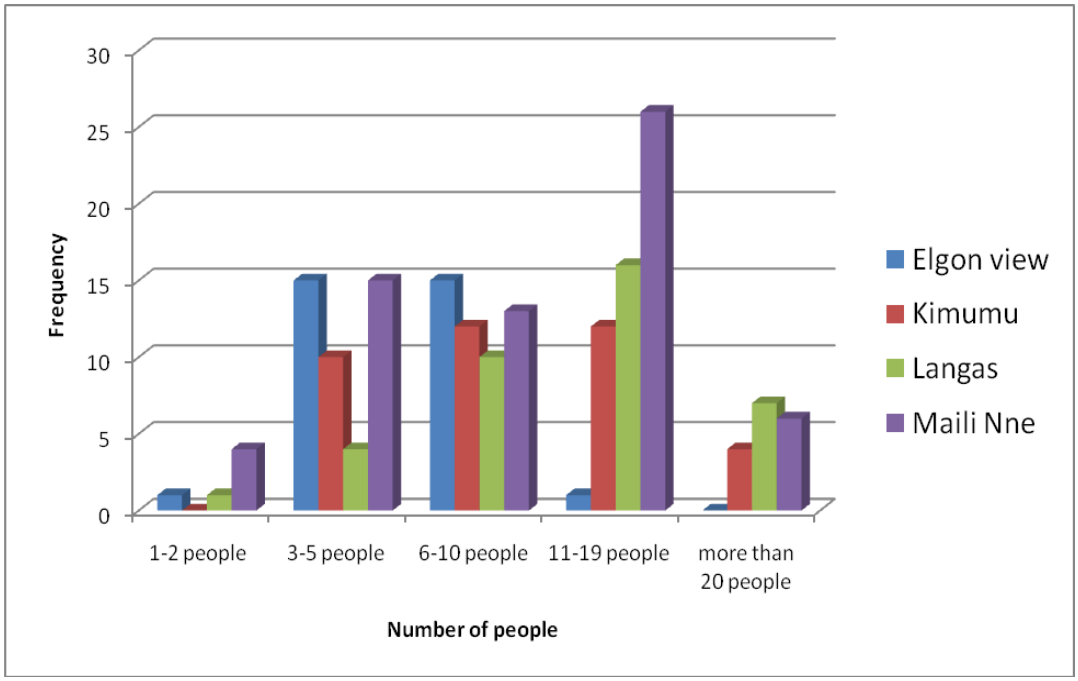

Figure 4.8 Housing Density of Selected Neighbourhoods. Source: Field Data

Change of user was considered as an important component of urban zone characteristics. Respondents were asked whether they applied for a change of user or whether the plot had undergone a process of change of user, 13% (24) respondents admitted that they applied for a change of user from mainly residential to commercial, while 87% or 160 respondents had not changed the user of the plot. Figure 4.9 indicates the change of user status of plots of selected urban neighbourhoods.

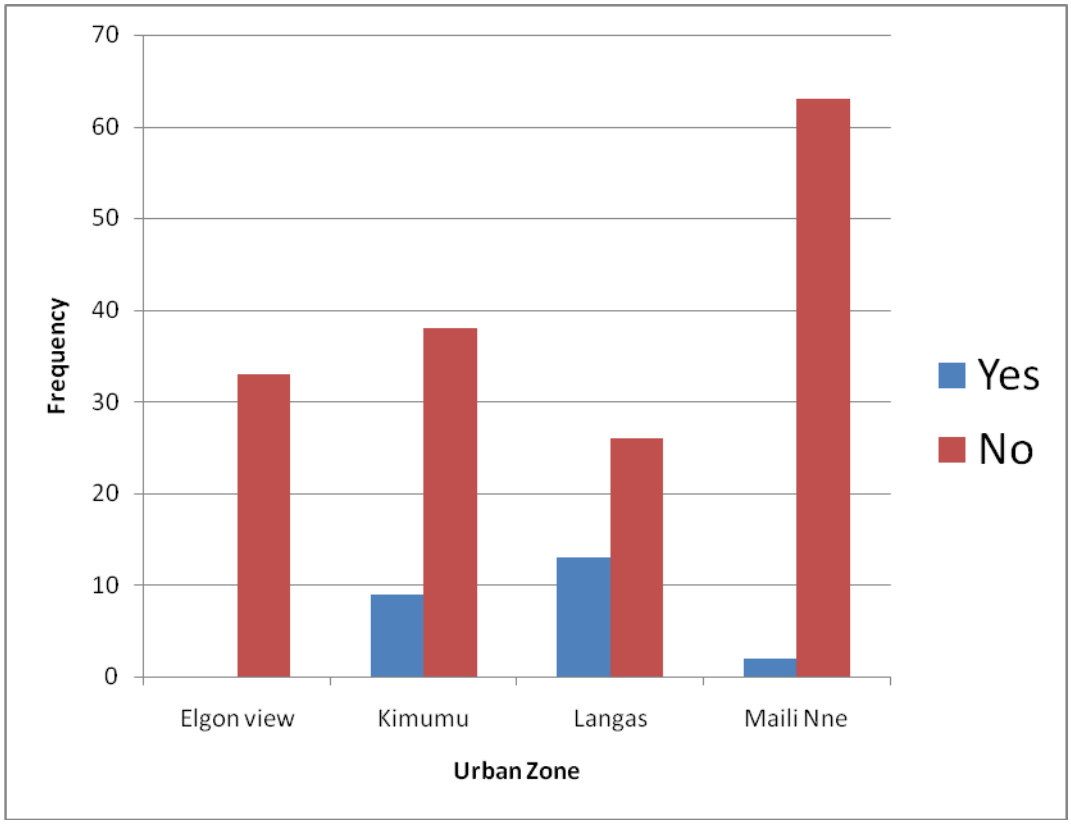

Figure 4.9 Change of User Status of plots in Urban Zones. Source: Field Data

Sewered sanitation services are indispensable for sustainable development of human settlements. Sewered sanitation services entail sewage disposal and water supply system. Eldoret Town is not adequately served with the conventional sewer services as evidenced by 22% of the respondents interviewed with Municipal sewer connections. Majority of the respondents, 60% (112) use septic tanks as methods of sewage disposal. Water supply in the town is undertaken by ELDOWAS Water and Sanitation Company, of which 96% of the respondents had water connections, while 4% utilizes boreholes or wells as domestic water source. Figures 4.10 and 4.11 shows methods of sewage disposal, and water supply services.

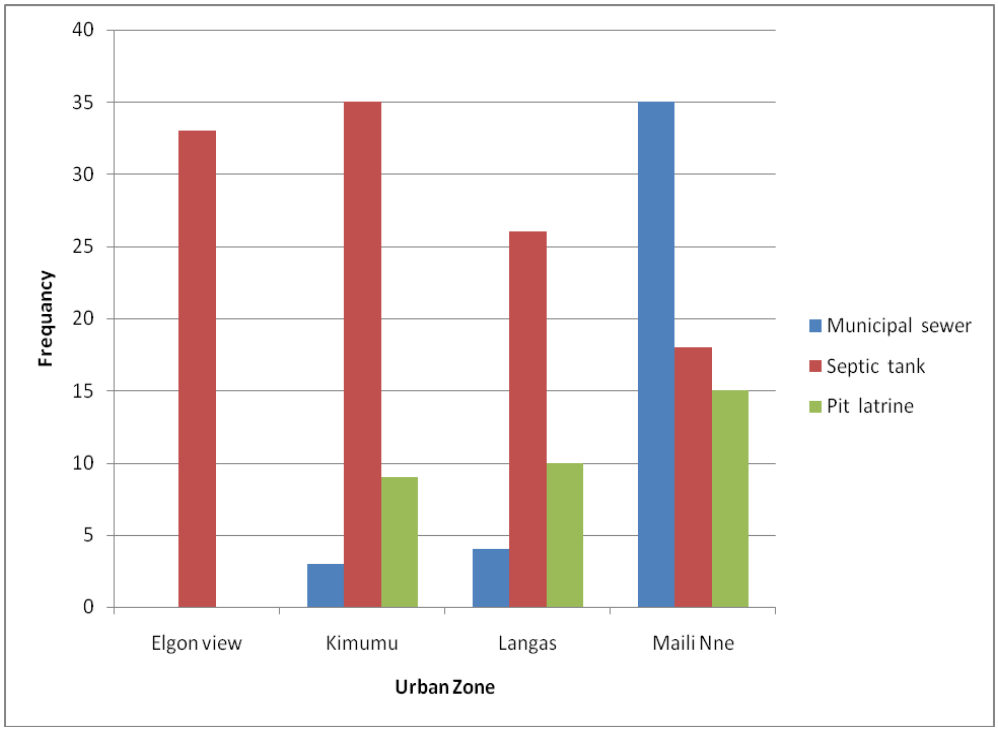

Figure 4.10 Methods of Sewage Disposal. Source: Field Data

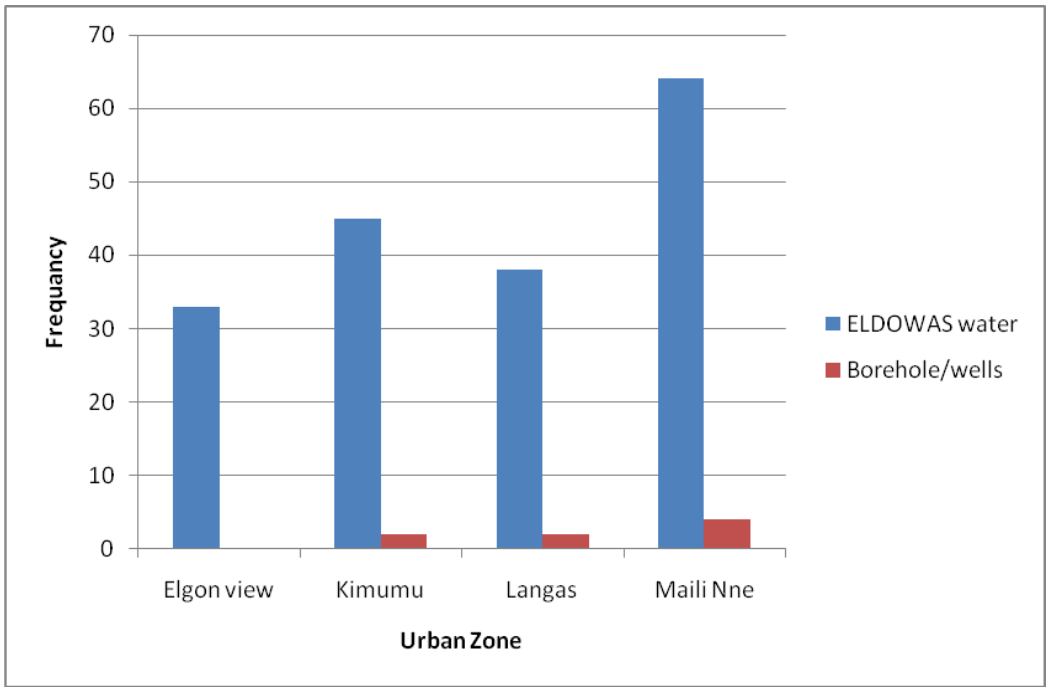

Figure 4.11: Source of Water Supply. Source: Field Data

The main sources of energy in Eldoret town are electricity and the use of paraffin or Kerosene.98% (184) of the selected respondents said that they had electricity connections from the Kenya Power and Lighting Company (KPLC), while 2% (4) of

the households have no access to electricity and therefore use alternative sources of energy involving the use of paraffin or kerosene for lighting and cooking. Figure 4.12 shows the main sources of energy.

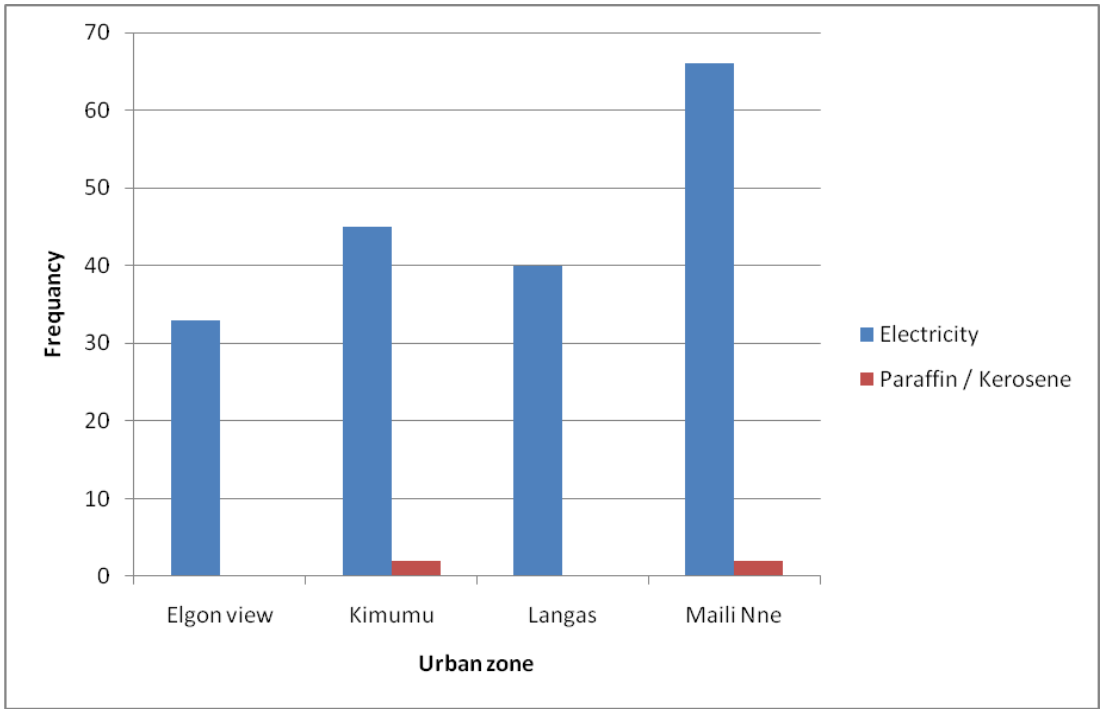

Figure 4.12: Main Sources of Energy. Source: Field Data

Neighbourhood Associations are institutions that can give an external check and monitoring to urban development control institutions. They can be used as an entry points in urban planning and development control. Out of 182 respondents interviewed only 30% (54) said that they belonged to a Neighbourhood Association compared to 70% (128) who said that they had no affiliation to any organization. Majority of the associations are concentrated in Langas with 46% (25) and Maili Nne with 35% (19). Elgon View and Kimumu have the lowest number of respondents who belonged to the Neighbourhood Associations at 9% (5).Figure 4.13 depicts membership of neighbourhood associations according to respondents.

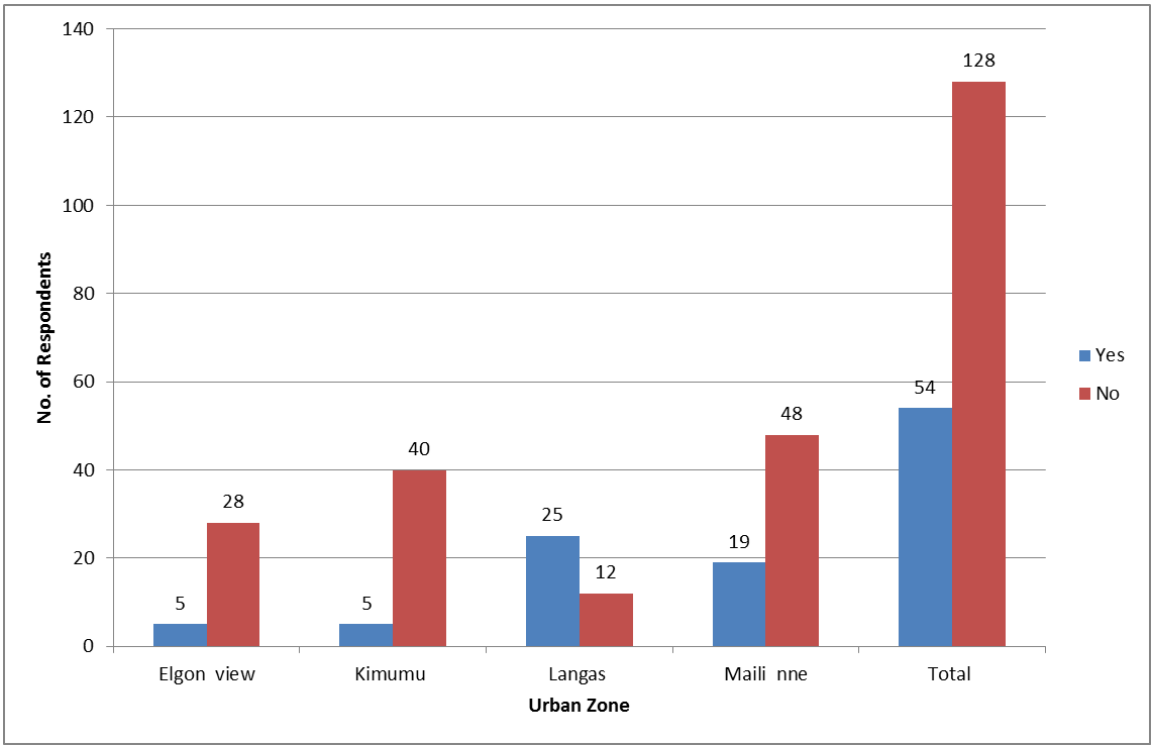

Figure 4.13 Membership of Neighbourhood Associations. *Source: Field Data*

4.5. Urban Development Pattern in Eldoret Town

The first objective of the study was to establish spatial urban development patterns in Eldoret Town. This is examined within the context of spatial metamorphosis of Eldoret town whereby Eldoret town was established in 1908 as an isolated colonial Post Office serving the settler farming community in the surrounding areas. By 1912, the small settlement was officially gazette as a township occupying an area of about 11.2 Km2 with little physical development characterized by existence of a row of offices and shops constructed of stone or mud walls and timber roofs. In 1928, the township was elevated to a Municipal Board and the Municipal boundary was extended to cover an area of 25Km2.The town's boundaries were again extended from an area of 25Km2 to include 59Km2 in 1974 and a further extension was done in 1988 to include 147.9 Km2 which marks the present day Municipal boundary, as shown in Figures 4.14 and 4.15.

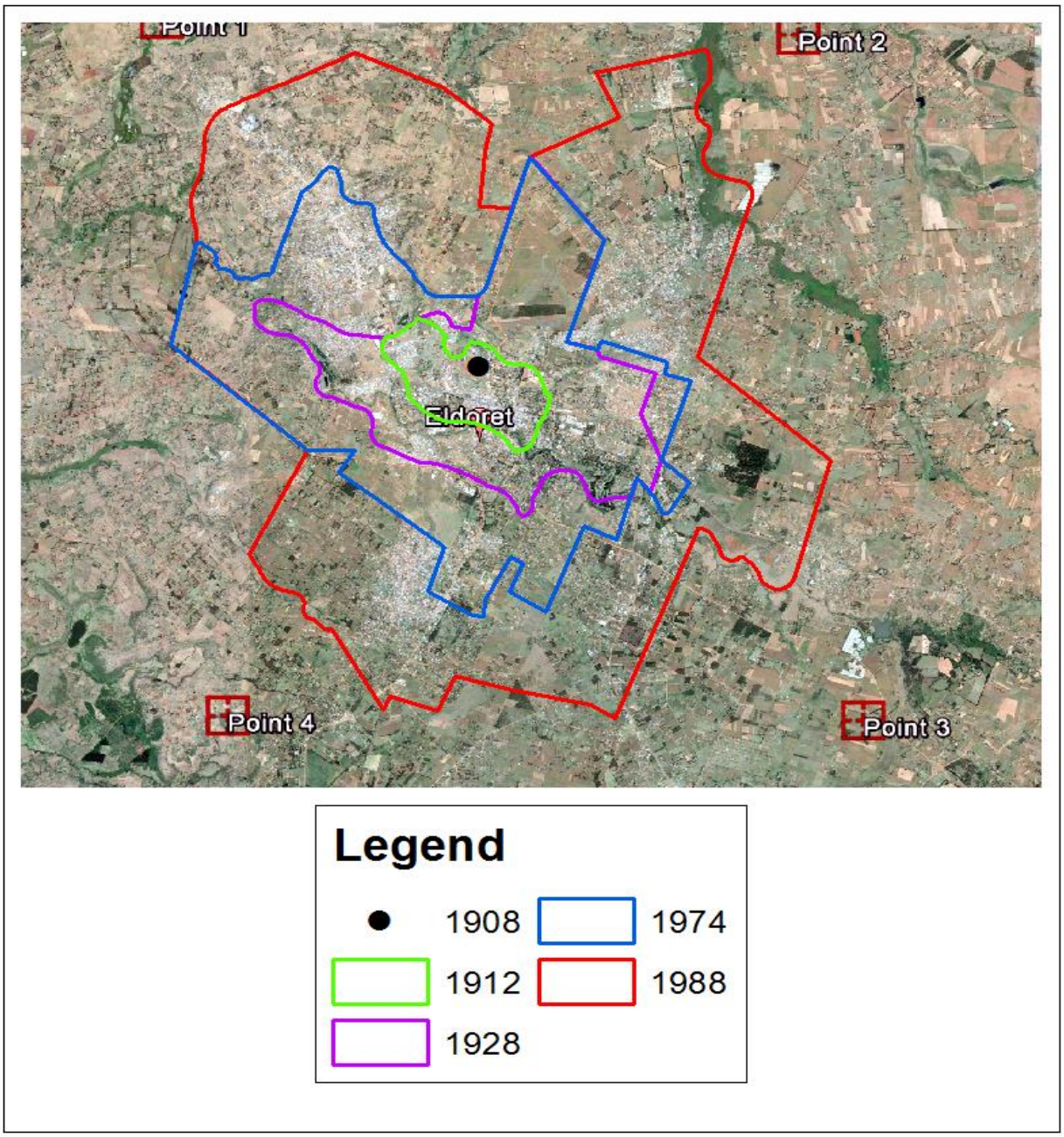

Figure 4.14 Spatial development trends of Eldoret town. Source: Author's Design

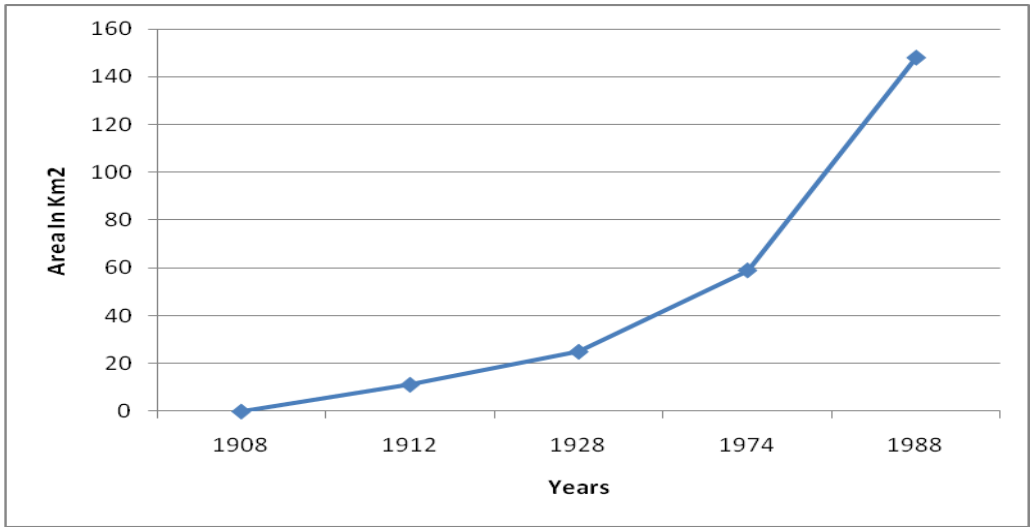

Figure 4.15: Graphical Representation of Urban Development Trends in Eldoret

The 1988 boundary extension brought into the Municipality farms such as Yamumbi, Kipkenyo, Maili Nne, Kamukunji ,Munyaka, Kimumu, Langas, Kapyemit and part of former Eatec-owned land (EMC,2015).Each Municipal boundary extension brings privately owned land into the Municipality with a lot of implications in urban planning and management. Developments in Eldoret town have spilled over beyond the 1988 boundary as evidenced by growth of new settlements in such areas as Kipkorgot, Chepkanga, Sogomo, Kapseret, Baharini and Outspan. The implication of boundary extension in Eldoret Municipality has been the expansion of the town into areas that are not suitable for urban development. Piece meal planning involving preparation of Local Physical Development plans covering sections of Eldoret town have been used to guide the town's growth and development.

4.5.1 Analysis of Trends in Building Developments

The physical growth of a town is measured in terms of the structures which have been built in the urban area. The study sought to find out the distribution patterns of buildings in Eldoret town. Figure 4.16 shows the trend as per approved of plans in Eldoret town from 2005-2015.

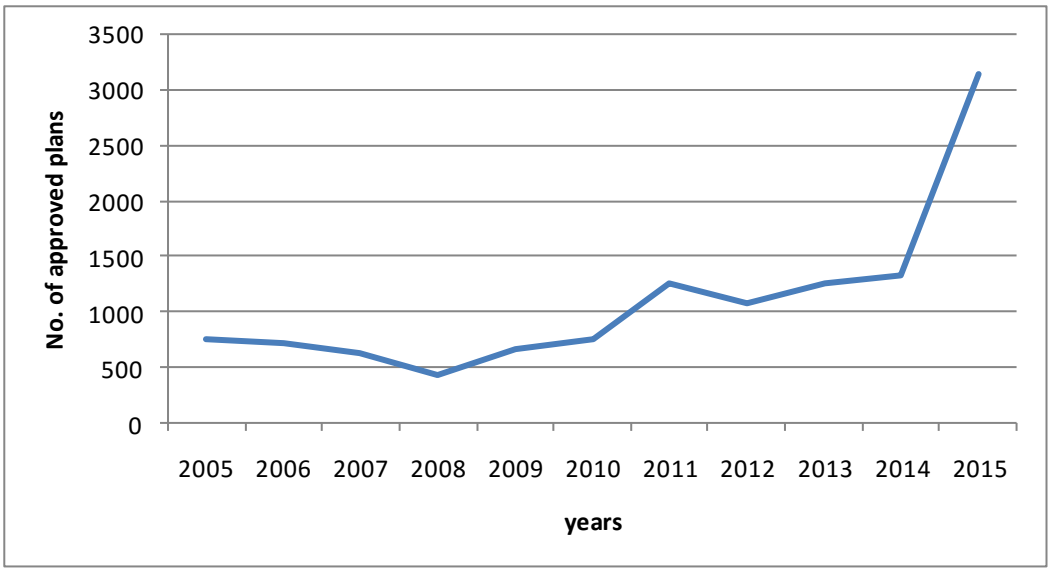

Figure 4.16 Trends in Building Plan Approvals. Source: Author's Analysis, 2015

The Figure shows that the development trends reflected by submission of building plans has generally being on the increase, from 600 building plans in 2005 to 3139 in 2015.However there has also been fluctuation in submission of building plans especially between 2007 and 2008.The decline in submission of building plans was attributed to Post election violence of 2007/2008 that affected Eldoret town. In terms of spatial distribution of developments across the urban zones, it was established that land values which is a function of infrastructure availability influences the decision of respondents to build in various urban zones. Table 4.1 shows results of Chi-square test of the association between urban zones and spatial distribution of developments.

Table 4.1 Chi-square Analysis of the relationship between urban zone characteristics spatial development trends. Source: Author's Data Analysis

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	136.806[a]	18	.000
Number of Valid Cases	128		

The Chi-square test results shows that the chi-square value of 136.806 is much greater than the p- value of 0.000 and therefore giving an indication that there is a significant relationship between urban zone characteristic of land values and the development trends in various Urban zones within Eldoret Municipality.

The analysis of the rate at which building structures sprung up from 2005 to 2015 revealed that a total of 8606 building plans had been processed by 2015.On average it is estimated that the ground coverage occupied by a building in a plot was 50% or equivalent to about $200m^2$.It therefore implies that over $1,721,200m^2$ or 172.12 Hectares (430 acres) of land in Eldoret town had been built up or covered by the year 2015 translating into total land coverage or plinth area of about 1.72 km2.

The urban development trends in Eldoret Municipality was also examined from the dimension of the number of Environmental Impact Assessments (EIA) and the Environmental Audits (EA) received by the National Environmental Management Authority (NEMA) and development applications submission to the National Construction Authority (NCA).

According to NEMA the EIA's for building plans started to be received from 2004 of which 40 EIA's were reviewed. There was no record of any EIA's being received in 2009 and 2010.The highest number of EIA's received for building projects was in 2015 where a total of 176 applications were reviewed. Figure 4.17 shows trends in review of EIA's for buildings from 2004 to 2015.

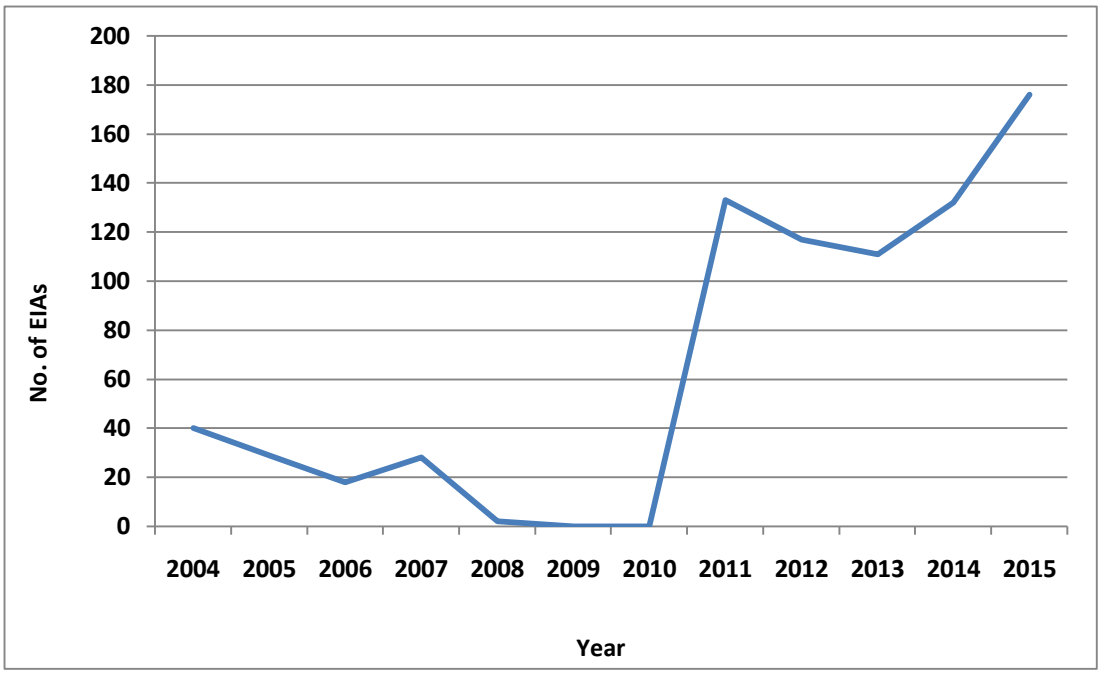

Figure 4.17 Trends in EIA's Reviews from 2004 to 2015. Source: Author's Document Analysis from NEMA, 2015

In 2015 the National Construction Authority received a total of 171 building projects for supervision. The data on the number of buildings is disaggregated according to the political administrative constituencies. Eldoret town is shared administratively by constituencies. Each constituency has a share of the town. Figure 4.18 shows statistics of building projects received by NCA which reflects development trends in Eldoret Town.

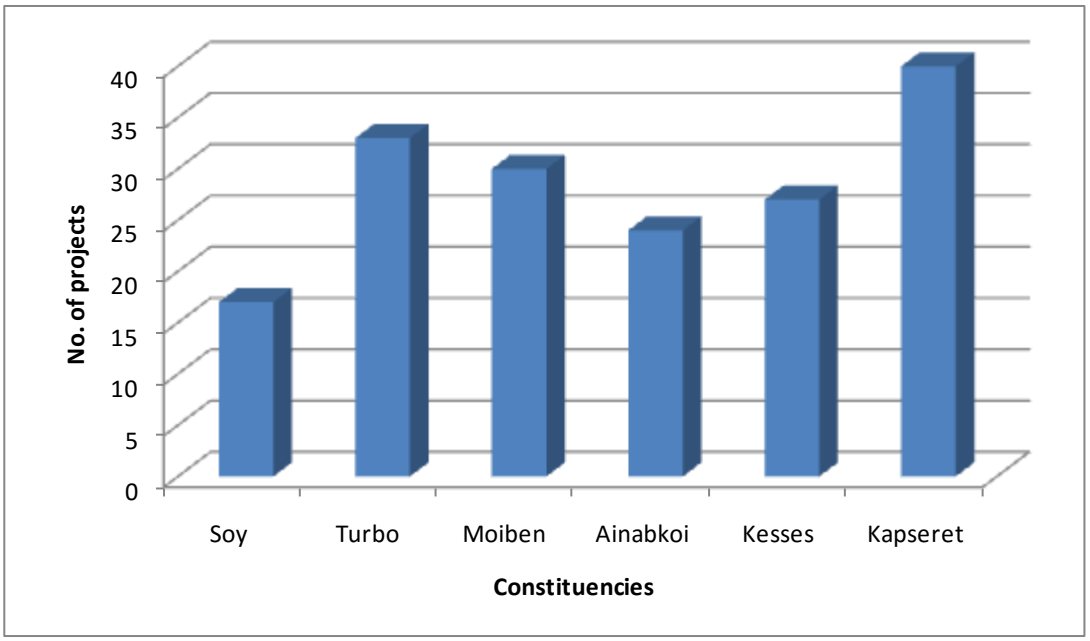

Figure 4.18: National Construction Authority's Building Projects Submitted in 2015. Source: Author's Document Analysis from NCA 2016

It is notable that Kapsaret has the highest number of building projects as the area falls within Langas; Elgon View and Racecourse neighbourhoods with high population concentration while Soy has the lowest number of building projects recorded. Compared to other UDC institutions, NCA receives few applications. This is because it is still a new institution that has been created to deal with urban development control.

The spatial urban development trends of Eldoret Municipality is associated with various environmental problems. The findings gave an indication that the major environmental problems experienced in all the selected urban zones is garbage disposal 65% (114) with overcrowding, de-vegetation, water shortage and air pollution being the least problems experienced in these zones, each accounting for less than 5% of the respondents interviewed. Other major environmental problems experienced include surface runoff/or flooding 13% (22) and sewage disposal 10% (18).The environmental issues associated with urban dkevelopment control in various urban Figure 1 neighbourhood are as shown plates 1-15 in Appendix VI. Figure 4.19 shows the type of environmental problems in the selected urban zones, according to the respondents.

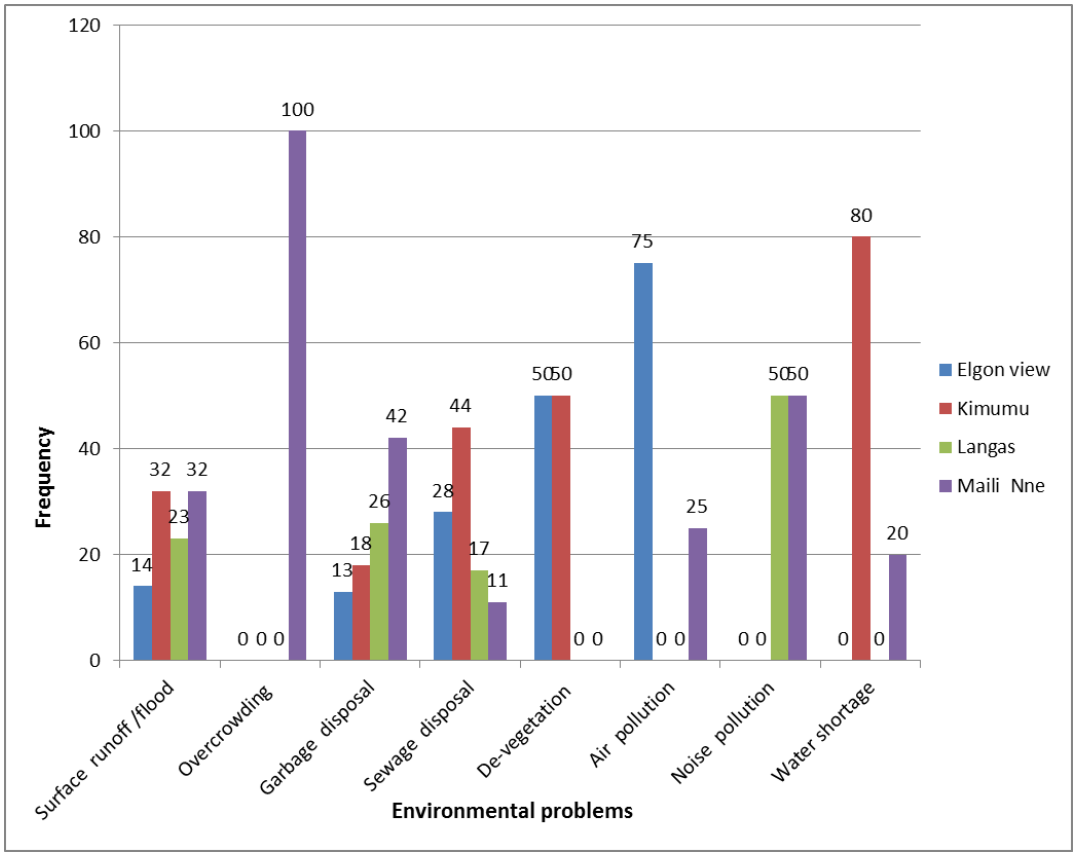

Figure 4.19: Environmental problems associated with poor Urban Development Control. *Source: Field Data*

ɔls and practices being applied in Eldoret town. The tools of urban development control which are applicable to building control in Eldoret town are many and they include both statutory and non-statutory instruments. The instruments of urban development control that are applied in Eldoret Town are mainly, Local physical development plans which consist of Advisory plans, Zoning plans, Structure plans, Part Development Plans (PDPs) and subdivision plans.

Local Physical Development Plans (LPDP) provide detail basis for land use policy of the entire town or part thereof. The conventional land uses and their classification numbers, which are indicated in the LPDP's include; Residential (0),Industrial (1), Educational (2), Recreational (3), Public purpose (4), Commercial (5), Public utilities (6), Transportation (7), Deferred land or land reserved for future use (8), and Agricultural land (9). Eldoret Town Physical Development plan Number, ELD 17/81/13 of 1981 is still being used as a legitimate development control tool and it covers the leasehold area including the CBD and its surrounding areas. It was prepared under the Town planning Act Cap 134 which is as good as prepared under

PPA Cap 286.Figures 4.20 shows Eldoret Town's approved Physical Development plan.

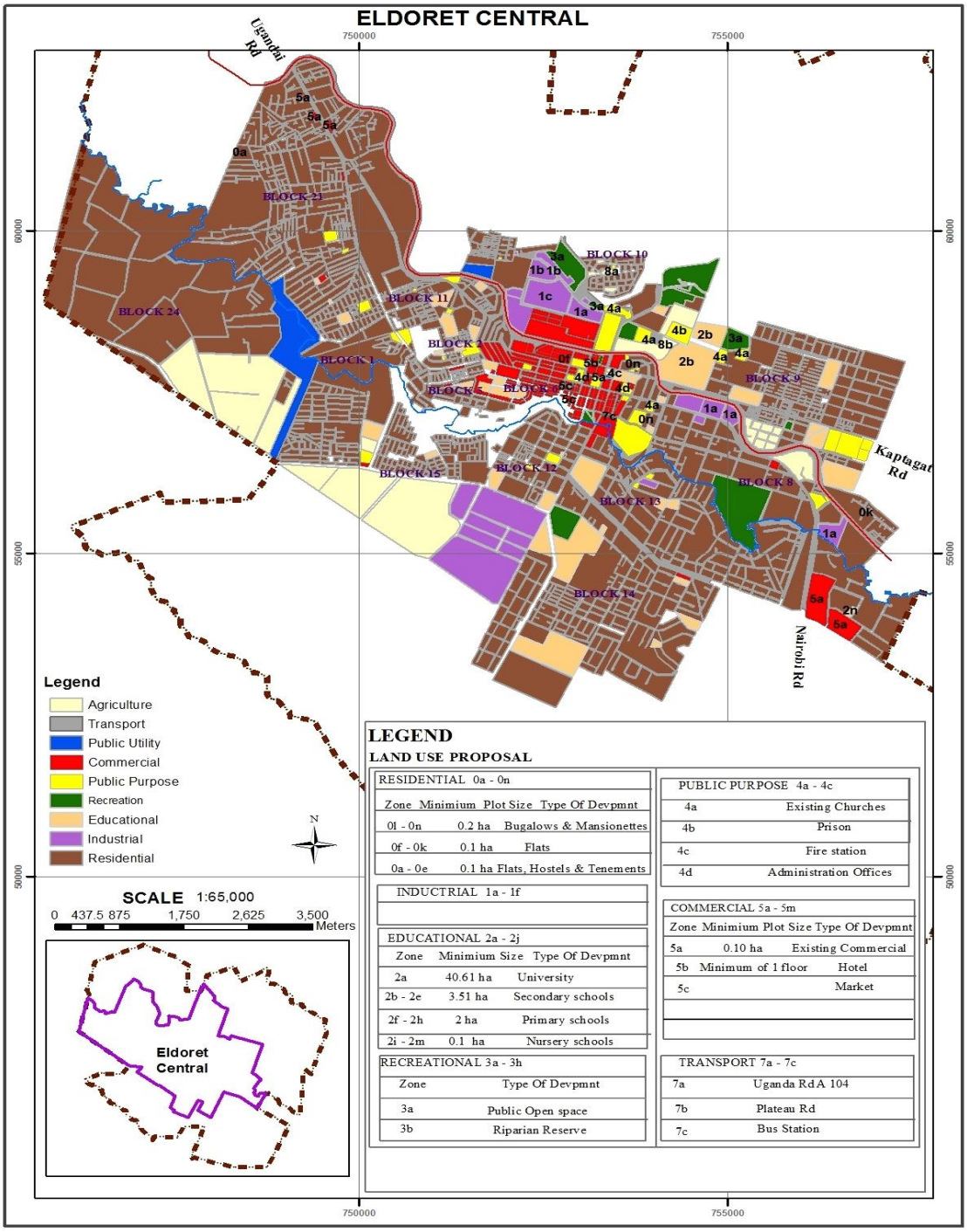

Figure 4.20: Eldoret Central Town Development plan. Source: Digitized from CPPO, 2015

The Physical Development plan that has been in force for Eldoret for many years has over thirty urban zones with different planning and development standards. Table 4.2 provides a summary of allowable UDC standards in Eldoret Town.

Table 4.2 Allowable Planning and Development Standards in Eldoret Town.

Source: Author's Document Analysis

Block	**Area/Zone**	**Minimum Plot Size**	**Type of Building Development Allowed**	**Remarks**
1	Shauri	0.045 Ha	Mixed development including monopitch roofed residential housing units	Sewered sanitation
2	Industrial area, Paul's Bakery, West Area.	0.045 Ha	Commercial Industrial developments, mixed housing typologies, flats	
3				None-existent
4	Area between Oloo street, Lumumba Rd &Railway Town Hall, High Court	0.1 Ha	Minimum two storey floor commercial developments	Sewered sanitation
		0.2 Ha	Maissornatte & servant quarters Eastern view residential	
5	West Indies, Ndalat	0.045 Ha	Flats	Sewered sanitation
		0.045 Ha	Maissonettes and Bungalows and servant quarters	
6&7	CBD	0.05 Ha	Minimum 2 floors commercial developments	Sewered sanitation
8	Nandi Road, Kapsoya gardens, Moi Referral Area	0.2 Ha	Bungalows Maissonettes and servant quarters	Sewered sanitation
9	Kapsoya Site and Service	0.045 Ha	Bungalows	Servant Quarter Monopicth Roofed permitted
10	Border farm	0.2 Ha	Massonettes and Bungalows	
11	Action Airstrip Rock centre Jerusalem	0.1 Ha	Bungalows, Maissonettes & servant quarters	Monopitch roofed Development not allowed.
12	Pioneer Estate	0.1 Ha	Flats only	sewered
13	Upper Elgon View Huruma, Kipkarren, Mwenderi, Raiply	0.2 Ha	Bungalows, Maissonettes & servant quarters	Change of user / extension of user not allowed

14	Lower Elgon View	0.2 Ha	Bungalows, Maissonettes & servant quarters	Change of user / extension of user not allowed
15	Kipkarren Estate	0.045 Ha	Kipkarren Site and Service type plan Row housing	Monopitch Roofed housing allowable
16	Kamukunji	0.045 Ha	Row housing	Monopitch Roofed housing
17, 18, 19	N/A			
20, 21 &23	Kapyemit, Kingongo, Kabayo, Maili Nne	As per zoning plan Zone O_1-O_4=0.045Ha	Bungalows and monopitch Roofed servant quarters	No sewered sanitation
		Zone O_5-O_9=0.1Ha	Flats, Apartments	
		ZoneO_{10}-O_{11}=0.2Ha	Bungalows, Maissonettes & servant quarters	
24	Kipkenyo	0.1Ha	Flats/ Apartments	
27&28	Saroiyot primary, Rehema, A104 Nairobi road, Mushroom Area	As per zoning plan 0.1Ha	Flats, students hostels opposite Moi University	No sewered sanitation
27&28	Moi Annex, Nairobi Road A104 to Elgon view estate	0.2Ha	Bungalows, Maissonettes & servant quarters	Change of user/extension of user restricted
29				
30	Kimumu	0.1Ha	Bungalows, Maissonettes & servant quarters	No sewered sanitation
Malel	Malel Farm	0.1Ha	Bungalows, Maissonettes & servant quarters	Monopitch Roofed housing not allowed
Langas	Langas	0.04Ha	Mixed type of housing, Row housing, Monopitch housing	No sewered sanitation
Yamumbi	Yamumbi	0.2 Ha	Mixed housing typologies	No sanitation services

Other than using the Master plan of 1981, there are a number of advisory plans, zoning plans and structure plans which are being used as premises for development control but cover specific sections of the town. Figures 4.21-4.25 depicts sectional spatial plans as used in Eldoret Town.

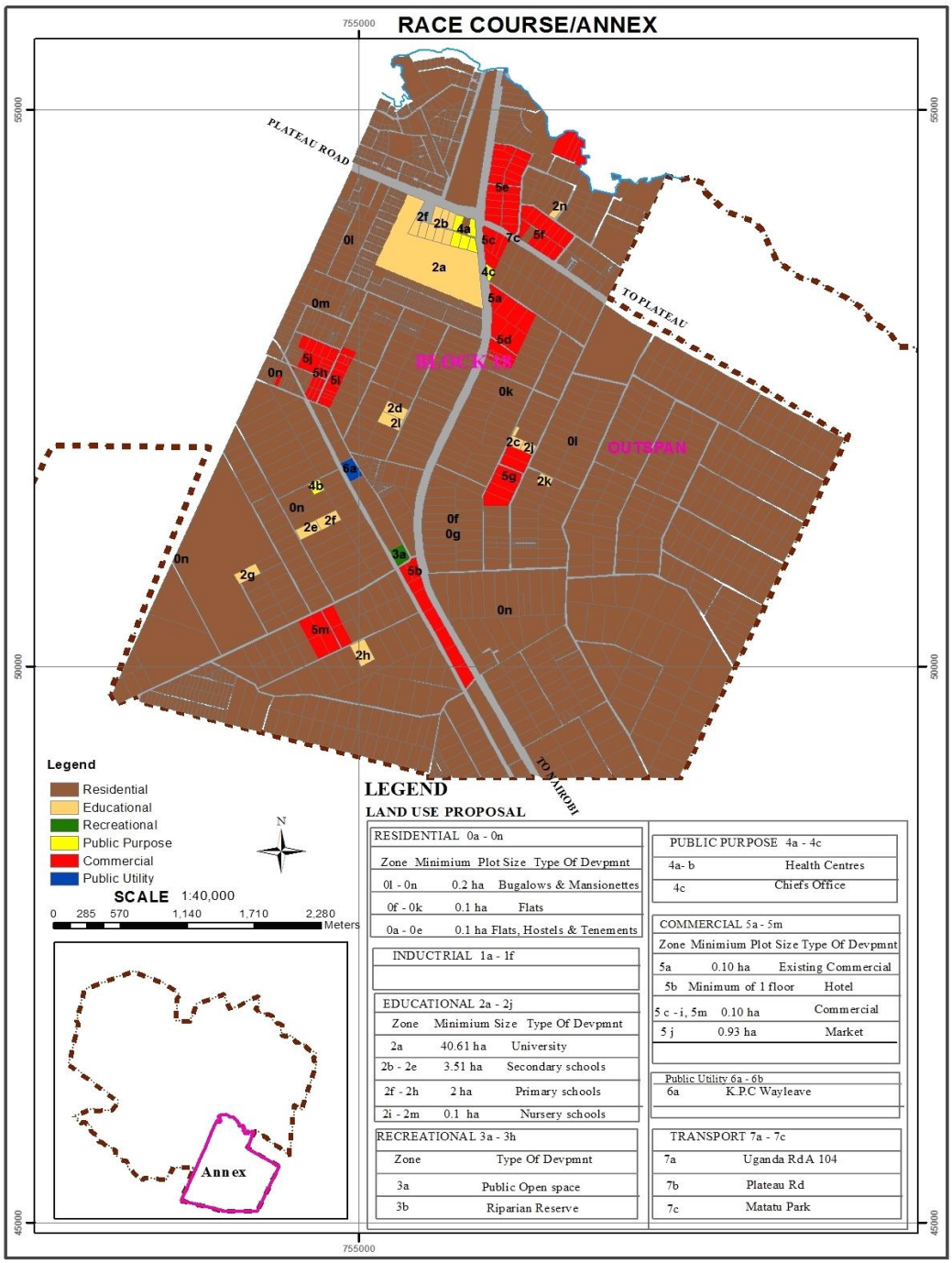

Figure 4.21 Eldoret Municipality's Moi Annex Section, Zoning Plan. Source: Digitized from CPPO 2015

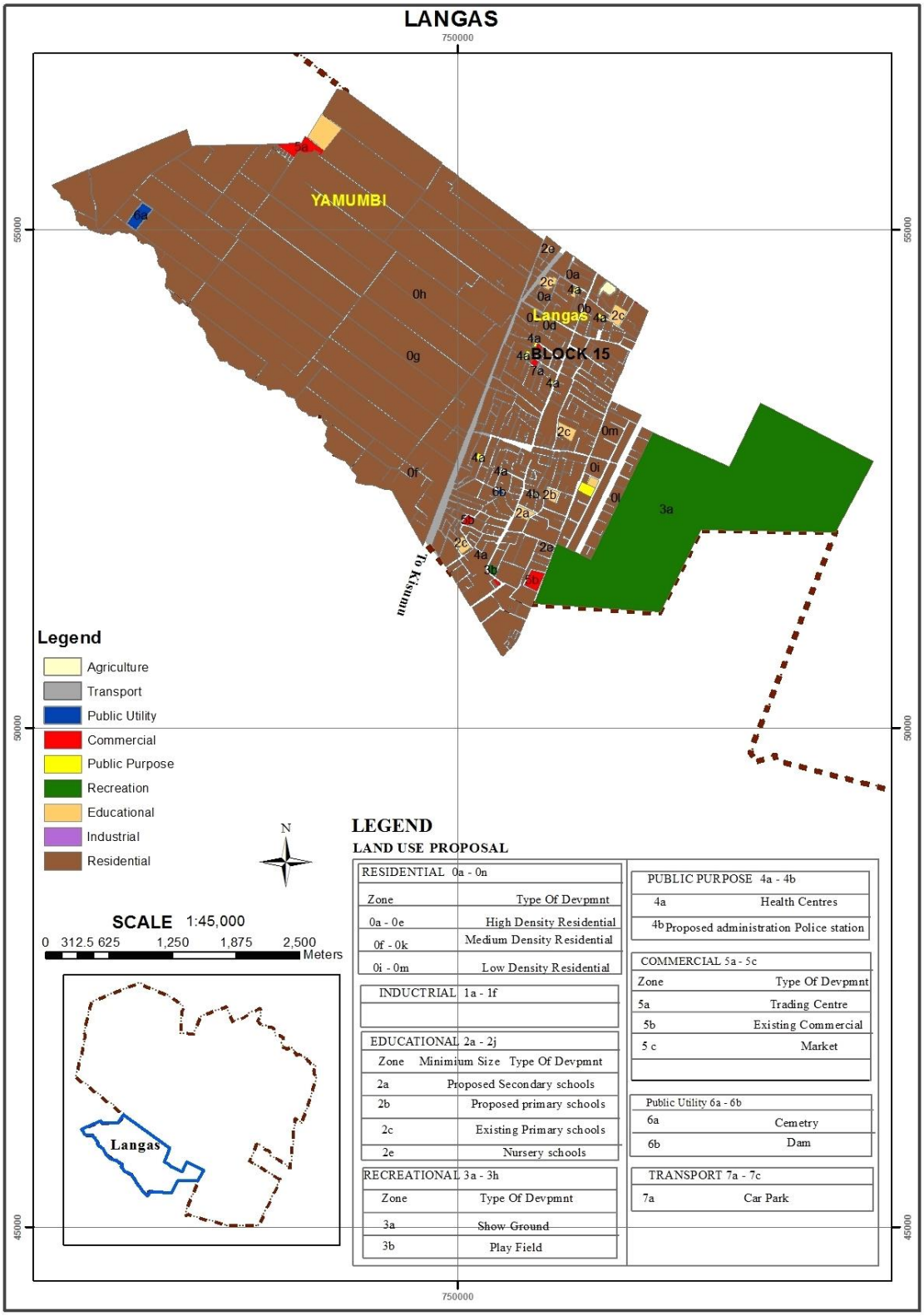

Figure 4.22 Eldoret Towns', Langas Informal Settlement Local Physical Development Plan. Source: Digitized from CPPO 2015

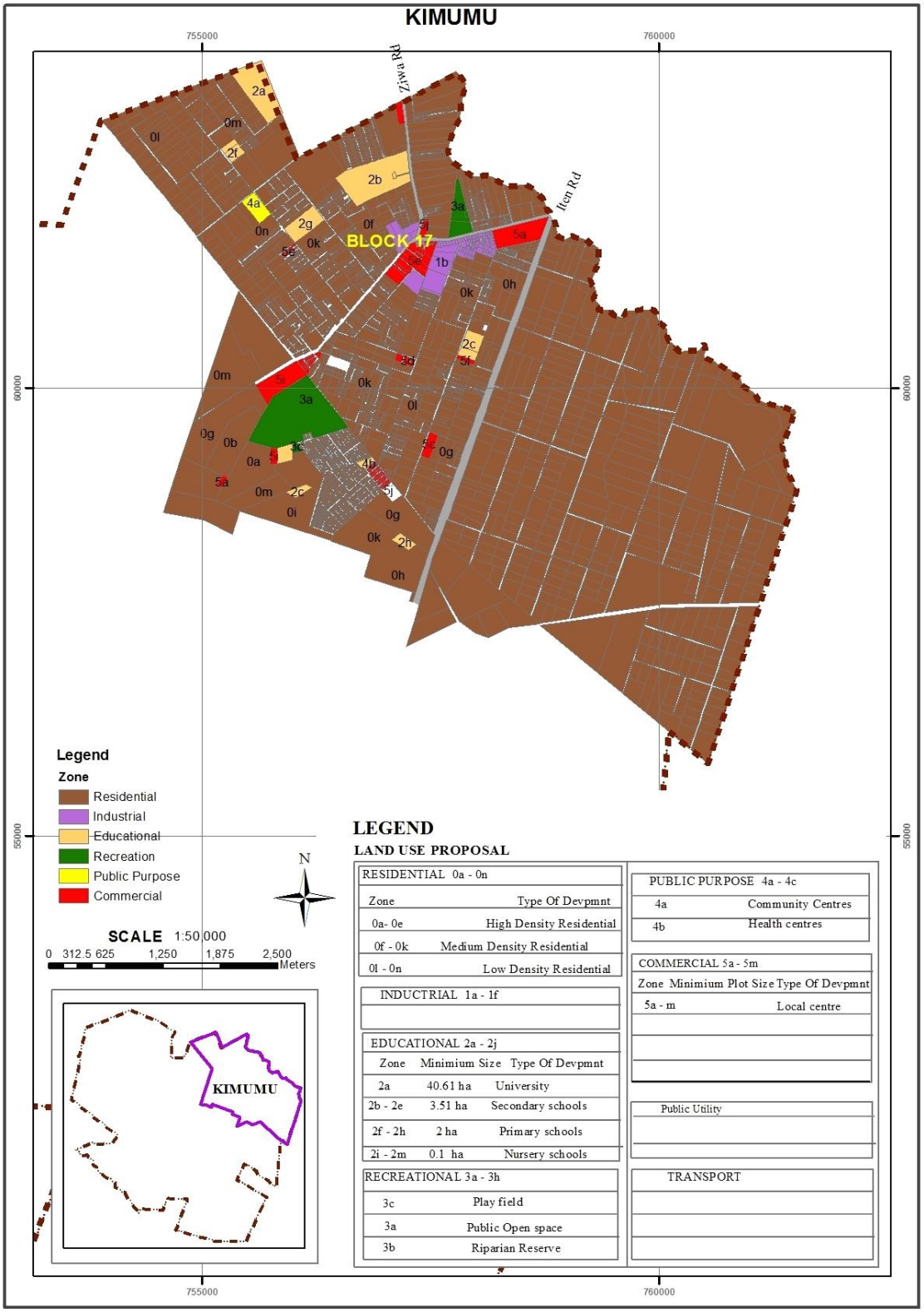

Figure 4.23: Eldoret Town's, Kimumu Section Structure Plan. Source: Digitized from CPPO 2015

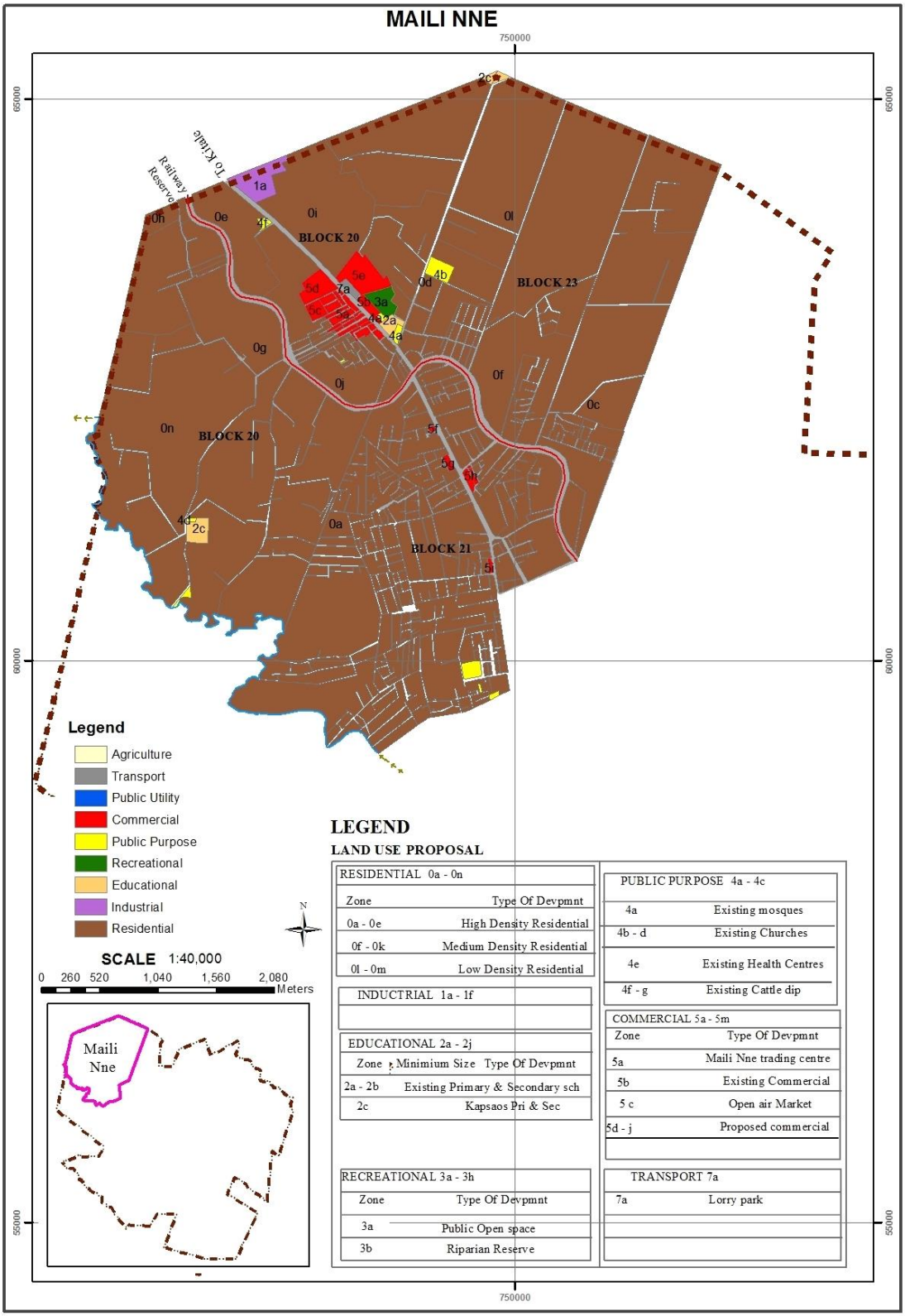

Figure 4.24: Eldoret Towns', Maili Nne, Block 20, 21 &23, Section Zoning Plan. Source: Digitized from CPPO 2015

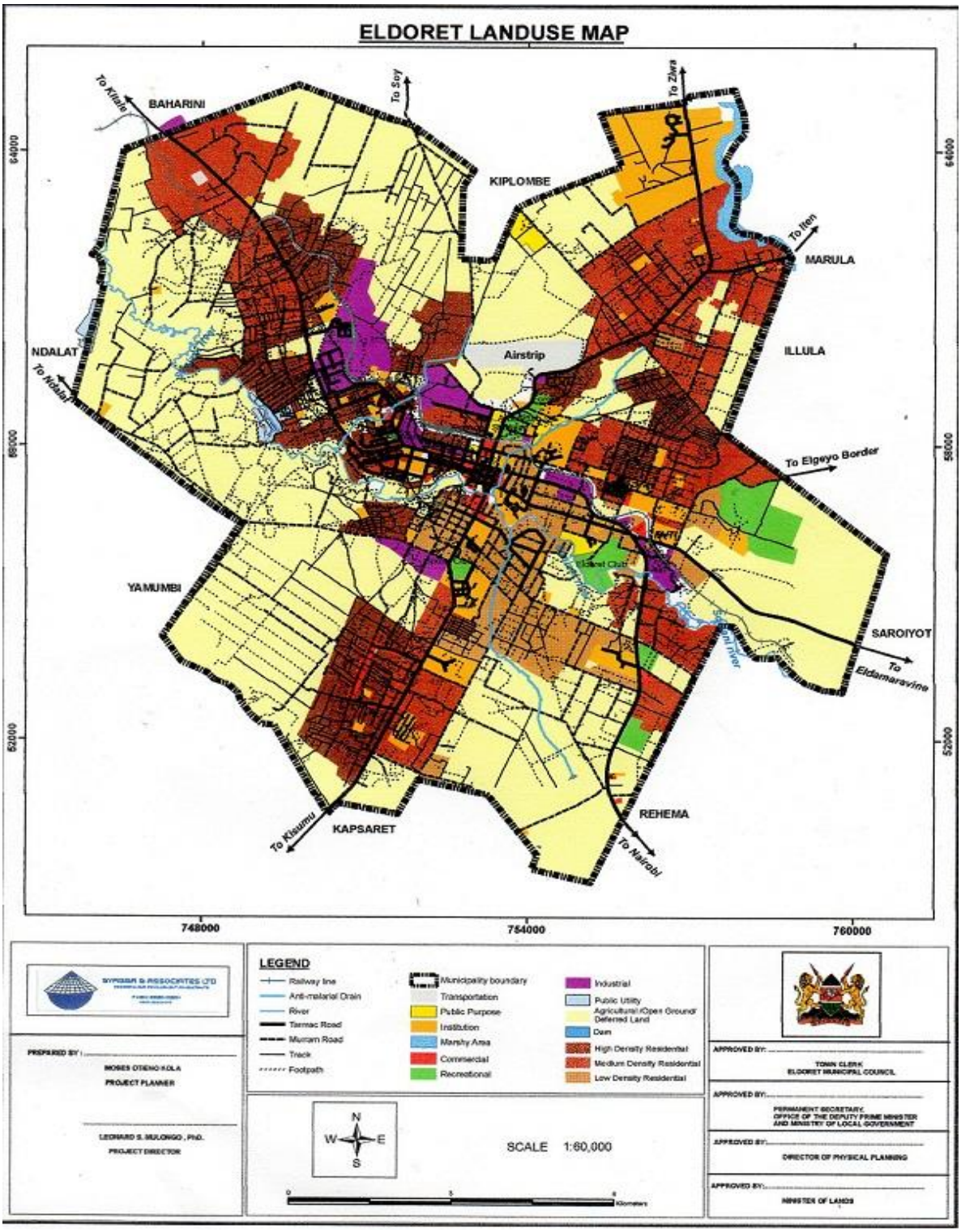

Figure 4.25: Eldoret Town's Land Use Plan. Source: Republic of Kenya, 2010

Figure 4.25 shows the latest Development plan for Eldoret town. The major proposals and recommendations for the new town plan include; increased housing supply, slum upgrading, delivery of community facilities and infrastructure, efficient transportation

planning, environmental protection, heritage conservation and economic investment strategy (Kenya, 2010).Currently the plan is under review for effective implementation.

When the County Government of Uasin Gishu came into existence, Eldoret town Interim land use regulations were formulated with the sole purpose of ensuring that there is orderly planning and coordinated development. Figure 4.26 shows an Interim land use plan for Eldoret Town which is proposed to be used as an urban development control tool.

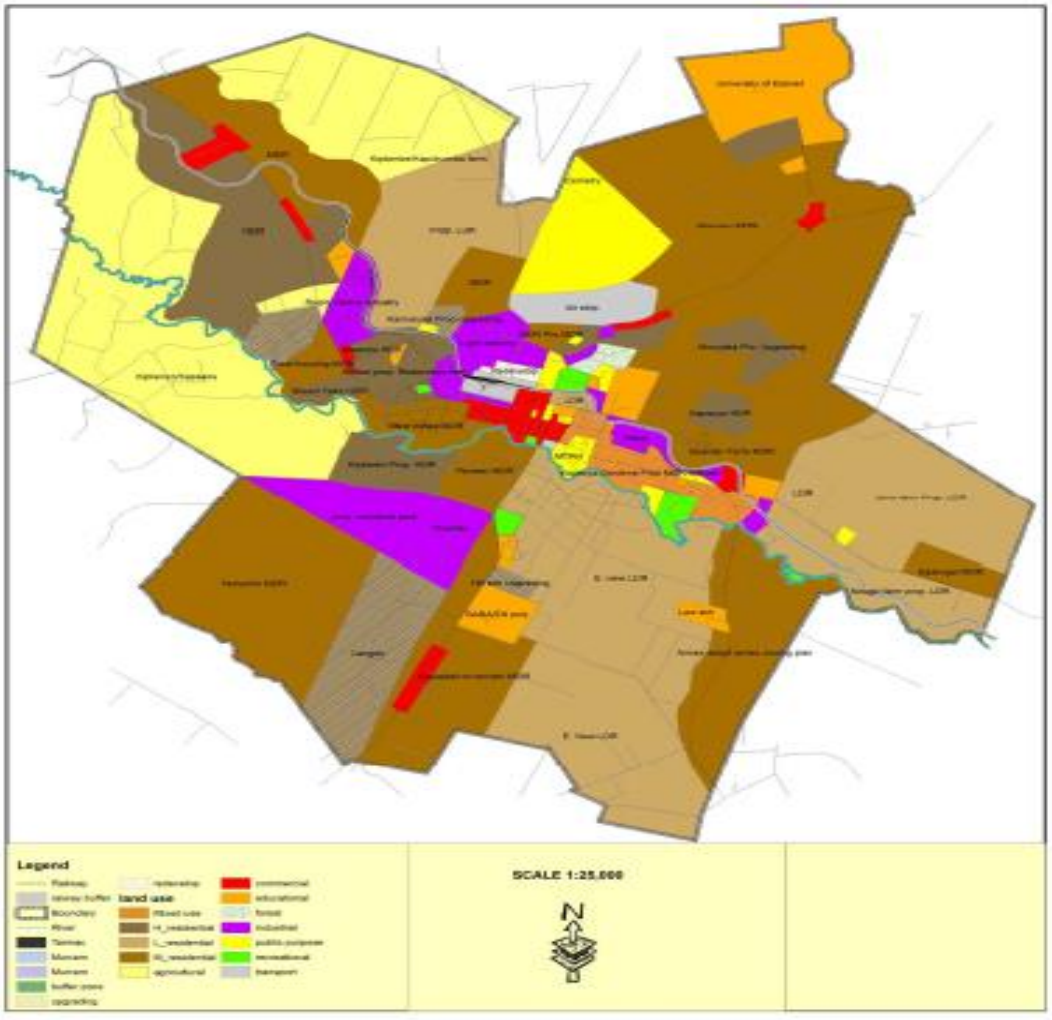

Figure 4.26: Interim Land Use Proposals for Eldoret Town. Source: CGU, 2014

The aforementioned spatial plans are used hand in hand with the statutory instruments that are described in Chapter two and which include; Physical Planning Act Cap 286, Eldoret Town By-Laws 2009, Public Health Act Cap 242, Roads Authority Regulations, The Department of Housing Regulations, Lands Act, 2012 and Land

Registration Act, 2012, Physical Planning Handbook 2007 and the Kenya Civil Aviation Authority Regulations. How are these instruments implemented? The County Government of Uasin Gishu has not constituted a Municipal Board as envisaged under the Urban Areas and Cities Act 2011 and as such the office of the town Engineer of the Defunct Eldoret Municipality plays a Key role in coordination of urban development control processes. For an applicant to process a development application, the following items must be provided;

i) Duly filled form PPA 1 ,
ii) 4 copies of drawings and specifications,
iii) Filled Circulation form,
iv) Copy of title Deed or proof of ownership,
v) Income Tax PIN certificate,
vi) Payment of approval fees,
vii) Clearance of rates certificated.

Once the applicant meets all the requirements, the County Government through the office of the Town Engineer circulates the application for comments to various entities before they are approved. Appendix V shows circulation form for comments. Figure 4.27 depicts an organogram for stakeholders who are involved in urban development control in Eldoret Municipality.

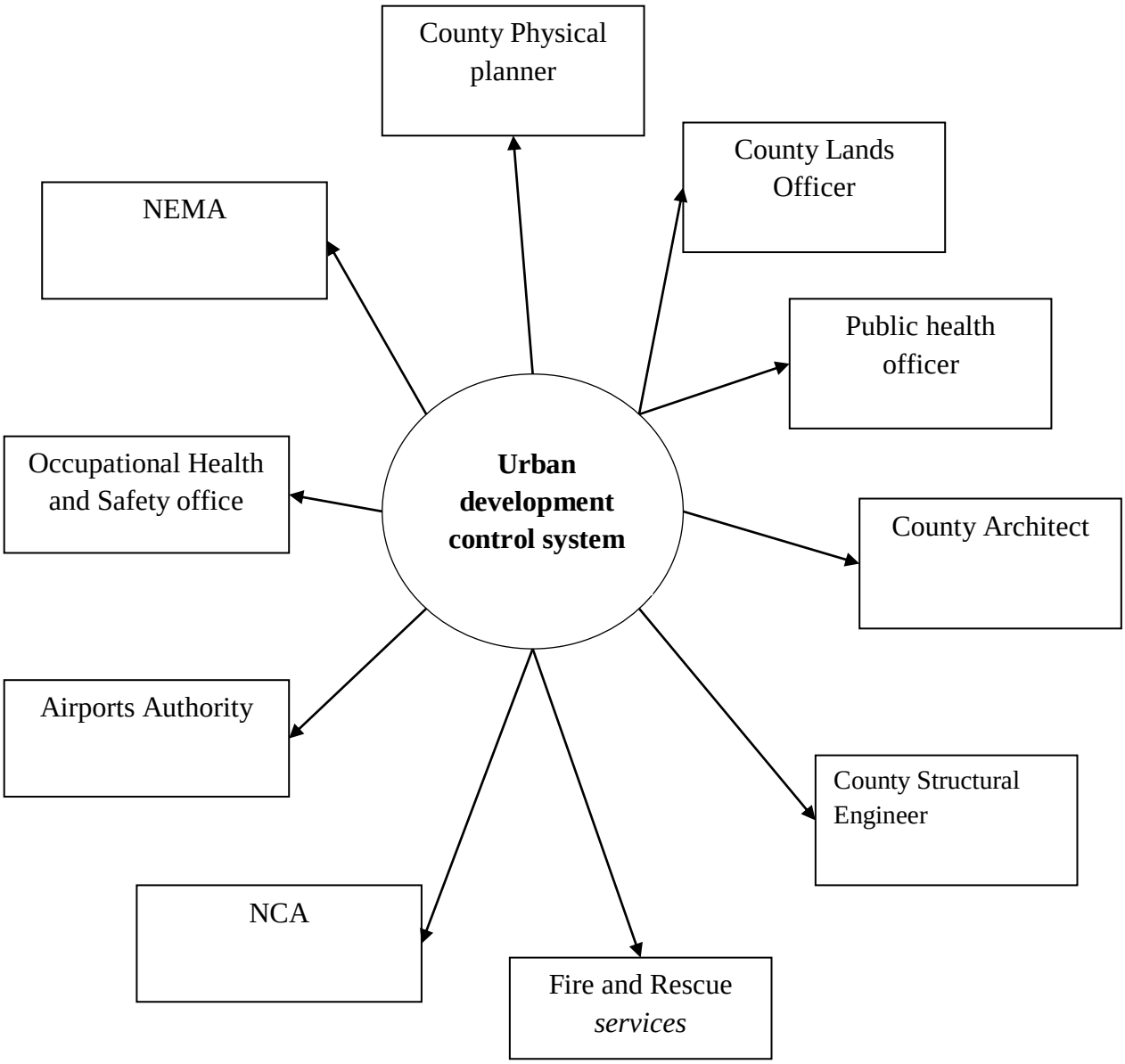

Figure 4.27 Urban Development Control Stakeholders in Eldoret Municipality. Source: Author's Design

Upon receipt of comments for development applications from various development control stakeholders, the County Government carries out an internal process of circulation of development applications to its various departments and sections including the Town Engineer, Town planner, Town Architect, Director of Environment and the Fire Department. These departments and sections constitute a Technical team that meets at least twice a month to look at all the development applications. The resolution of the technical committee of Eldoret town are ratified and adopted for implementation.

The owners are notified of development permission or approval through the use of form PPA 2 with or without conditions as specified in the fifth schedule of the PPA. The plans may also be rejected or deferred and as such reasons are given to the applicant through the same form. If the application is granted, the developer is allowed to carry out its development. The approval of development is legitimate for a period of 24 months. Figure 4.28 shows an approved building plan.

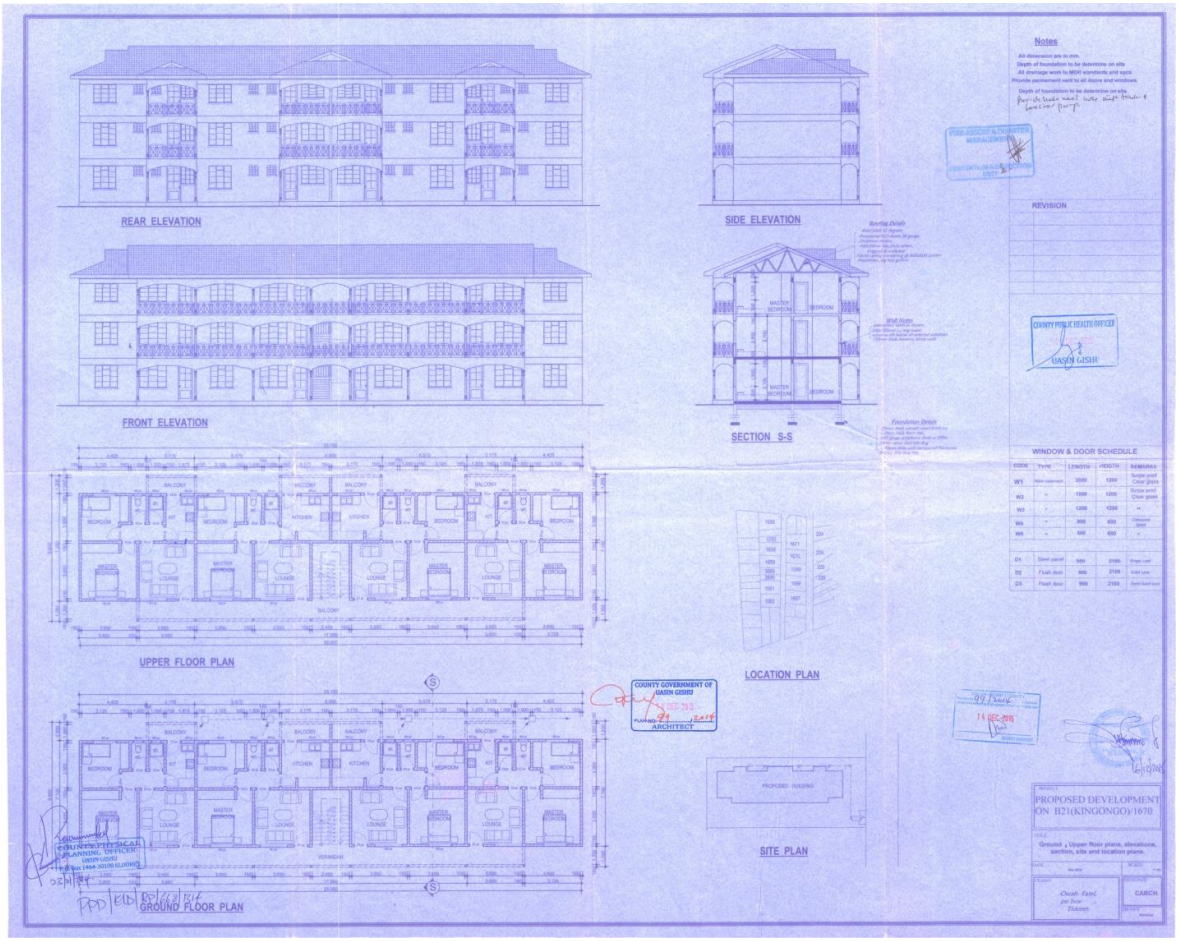

Figure 4.28 Approved Building plan showing Signatures of various Urban Development Control Institutions. Source; CGU, 2016

In the case of a building plan, a Job card or an inspection card is issued alongside with signed copies of drawings which bear the signatures of the Town Engineer and the Chief Public Health Office, and the CPPO. The Job card or the inspection card is a building control tool for monitoring progress of building construction to ensure conformance with approved plan and maintain high standards of construction in order to avert building collapse. It ensures that buildings are inspected at every stage of development from foundation excavation to completion of the structure. The

inspection of the building is done by Town Engineer for at least 11 times until the building is completed. A Certificate of occupation is issued under the Public Health Act Cap 242 while a Certificate of compliance (PPA 5) is given under PPA upon completion of the building development. Table 4.3 shows the impression of an inspection Job Card as used in monitoring of building construction.

Table 1. Building Inspection Job Card. Source: CGU, 2016

REPUBLIC OF KENYA

UASIN GISHU COUNTY GOVERNMENT

INSPECTION CARD FOR SINGLE STOREY BUILDING FORM 1A

Plot No.	Block No.	Parcel No.	Plan Reg. No.
			1714

Notice is hereby given that an inspection is required on item indicated 'X' in the space below.

Item	Main Building 'X'	SQ or G/H 'X'	Main Building Date & Signature	Servant Quarter/ Guest House Date & Signature
1. Foundation Excavation				
2. Foundation concrete and reinforcement (if any)				
3. Filling				
4. Damp Proof Course				
5. Reinforcement placed (Ringbeam/Lintol)				
6. Concrete after shuttering removed				
7. Walling Partitions				
8. Roof structure and Covering				
9. Drainage/Plumbing Installation				
10 Electrical Installations				
11 Sewer Connection				

NOTE

1. inspections are carried out by prior arrangements.
2. This card must be completed and delivered at least 30 hours before inspection is required.
3. Failure to give notice prescribed by the Building by-laws renders the person responsible liable on conviction to a fine not exceeding Shs. 2,000 or 6 months imprisonment or both in the case of a continuing offence to a further fine not exceeding Shs. 20/= for every day or part of a day during which such offence shall continue.
4. For Multi-Storey Building, Card IB must be completed together with this form for inspection of all floors.

Name of Owner _____

Address of Owner _____

P.T.O

It is notable that every institution that has urban development control jurisdiction has a number of tools in form of certificates or forms that are used for monitoring and evaluation of the manner in which plans are implemented. Table 4.4 provides a summary of the control tools and the corresponding urban development control institutions.

Table 4.4 Urban Development Control Tools. Source: Author's Document Analysis, 2015

Development control institution/ instrument	**Urban development control tools/Forms**	**Stage and process**
Physical Planning PPA, Cap 286	PPA 1: Comments sheet Application for development permission	Application/Submission
	PPA2: Notification /Approval Deferment/ Refusal of Development permission	Approval
	PPA 5:Certificate of Compliance	Completion of building
	PPA 8,PPA 9: Appeal against refusal to approve	Approval stage
National Environmental Management Authority (NEMA) EMCA, 1999	EIA project Report	Application
	EIA License	Approval
	EIA/ Audit	Operation
	Stop order	construction
	Public participation	Continuous
Eldoret Town BY-laws/ 2008 Urban Areas and Cities Act.	PPA 1: Application for development permission	Application/submission
	Application for approval of plans Form, Building by laws 1968	Application/submission
	Circulation Form	Circulation/approval
	PPA 2: Notification of approval, refusal to approval	Approval
	Job card/Building Inspection Card	Construction
	Occupation Certificate	Completion stage
Occupational Health and Safety Act 2007	Registration Form	Application
	Construction Form	Construction
	Self Assessment Form	Continuous
Public Health Act Cap 242	Application /site inspection Form	Application
	Occupation certificate	Completion
National Construction Authority Act 2012	Application Form	Application
	Occupation certificate	Completion

From the document analysis, there many tools of urban development control for application and approval of building plans. They range from seeking development application forms, construction, operational and completion stages. Every development control institution has its own tools of control which are more or less similar and serve the same purposes. Physical Planning Department issues compliance certificate (Form PPA5) while the Public Health and the Town Engineer's Department gives out certificates of occupation. The two development control institutions issue the same document in different formats at the stage when building construction has been completed.

4.7 Effectiveness of urban Development Control Instruments

The effectiveness of urban development control was measured by examining levels of compliance with urban development control standards, awareness levels of urban development control instruments by respondents, rating of performance of urban development control institutions, timeliness and cost effectiveness of urban development control processes, as well as determination of urban neighbourhood zone and plot quality.

4.7.1 Awareness of Urban Zoning Standards

In determining the effectiveness of urban development control instruments, the study tested the awareness level of households through in-depth interviews, to find out whether they had sound knowledge of their neighborhood zone, planning and development standards, prior to submission of development application for building plans for approval.57% (102) of the respondents said they were aware of the zoning standards of their areas while 43% (78) were ignorant about them. Out of the respondents interviewed in the selected research sites; Elgon view had the highest level of awareness 88% (29), followed by Langas 76% (29) , Maili Nne at 23% (15) and Kimumu with 66% (29).Figure 4.29 shows awareness of planning and development standards of respondents prior to plan submission for approval.

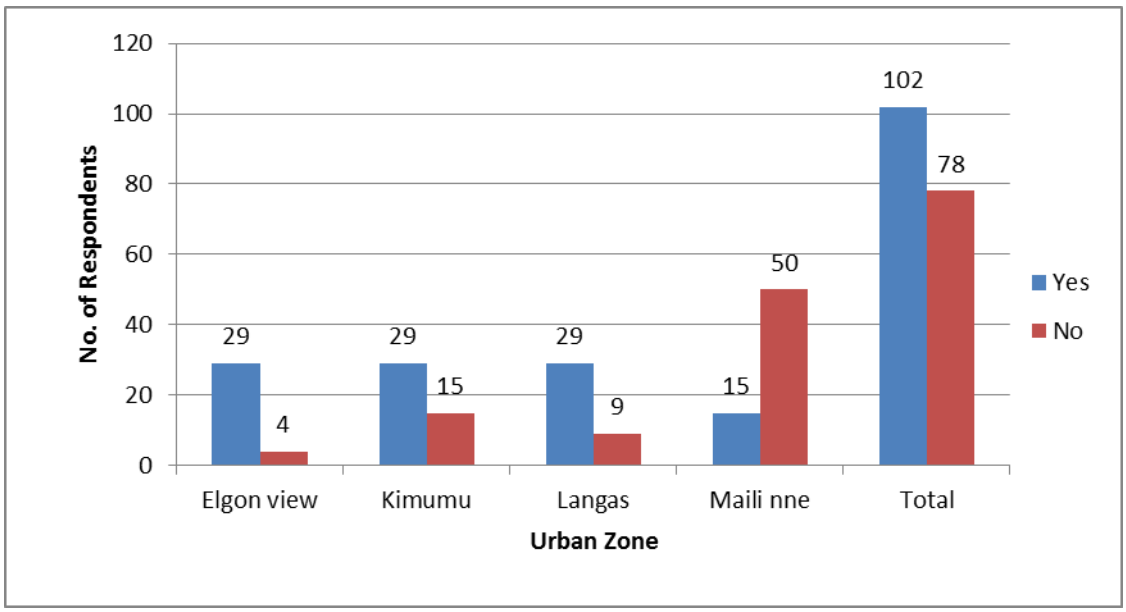

Figure 4.29 Awareness of Urban Development Control Instruments. Source: Field Data

4.7.2 Time Taken and Cost of Processing Development Applications

The study sought to analyze the duration taken by the applicants and the corresponding cost of processing applications and established that the majority of the respondents took between 1-5 days to get recommendations and approvals from various urban development control institutions of which 69.3% (79) of the respondents said it took them between 1-5 days for Physical planning office to grant approval compared to 40% (57) at Engineers Department. Figure 4.30 gives a summary of the duration taken to process building plan application.

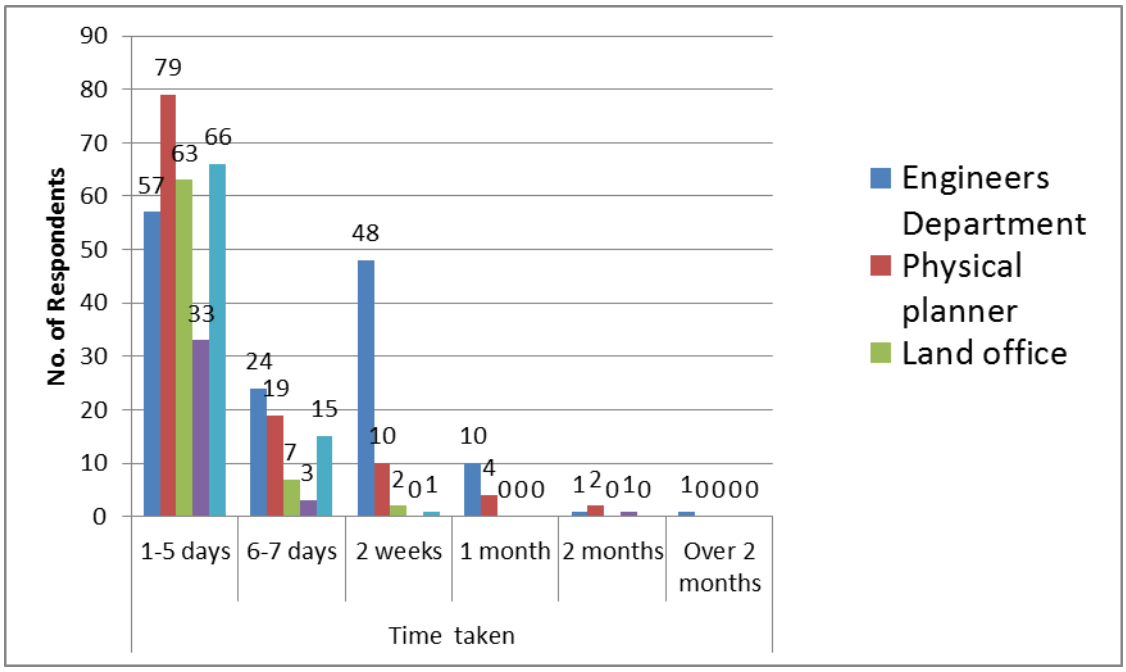

Figure 4.30: Time Taken to Process Application. Source: Field Data

4.7.3 Number of Times Building was inspected

Inspection of buildings during the different stages is crucial in that it prevents poor workmanship and also ensures that the approved plan is adhered to by the developers. Cases of buildings collapsing in the process of construction or after completion may not arise if buildings under construction are inspected regularly. Figure 4.31 shows the number of times when the building was inspected according to the selected respondents.

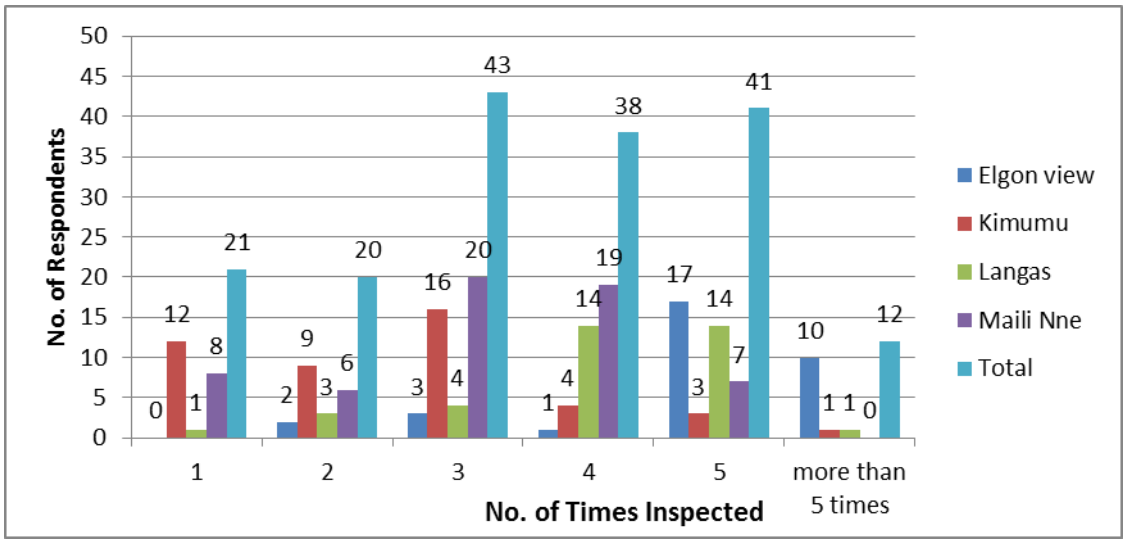

Figure 4.31: Number of Times Buildings were inspected. Source: Field Data

Based on the Figure 4.31, it can be seen that the buildings which were inspected less than 5 times were 122 (70%) while the buildings that were inspected more than four times were 53 (30%).Elgon View seems to have the highest number of buildings inspected more than 4 times. Elgon View also had only two buildings which were inspected less than 3 times while Kimumu had 21, Maili Nne, 14 and Langas 4. In general, most buildings in Kimumu and Maili Nne were inspected between 3-4 times while most buildings in Langas were inspected at least 4-5 times.

4.7.4 Compliance with Building Lines

To ensure compliance with building standards as stipulated by the codes and the Physical Planning handbook, maintenance of a minimum setback of 2.5m and building line of 3m was used as a compliance yardstick. The study established that 12% (19) of the respondents had violated a minimum of 3m building line requirement and went ahead to carry out development within the boundary between the frontage and the edge of the road. Similarly 49% (80) of buildings had encroached on the distance between the fence on both sides of the plot and walls of the buildings (setbacks).Some developers had built from beacon to beacon and within their property boundaries. In terms of compliance with minimum 3m requirement on the building line of frontage side; all the respondents (33) in Elgon view had 100% compliance, followed by Maili Nne 95%,Kimumu at 84% and Langas at 74%.The level of compliance was generally found to be very high for the frontage side of observation

of 3m requirement ,compared to maintenance of the distance between the walls of the building on elevation sides and plot boundaries (setbacks) which stood at 89% (145) compliance in Elgon view,50% (33) in Maili Nne,47% (38) in Kimumu and 27% (29) in Langas. Figures 4.32 and 4.33 provide a glimpse of the level of compliance of developments with building lines and setbacks of the selected urban zones.

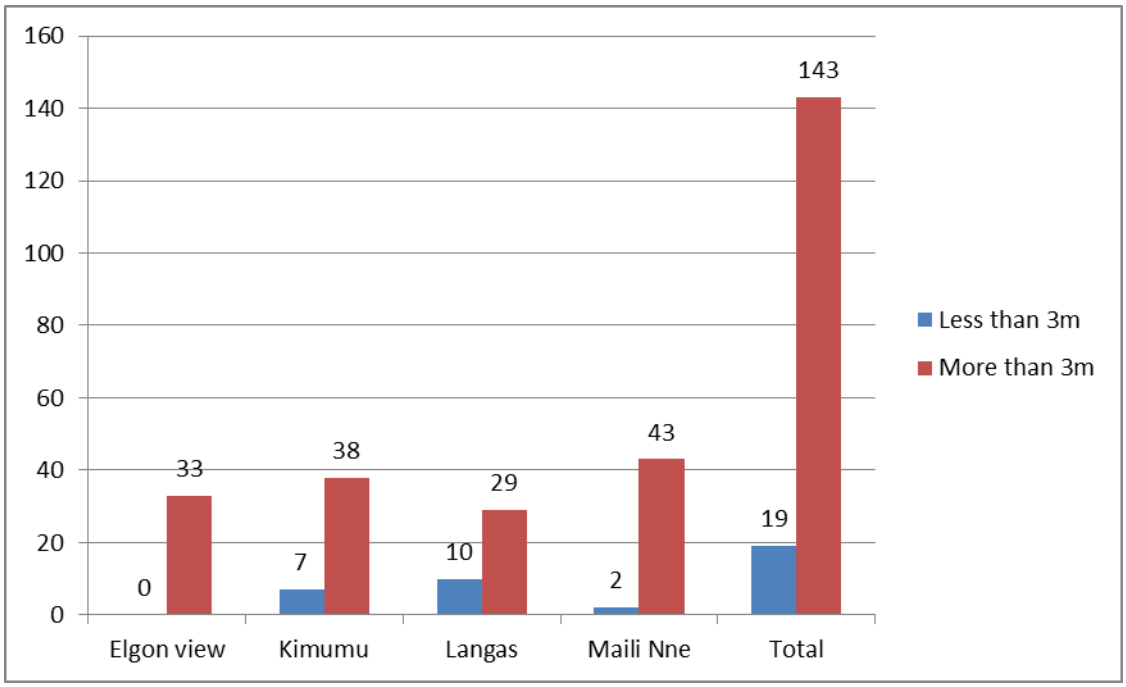

Figure 4.32: Compliance with Building Lines. Source: Field Data

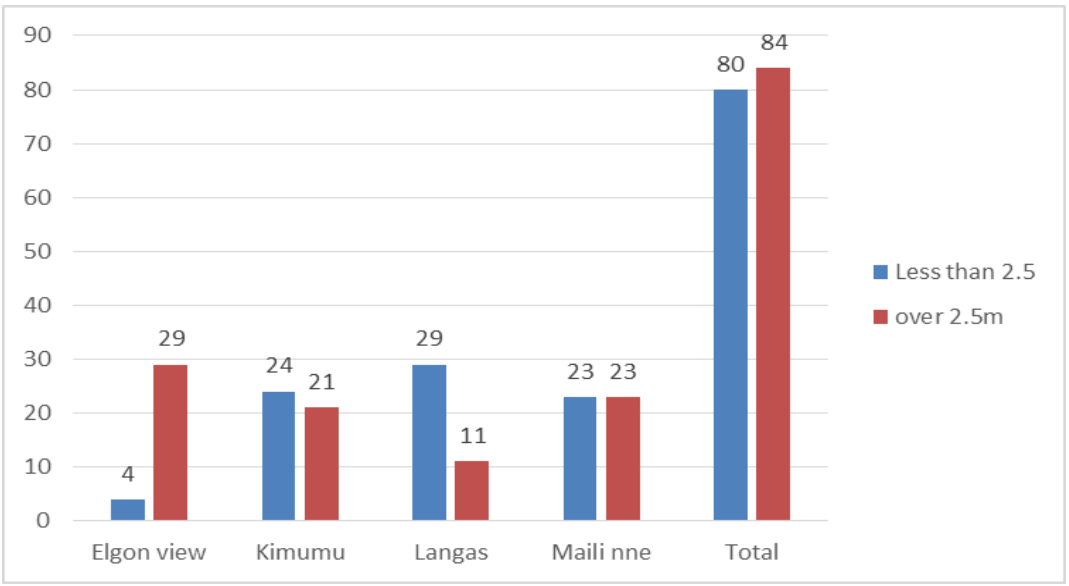

Figure 4.33: Compliance with Setbacks. Source: Field Data

4.7.5 Status of Approval of Perimeter Fences and Other Existing Developments

In trying to find out the effectiveness of urban control instruments, the study inquired from the respondents if the type of fences they had in their plots, had been approved or not. Also the study sought to determine whether other structures exists in their properties, like watchmen structure, cow sheds, poultry house and structure for parking vehicles are available and whether they had been approved. The findings are presented in the Figures 4.34 and 4.35 below;

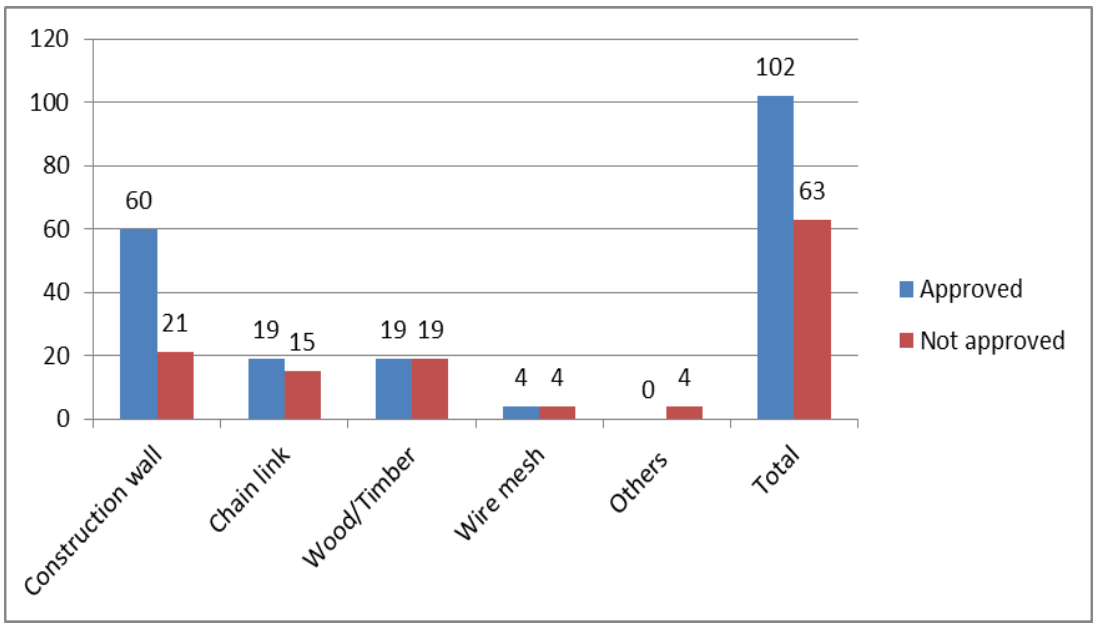

Figure 4.34: Status of Approval of Perimeter Fences. Source: Field Data

From Figure 4.34, the total number of the different types of fences which were approved in all the four neighbourhoods was 62% (102) while 38 % (63) are not approved.

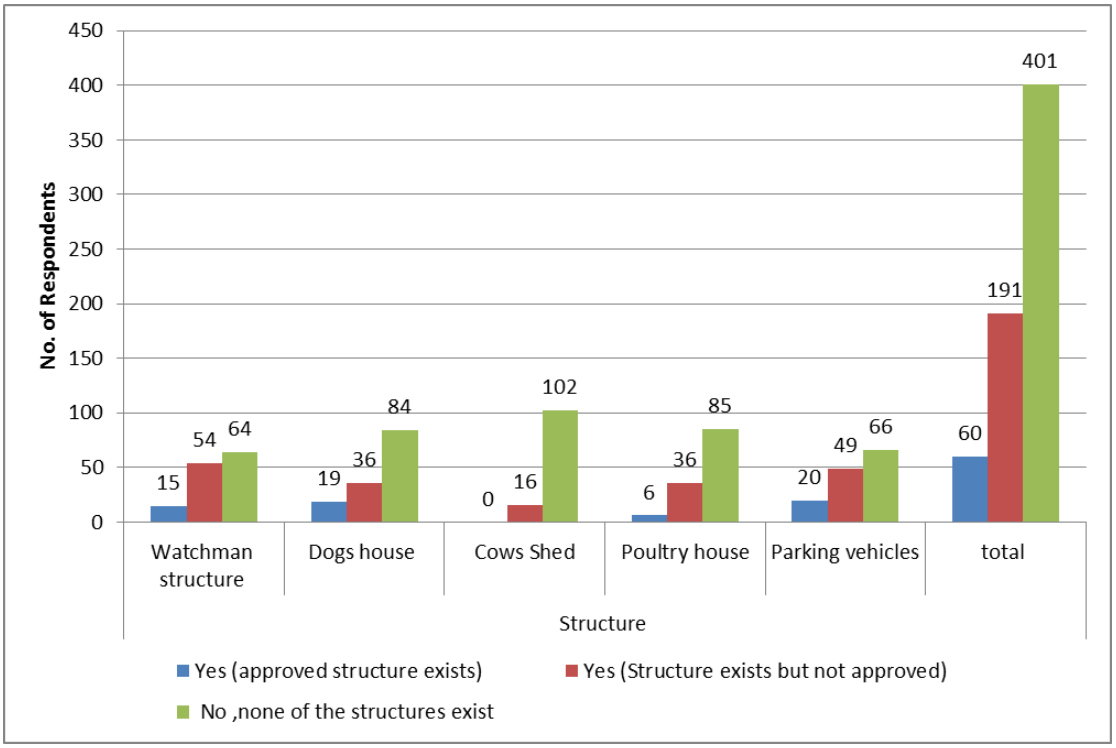

Figure 4.35: Presence of other structures within plot. *Source: Field Data*

From figure 4.35, it can be noted that 41% (54) of respondents have a structure for a watchman's house, which had not been approved, with only 11% (15) saying they have a watchman structure which had been approved. Generally most structures for dogs, cows, poultry and for parking of vehicles existing within the plots are not approved.

4.7.6 Variation between Approved Plan and Completed Building

The study established from the respondents whether they had carried out any changes or amendments in the building plan on the ground during the process of building construction, 11% (19) of respondents said they changed the design on the ground while 89% (161) complied with approved building plans. The analysis of the urban zone compliance rate indicated that Maili Nne zone had the highest level of compliance at 92% (58), followed by Elgon View 91% (29) Langas 89% (34) and Kimumu at 85% (40).Figure 4.36 indicates the Variation between Approved Plan and Constructed Building.

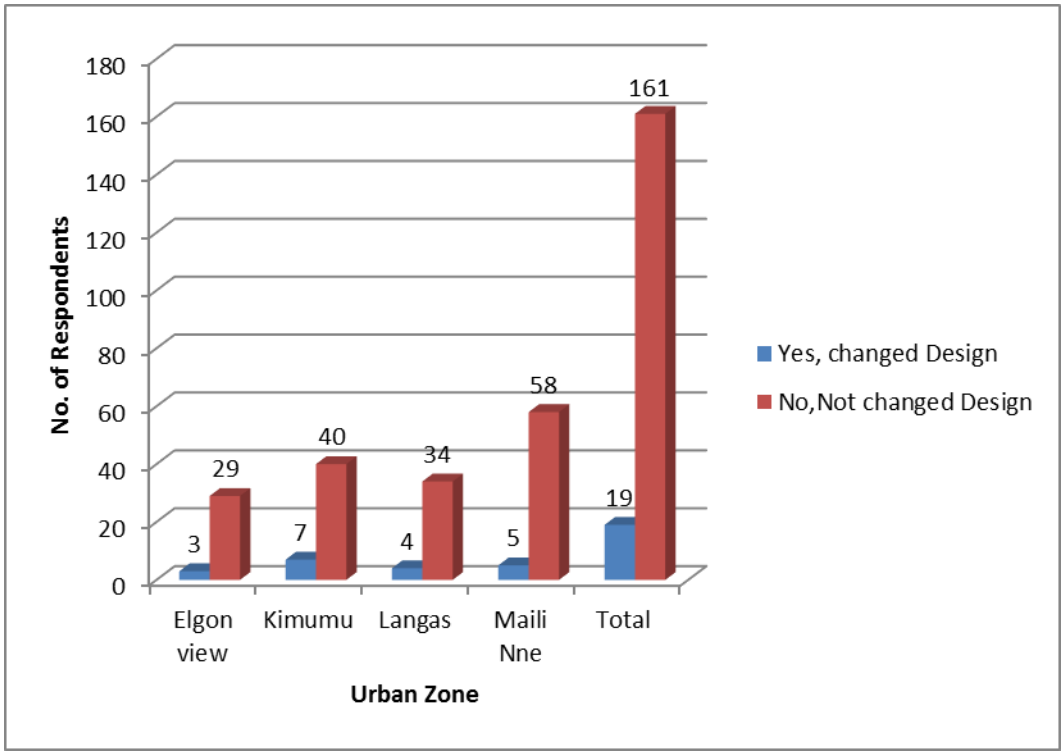

Figure 4.36: Variation between Approved Plan and Constructed Building

4.7.7 Presence of Illegal developments in the Urban Zone

The presence of illegal developments in an area is a clear pointer to non-compliance with the urban development control instruments. A general question was asked to the households to indicate from their own assessment whether there is an illegal development somewhere within the vicinity of their neighbourhood. Figure 4.37 gives a graphical representation of the perceptions of the respondents on the existence of illegal developments within their respective neighbourhood zones.

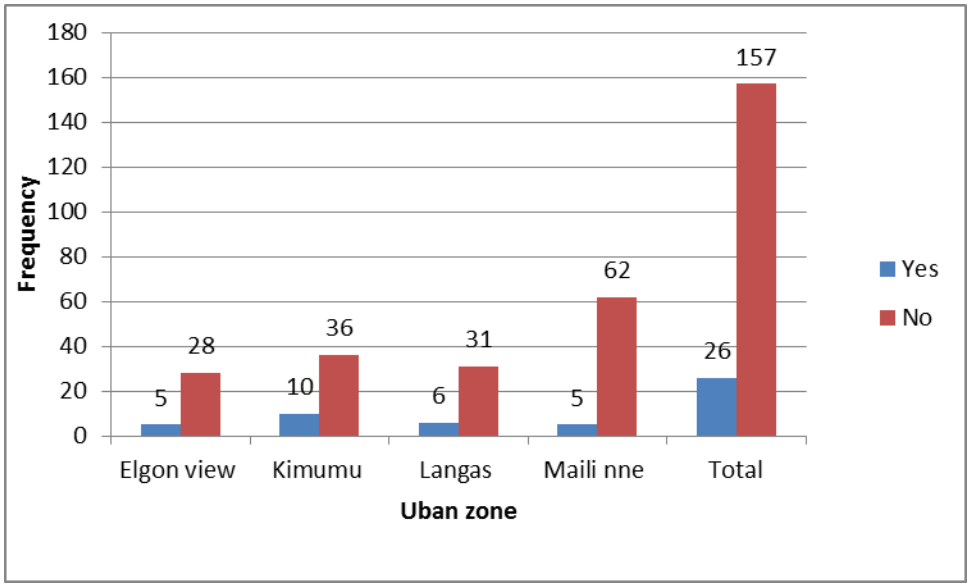

Figure 4.37: Variation between Approved Plan and Constructed Building.Source: Field Data

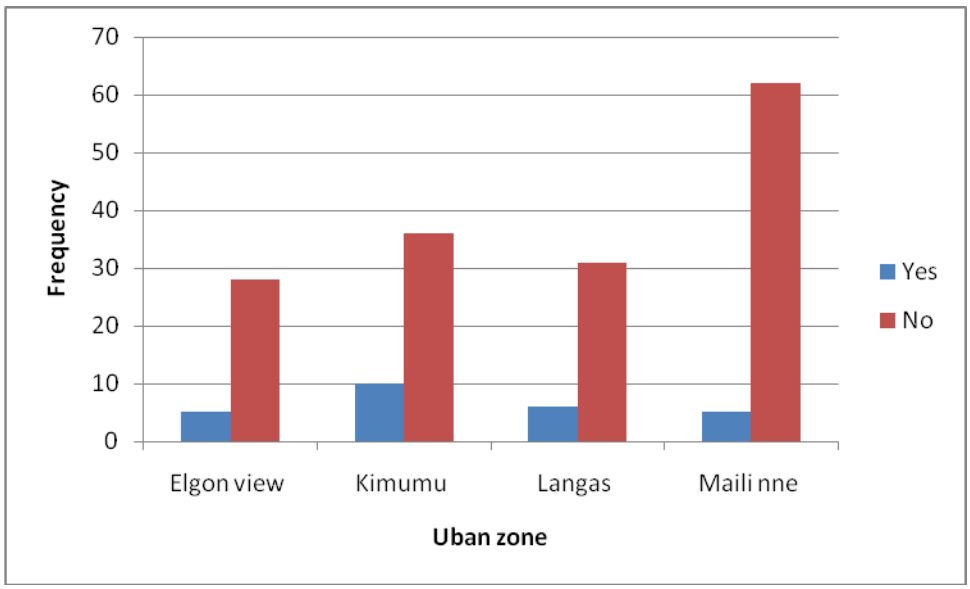

Figure 4.38: **Presence of illegal Developments in a Zone**

Source: Field Data

From the bar graph, it can be seen that 26 (14%) respondents said that there are structures which they felt were illegal and they were not happy with in their respective urban zones, while 157 (86%) said there are no illegal structures in their neighbourhood zones.

4.7.8 Complaints against Illegal Developments

Respondents were further probed on whether they have experienced cases of bad neighbour developments (NIMBY) or illegal developments which had sprung up within their surrounding environments and to find out actions which they had taken.8% (15) of the respondents said they had advocated for demolition of discordant development within their immediate neighbourhoods. Majority of the complaints hailed from Maili Nne 47% (7), 27% (4) from Elgon View, 20% (3) from Langas and 6% (1) in Kimumu. Figure 4.38.Shows the number of respondents who had registered their complaints to the Municipality about eyesore structures or incompatible developments within their respective urban zones.

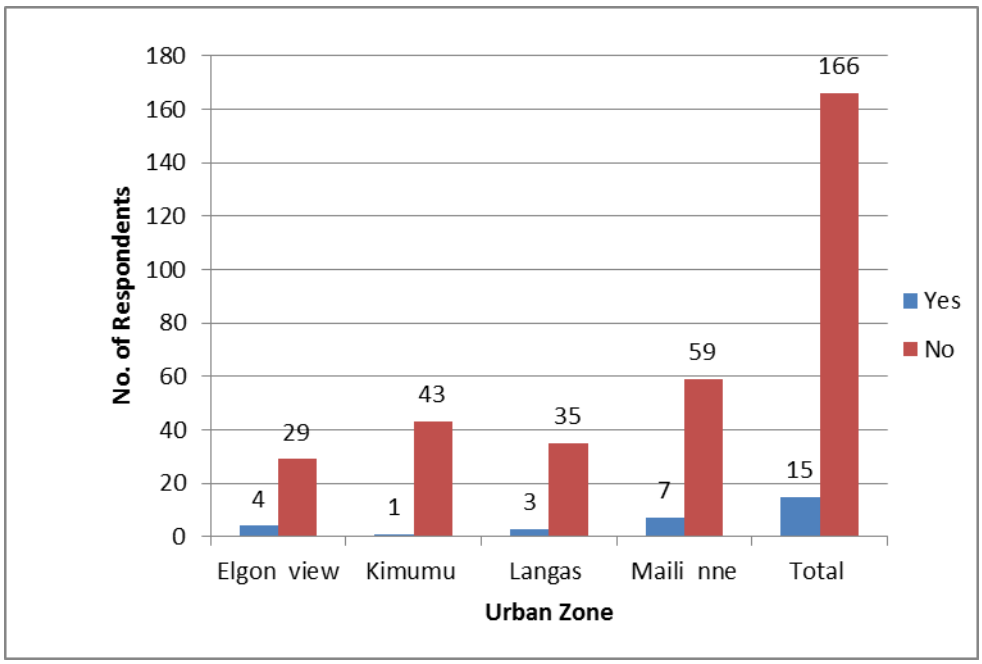

Figure 4.39: Complaints Against Bad Neighbour developments. Source: Field Data

4.7.9 Changes in Neighbourhood Zoning Standards

The study sought to analyze the feelings of residents on the urban zone dynamics and as such respondents were asked whether they would like their planning and development standards to be changed.27% (48) of the respondents needs a review of zoning standards of their neighbourhoods, while 74% (133) opposed any amendments of the planning and development standards. Majority of respondents who needed

change were from Langas, with 48% (23), compared with 100% (0) of respondents in Elgon View who wanted to maintain the status quo. Figure 4.39 shows the respondent's views on the suggestion to change the zoning standards.

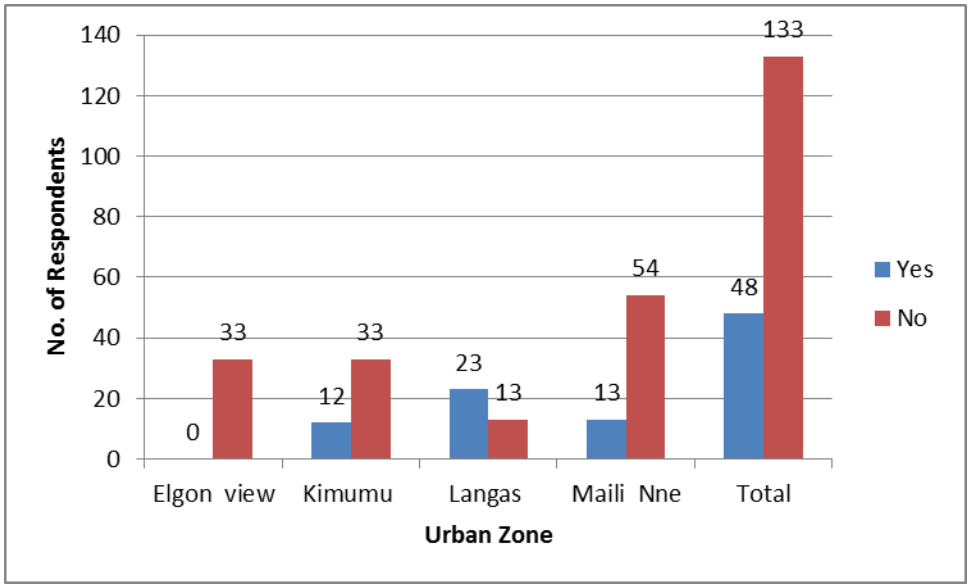

Figure 4.40: Whether Development Standards should be changed in a Zone.Source: Field Data

4.7.10 Performance Rating of urban Development control Institutions

The study examined the effectiveness of urban development control institutions by asking the respondents to rate the overall performance of the various urban development control institutions as they processed their building plans. Individual respondents rated urban development control institutions and the findings are shown in the figure 4.40.

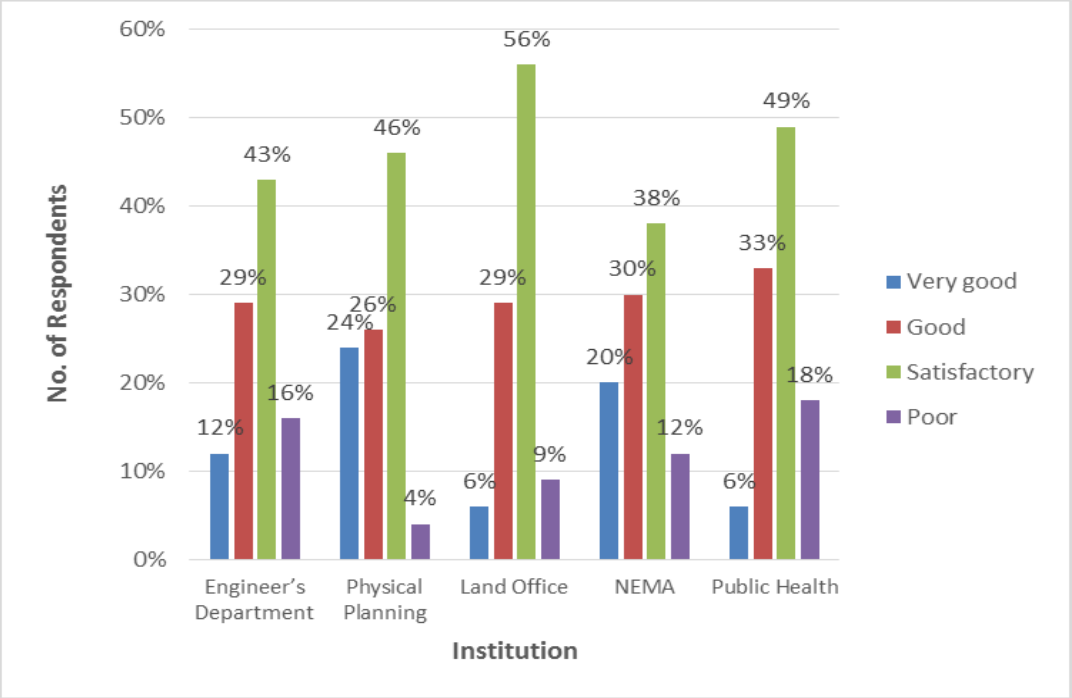

Figure 4.41: Performance Rating of Urban development control institutions. Source: Field Data

The Figure shows that Physical planning office was rated by majority of respondents as very good 42 (24%), followed by NEMA 16 (20%), and the Engineer's Department at (12%) 22.Engineers Department had the highest number of respondents who rated it as poor at 16% (39) followed by Public Health and NEMA at 18% and 12% respectively; Lands office at 9% and Physical Planning at 4%.

4.7.11 Rating of Neighbourhood Zone Quality

With effective urban building developments controls, neighbourhood zone residents will be happy with their environments if all the structures will be of high standards and enhances aesthetic qualities that create a serene area. Haphazard developments and illegal structures contribute towards lowering of property values of neighbourhood zones. Respondents were asked to state their rating of their urban neighbourhood zones according to the variables of; poor, satisfactory and good. Figure 4.41 presents the findings of the assessment.

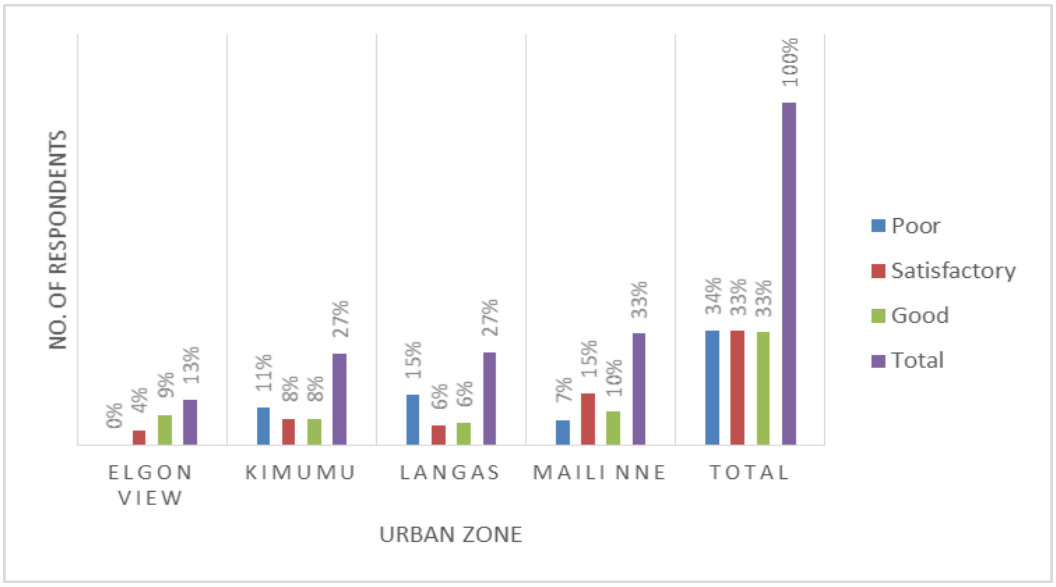

Figure 4.42: Rating of Neighborhood Zone Quality. Source: Field Data

From the Figure, 33% of the respondents rated their neighbourhood zone quality as good, while 33% rated theirs zone as satisfactory. Those who rated their urban zone quality as poor were 34%

4.7.12 Effectiveness of urban development control instruments according to professional Designers

The professional Designers in the built environment and who are well conversant with urban development control instruments were asked to give their opinions on the effectiveness of these instruments in controlling urban development. The findings are shown in the Figure 4.42.

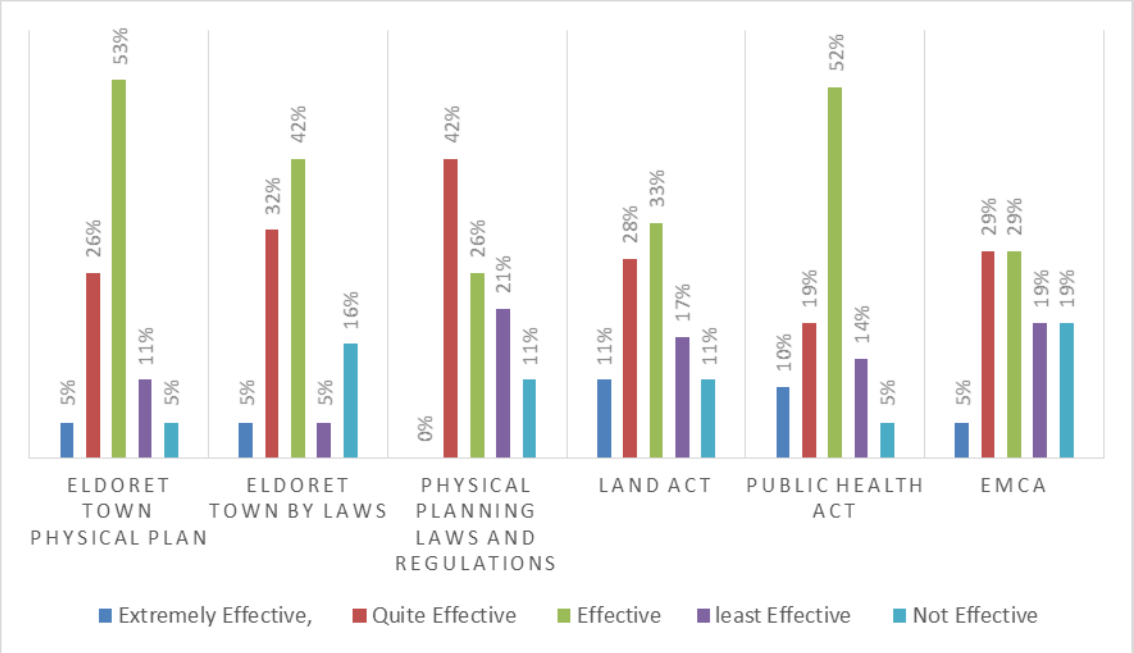

Figure 4.43: Level of Effectiveness of urban development control instruments according to practicing Professional Designers. *Source: Field Data*

From the Figure, it can be observed that the Physical planning laws and regulations as instruments of development control have no respondents who said that they are extremely effective, while EMCA had the highest number of respondents (19%) 4 who noted that it is not effective. The land Act and the Public Health Act have the highest number of respondents at (11%) 2 and (10%) 2, respectively who mentioned that they are extremely effective.

4.7.13 Resolution of Urban Development Control Cases in Court

The County of Uasin Gishu and the Judiciary have set up a court that specifically determines cases relating to violation of urban development control instruments and practices and such other offences such as hawking and quarrying. As an example in one year 2014/2015 working period, there were a total of 147 cases recorded in the Municipal court for persons who were caught building without authorization. How were the cases determined? The charges for 147 defaulters were read as follows;

"*the persons were found carrying out development within the Municipality without authority contrary to section 30(1) as read with section 30(2) of the PPA Cap 286 and the Municipality of Eldoret by laws 2009*"

It should be noted that two systems of laws are applicable in the Municipal court of Eldoret, the PPA cap 286 and the Municipality of Eldoret laws of 2009.Out of the 147 defaulters taken to court 52% (77) were fined with the option of being jailed for terms ranging from 30 days to 9 months; 7% (10) were discharged; 19%(28) of the cases were withdrawn; 22% (32) had no records on the fate of the cases. Figure 4.43 shows how development, control related cases were adjudicated at Eldoret Municipal Court in 2014/2015 period.

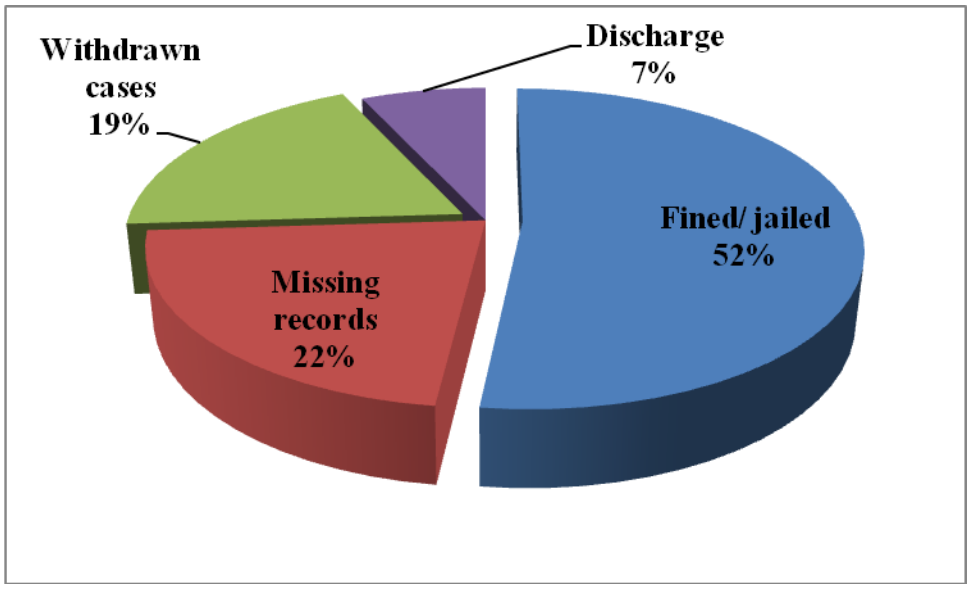

Figure 4.44: Verdicts of Urban Development Control Cases in 2014/2015.
Source: CGU Municipal Court, 2015

For the cases that went through the legal process to the logical conclusion, the fines which were meted out to defaulters ranged from one thousand Kenya shillings (Kshs.1,000) to seventy thousand Kenya shillings (Kshs.70,000).In all the cases concluded, the court gave options of a jail term ranging from 30 days to 9 months. Figure 4.44 shows the range of fines that were given to defaulters.

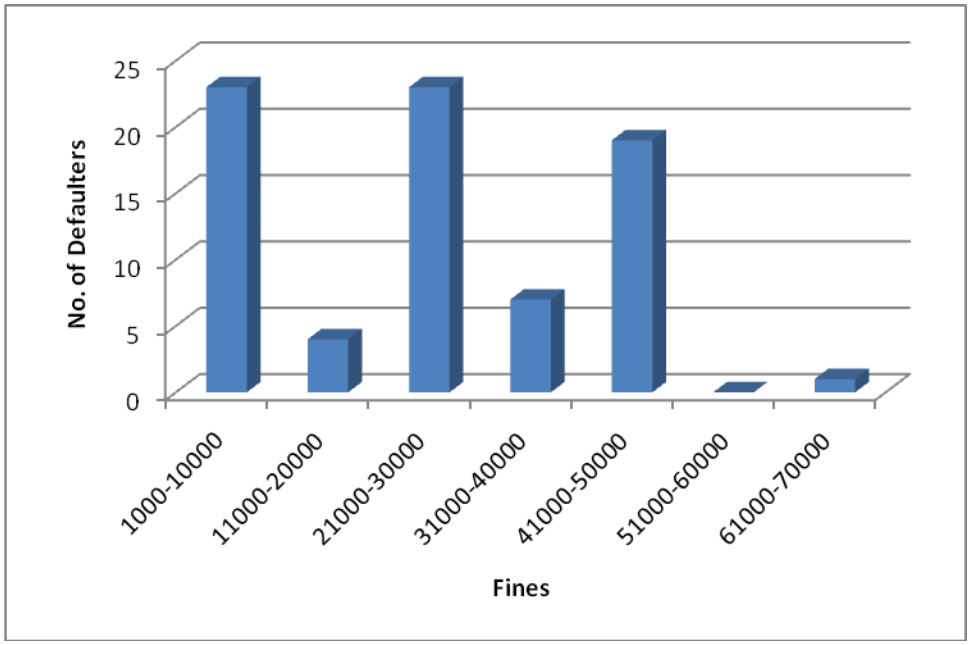

Figure 4.45: Fines in Kenya Shillings Against the Number of defaulters in 2014/2015. Source: CGU Municipal Court, 2015

From the figure, it shows that the majority of the defaulters were fined between one thousand Kenya shillings (Kshs.1000), and fifty thousand Kenya shillings (Kshs.50, 000), for carrying out building constructions without approval.

4.8 Challenges of the Application of Urban Development Control instruments and practices in Eldoret Town

The third objective was to examine the challenges associated with the application of urban development control tools in Eldoret Municipality. The guiding research question was "What challenges are associated with the usage of urban development control tools by UDC institutions and the applicants? 'The data from households, FGD and from urban development control institutions were used to answer the question.

4.8.1 Challenges faced by Respondents while processing development applications

The respondents were asked to state the challenges which they faced while processing their applications for building plans in the different urban development control institutions with mandate to approve building plans. Their responses were as indicated in the figure 4.45.

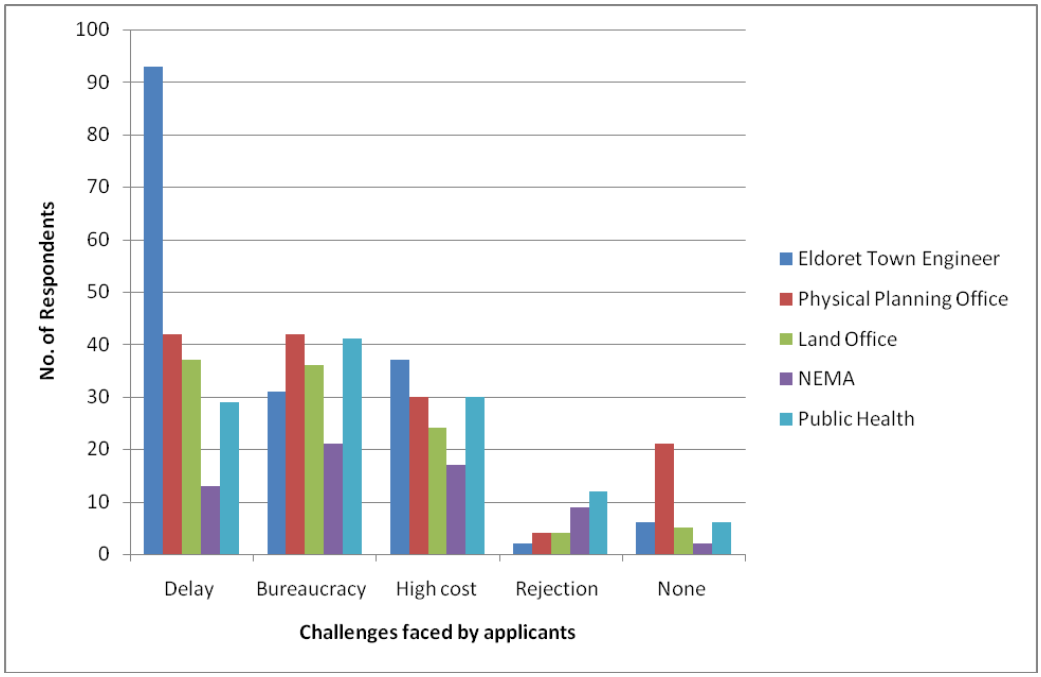

Figure 4.46: Challenges faced while Processing Building plans. Source: Field Data

4.8.2 Inordinate Delays

It can be observed from the table that inordinate delay is one of the greatest challenges faced by many respondents was 55% (93) when processing developments applications at the Eldoret Town Engineer's Department in all the neighbourhoods. The FGD and the respondents concurred that there is inordinate delay in getting applications sanctioned.

4.8.3 High cost of processing of Development Applications

Another challenges faced by respondents while processing development applications is that of high costs which was considered as an issue by (22%) 37 of the respondents. A question was asked to the respondents on how much they had spent on building plan drawings and specifications, of which it was indicated that the cost of seeking development permission was prohibitive according to all FGD's held. Figure 4.46 and 4.47, shows the costs incurred by the target respondents on Professional fees payable to Private Practicing Designers and for Approvals.

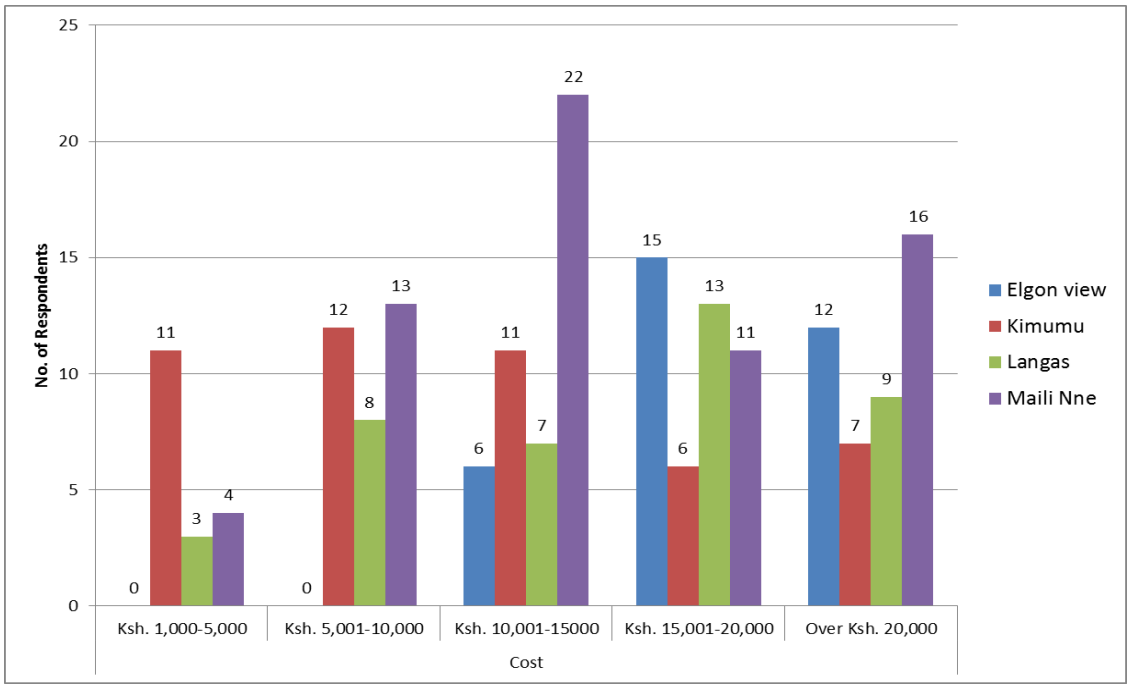

Figure 4.47: Cost of Building Plan Drawing. *Source: Field Data*

In fact, majority of the respondents interviewed (76%) said that they spent between Kenya Shillings 10,000-20,000 on professional fees charged by Private practicing designers for drawing of building plans, while majority of the respondents (94%) again said they spent between Kenya shillings 1000- 5000 on approval fees for each of the listed urban development control institutions in Eldoret Town including Physical Planning, Ministry of Lands, NEMA and Public Health Offices.

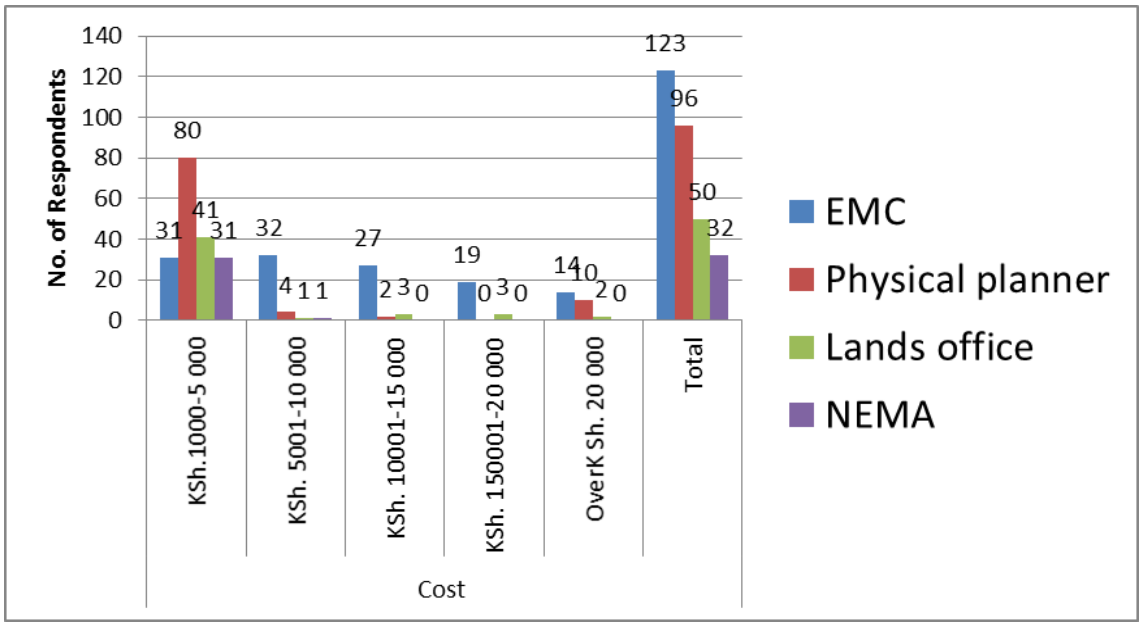

Figure 4.48: Average Cost of Plan Approval. Source: Field Data

According to each of the Urban Development control institutions identified; the breakdown of the minimum fees and charges to be paid by the applicants requiring development permission is as stated in table 4.5.

Table 4.5 Minimum Fees and Charges of Urban Development Control Institutions Source; Compiled from Various Urban Development Control Institutions, 2016

S/No	Urban Development Control Institution Department/Stakeholder	Type of Fees	Unit Cost(Ksh)	Total (Ksh)
1	Physical Planning	Application Form PPA 1 Scrutiny Fees	500 1200	1700
2	Engineer's Department	Submission Forms Structural Form Structural Fees(plinth area by 10 Ksh Rates Clearance	500 500 1000 2600	3200
3	Public Health	Building Inspection fees Sanitation Fees	1000 1000	2000
4	Occupational Safety and Health Department	Registration of Site Fees OSHA Fund Approval fees	2000 3000 600	5600
5	NEMA	EIA fees(0.1% of project cost) Lead Expert Fees	10,000 30,000	40,000
6	Lands	Approval Fees	2,000	2,000
7	National Construction Authority	Approval/Inspection Fees(0.5% of project cost)	25,000	25,000
8	Practising Designer's	Drawing Fees	8,000	8,000
	Total Cost			**87,500**

From the table above it is evident that if all the processes are followed in each of the urban development control institutions in Eldoret, it would cost developers and proponents a minimum of about Eighty seven thousand, five hundred shillings (Ksh 87,500) for a development to go through a full cycle.

4.8.4 Bureaucracy

Bureaucracy and merry- go- round process was cited by 18% of the respondents as problem. Bureaucracy or red tape was found to be what developers and proponents are evading. According to the FGDs, there are too many procedures and processes that must be followed in each urban development control institution in order to get the plans approved.

4.8.5 Lack of Awareness

Some people within Eldoret Municipality are not aware of urban development control instruments and practices. The study revealed that 57% of the respondents were aware of planning and development standards of their urban zone while 43% of the respondents were ignorant. During the FGD, it came out clearly that most applicants think that a temporary or a semi-permanent kind of structure is exempted from approval and that one applies for development permission when a permanent structure is to be erected.

4.8.6 Corruption

The findings from FGD revealed that there is need to embrace the virtues of good leadership and management in matters pertaining to urban development control in Eldoret Municipality. It was also pointed out that there is sometimes a human factor in plan approval process in the Municipality. For a plan to be passed, it is believed that in some cases one has to go through a politician or a County official who may require an inducement for the plan to be accorded approval. It was pointed out by the FGD that sometimes plans are rejected by some approving authorities not on the strength of professional considerations, but because the plans were designed by outsiders like the Practising designers. It is again believed that if plans are drawn by approving officials in the County, the plans are approved very fast, and hence there is a conflict of interest in plan design and approvals in the County. The FGD also highlighted that some developers carry out construction activities simply because they see others erecting building structures without development permission. Others carry out construction activities at night or over the weekends to evade the County enforcement team. This kind of construction with impunity is triggering non-

compliance with urban development control instruments and practices in Eldoret Municipality.

4.8.7 Insecure land Tenure

The FGD gave an indication that the people who occupy land with insecure tenure including squatters do not comply with urban development control standards and procedures. This is because it is a requirement that one must first proof ownership of the property either through production of a copy of the title deed, official search or an agreement which is lacking in areas with complicated land tenure arrangements. Majority of the people who do not comply because of insecurity of land tenure live in the informal settlements of Langas, Munyaka and Kamukunji areas of Eldoret Town.
The Environment and Land Court is a special court that deals with cases touching on the Environment and Land. There are many land disputes and cases in Eldoret town that inhibit town's growth. Where there are disputes people build haphazardly or on temporary basis for fear of being evicted. In 2012, the Environment and Land Court registered 1021 land related cases; and 554; 378 and 242 land cases in 2013, 2014 and 2015 periods respectively. Figure 4.48 shows the number of cases received in the Environment and Land Court that have a bearing on urban development control system in Eldoret Municipality.

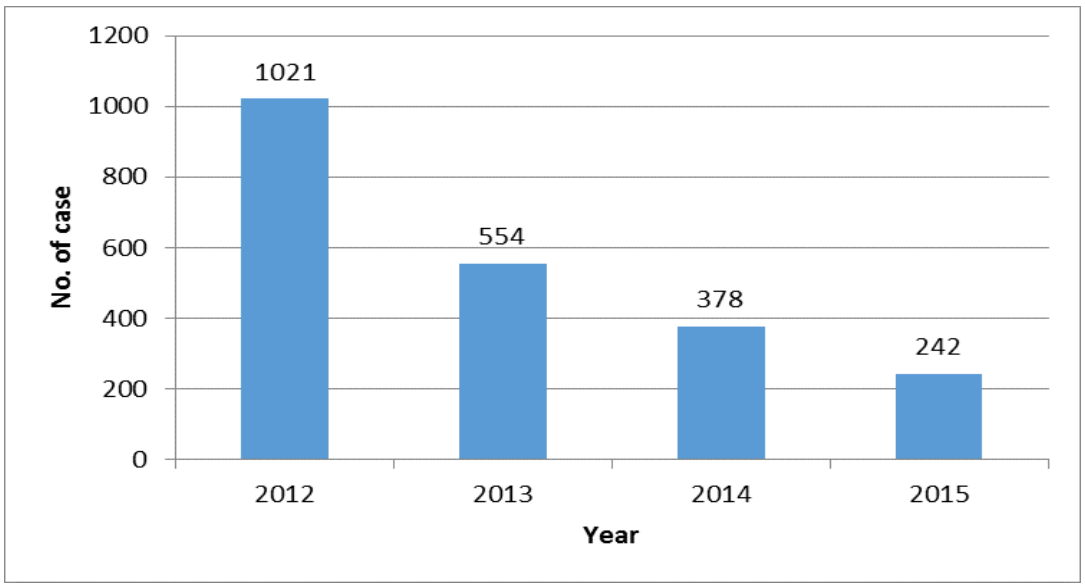

Figure 4.50 Number of Registered Environment and Land Cases .Source:Environment and Land Court,Eldoret 2016

4.8.8 Environmental problems Associated with Urban development control Instruments

Non-adherence to urban development control instruments is known to exacerbate environmental problems which contribute towards making settlements inhabitable. The mushrooming up of informal settlements is the product of non-compliance. The eyesore structures and therefore unattractive urban environment is anathema to investors. Respondents were asked to give their views on the major consequences of not adhering to urban development control instruments. The Findings from respondents are given in the Figure 4.49.

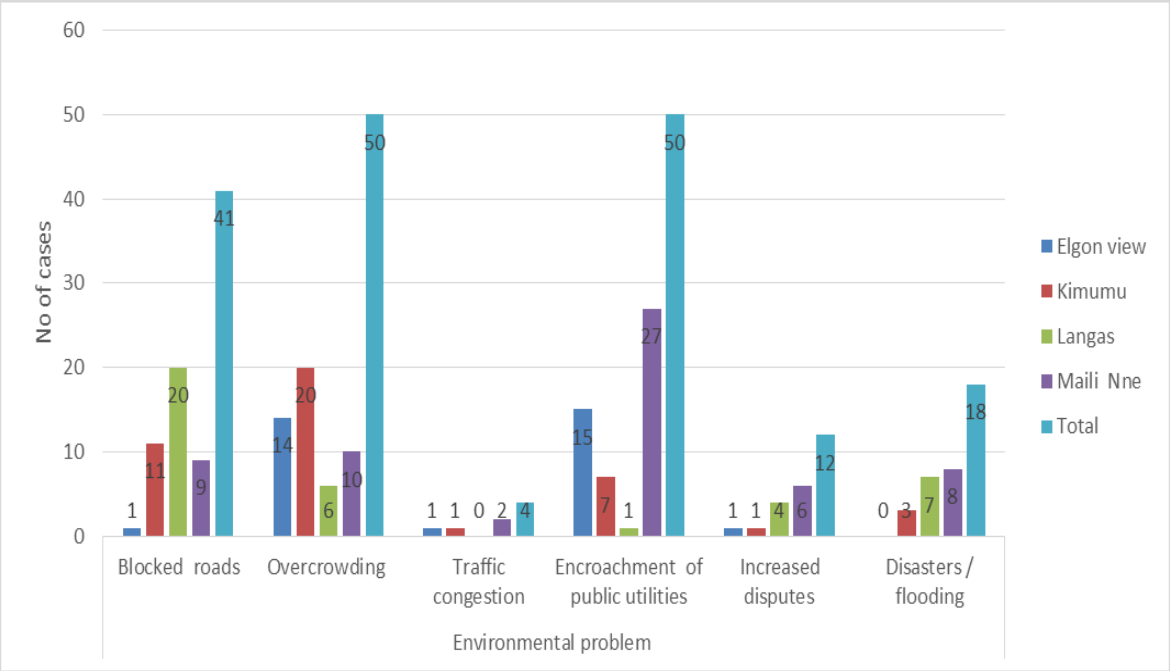

Figure 4.51: Environmental problems arising due to non-adherence to urban development control instruments. *Source: Field Data*

From the figure, it is seen that the respondents who felt that the major environmental problems caused by non-adherence to urban development control regulations were; overcrowding (29%) 50, encroachment of public utilities (29%) 50; traffic congestion (2%) 4 ,and blocked roads (23%) 41. The FGD in addition noted that the selected neighbourhoods are affected by many other environmental problems which included; mushrooming up of slums, encroachment of agriculture land by urban developments, roaming livestock, land use conflicts and disputes, blocked roads, terrestrial pollution arising from leachate of oil from Pipeline, air pollution from smoke in Raiply Factory,

water pollution from car-wash activities, overflowing toilets in Langas and Kimumu, inadequate provision of social amenities, coupled with insecurity problems.

4.8.9 Institutional Challenges of Application of Urban Development Control instruments and practices

The urban development control institutions such as EMC, NEMA and Physical planning generate revenue from processing of various applications such as building plans, subdivisions/or amalgamations, change of user, extension of users, extension of leases and EIA and Audits. The revenue collected varies from one institution to another and they are specified in their respective service delivery characters.CGU takes advantage of the development applicants to charge Municipal rates which the owners are required to pay annually. For an application to be processed, one must clear all rates due to the CGU.Most plot owners in Eldoret town have defaulted in rate payments despite the many waivers given to them. The accumulated rates together, with approval and processing fees makes urban development control process expensive and beyond the reach of many people, leading to developers violating building regulations, and attendant urban environmental problems. The emphasis on the collection of rates and revenues by development control institutions is an issue as it deviates from the real core function of objectively ensuring quality control in approvals and implementation of plans. The targets which have been set for each urban development control institutions to collect revenue and fees, under performance contract targets, could be compromising on the Planning and development standards, leading to approval of substandard plans.

The CGU generates revenue through development control process in order to finance its operations including service provision to all residents within its jurisdictional area of 147.9 Km2.Lack of financial resources continues to militate against effective operation of the institutions that are charged with the responsibility of urban development control. For example it is estimated that fuel expenses and repairs for vehicle for use by the Surveillance team dealing with enforcement of urban development control instruments and practices, in the Town Engineers Department is a half a million Kenya Shillings (Ksh. 500,000) per year which is low considering the geographical spread of the jurisdictional area of the town and the many upcoming developments.

Physical Planning Department, like other urban development control institutions in the town, also generates revenue from urban development control processes from mainly building plans, subdivision plans/amalgamation, extension of leases, and extension of user, change of user and from conducting physical planning Liaison committee meetings and sale of Minutes. On average the CPPO incurs about one thousand Kenya shillings in terms of expenses for site inspection per application prior to approval. The implication here is that lack of resources impedes urban development control.

Other challenges which were identified by urban development control institutions in their quest to ensure proper development control include; paucity of spatial data and inadequate personnel in the fields of Engineering, Survey, Architecture, Geographical Information System (GIS) and Physical planning. Competing interests and mandates of urban development control institutions in executing their functions was also found to be providing a disabling environment for effective urban development control.

4.9 Conclusion

The chapter has provided findings that address three research objectives involving the assessment of spatial urban development trends; assessment of effectiveness of urban development control instruments, and identification of challenges associated with the application of urban development control instruments. The spatial development trends of Eldoret Town is examined within the context of a series of boundary expansions starting from a dot point in1908 then extending to 11.2 Km2 in 1912 ; 25Km2 in 1928; 59Km2 in 1974 and 147.9 Km2 in 1988.It is notable that the number of upcoming developments in Eldoret is on the increasing trend as evidenced by statistics which showed that in 2005 the number of building plans processed were 706 and rose to about 3000 buildings in 2015.It is estimated that every year a plinth area of 40 acres in Eldoret is created through building construction. It is again projected that by 2030, over 20,000 buildings will be expected to be built thus contributing to land coverage of about 4km2 and its attendant environmental problems. Land values which is a function of infrastructure availability was found to be a significant factor in influencing spatial distribution of developments in Eldoret Municipality.

Urban development Control in Eldoret town is governed by the PPA Cap 286 and its associated regulations, Physical planning handbook, Building Code, the Urban areas and Cities Act 2011, Public Health Act Cap 242, EMCA 1999, Eldoret Town By-laws 2008, Roads Act, 2007,Kenya Civil Aviation Authority regulations as derived from the International Civil Aviation Organization (ICAO),Department of Housing's regulations; National Construction Authority Act, Lands Act, 2012, Land Registration Act 2012, Environmental and Land Court 2011 and Occupational Safety and Health Act. The spatial pattern of Eldoret town is closely knit with the type of plans which have been implemented over the years including, physical development plans, part development plans, structure plans, advisory plans, zoning plans subdivision plans and Eldoret Town interim regulations.

The effectiveness of urban development control instruments and practices was examined through assessment of compliance with specific urban planning and development control standards and rating of urban development control institutions in terms of service delivery to the applicants. The variables used to determine the level of compliance ranged from the applicant's awareness of planning norms, timeliness, frequency of building inspections, compliance with building lines and setbacks; status of approval of structures in the plot, discrepancy between approved designs and the actual constructed building and neighbourhood zone quality rating. It was noted that compliance with urban development control instruments and practices varied from the selected urban zones of Elgon View, Kimumu, Langas and Maili Nne.

Although Elgon View zone recorded the highest compliance level compared to other urban Zones. There were instances of non-compliance with regard to modification of building plans during construction and presence of an authorized structures within the plot. The performance of urban development control institutions identified was generally below average as none of them had performance rating of over 50%.The challenges facing urban development process in Eldoret town were examined from the dimension of applicants and in the institutions experiences. The challenges ranged from inordinate delays, high costs of processes and institutional challenges of inadequate resources.

CHAPTER FIVE

DISCUSSION

5.1 Overview

The chapter focuses on the discussion of results within the purview of research problem, objectives and the research questions. The general objective of the study was to establish the effectiveness of urban development control instruments being applied in Eldoret town. The specific objectives included; to assess spatial urban development trends; to assess the effectiveness of urban development control tools and practices being applied in Eldoret Municipality; to establish the challenges associated with the application of urban development control tools, and to explore appropriate strategies for improving the usage and application of urban development control tools in Eldoret Municipality. While addressing research problem and objectives, the following research questions shaped the trajectory of the study; How is the spatial urban development trend like in Eldoret Town?; What urban development control tools and practices are applied in Eldoret Municipality?; How are appropriate urban development control tools and practices implemented in Eldoret Municipality?: What challenges are associated with the usage of urban development control tools and practices? And how can urban development control tools be improved?

5.2 Spatial urban development patterns in Eldoret Town

It has been noted that Urbanization process is unstoppable, irreversible, and is taking place largely in developing world and urban population is expected to rise to 5 billion by 2030, and 80% of these urban dwellers will live in towns and cities of the developing world. It is expected that as cities grow about 320 Km2 of built-up area is created every day globally. The Urban population in Kenya is expected to rise from 30% to 50% by 2030.Eldoret town has its share of expansion rate at the local and global arena and hence the need to devise effective urban development control tools.

The amount of developments in Eldoret Municipality has been on the increase consequential from boundary expansions which started from a Post Office in 1908

and by 1912 the town occupied an area of 11.2 Km2 .Subsequent boundary extensions saw new areas being incorporated into the town and as such 25Km2, 59Km2, 147.9 Km2 were annexed in 1928, 1974 and 1988 respectively. The development trends in Eldoret Municipality has been following a concentric pattern forming rings around the CBD. The development pattern created is similar to concentric zone theory of Burgges and Patrick Abercrombie's rings of the Greater London Development plan.

The 1988 boundary extension brought into the Municipality farms such as Yamumbi, Kipkenyo, Maili Nne, Kamukunji, Munyaka, Kimumu, Langas, Kapyemit and part of former EATEC-owned land. Each Municipal boundary extension brings in privately owned land into the Municipality. Developments in Eldoret town have spilled over beyond the 1988 boundary as evidenced by growth of new settlements in such areas as Kipkorgot, Chepkanga, Sogomo, Kapseret, Baharini and Outspan. The planning implication of boundary extension in Eldoret Municipality has been more reactive rather than being pro-active as pieces of plans covering small sections of the Municipality in form of Local Physical Development plans have been prepared to guide its growth and development. However the expansion of Municipal boundaries have not been informed by any study to determine land suitability and as such the town has expanded haphazardly towards environmentally fragile ecosystems. The areas which could have been protected from expansion of urban developments include such areas as the Milimani ridge or escarpment which is a major structural element in the Northern part of the town; river Sosiani and its valley ecosystem, Marula river ecosystem and the wetlands and hilly areas which dot across the Municipality.

The spatial urban development trends reflected by submission of building plans in Eldoret Municipality has generally been increasing, from 600 building plans in 2005 to 3139 in 2015.However there was a drastic decline in the number of building plans processed in Eldoret Municipality from 619 numbers of applications in 2007 to 423 in 2008.This represented a decline of 32%. The decline is attributed to post election violence of 2007 and 2008.There was again a rapid increase in the number of building plans processed by Eldoret Municipality in 2010 to 2011, from 642 to 1134 building plans respectively, a clear indication of restored investor confidence and climate in Eldoret Town. The decline in processing of building plans in 2012 and 2013 is attributed to the CGU policy of suspension of developments in order to pave way for

formulation of new urban planning and development policies. There was another sharp increase in the number of approved building plans from 1320 to 3139 in 2014 and 2015 period, a factor which is attributable to the lifting of an embargo on suspension of approval of development applications.

According to NEMA, the EIA's for building plans started to be received from 2004 of which 40 EIA's were reviewed. There was no record of any EIA's being received in 2009 and 2010.The highest number of EIA's received for building projects by NEMA was in 2015 where a total of 176 applications were reviewed, compared to 3139 building plans processed by the County Government of Uasin Gishu. This shows that CGU and NEMA are not working in tandem as few EIA's and Audits are processed by NEMA yet there are many construction activities which are going on daily basis in Eldoret Municipality that have negative impacts on the environment.

The National Construction Authority (NCA) is a new entrant in urban development control and its role and functions remains unknown as all the respondents interviewed in the selected neighbourhood zones had never sought approval from NCA. Its function is to oversee construction of building projects. In 2015, NCA supervised a total of 171 building projects which were distributed according to Constituencies of; Soy (33); Moiben (30); Ainabkoi (24) Kesses (27); Turbo (33) and Kapsaret (40).It is notable that each constituency has a share of Eldoret town. The high number of building projects in Kapsaret Constituency is attributed to the fact that it falls within a section of the Municipality that has a large concentration of population, including Langas, Elgon View and Pioneer Ngeria Annex neighbourhoods.

Using time series analysis it is projected that by the year 2030 the urban population in Kenya is expected to reach a target of 38.2 million (Kenya Vision 2030). Eldoret town is expected to make a significant contribution in increasing the numbers of urban population in Kenya as its growth rate of about 8% is considered to be one of the highest. This means that the town is going to attract a lot of developments as Kenya Vision 2030, which is a long term development blue print is being actualized. The vision 2030 aims at making Kenya to be a globally competitive and prosperous country with a high quality of life by 2030.It aims at transforming Kenya into "a newly industrializing, middle-income country providing a high quality of life to all its citizens in a clean and secure environment."(Kenya Vision, 2030).With

implementation of a devolved system of government gaining momentum, more concentration of developments will be felt Country-wide and County-wide. This underscores the need to develop effective urban development control tools that will make the country to achieve Vision 2030.Based on the past scenario analysis, it is projected that by 2030, Eldoret town is expected to induce urban developments in form of buildings, up to the tune of over 20,000 buildings of various land uses including residential, commercial, industrial, educational, public purposes, public utilities and transportation.

It is estimated that on average between 706 and 1000 building structures will be generated per year such that by 2030, 20000 building developments will have been processed. The past estimates of plot coverage revealed that about 200m^2 is covered by a building in one plot. From this analysis it is extrapolated that by 2030 the land that will be covered by buildings will be approximately 4km2.Every year a built environment of 40 acres is created in Eldoret, giving an indication that the town has a share in terms of creating a built up area which cumulatively amounts to 320 Km2 per day globally. In this regard the findings resonates with studies done by Hayombe, 1997, 2010; Nyatwanga, 2007) that cities expansion creeps into agricultural land. Though the studies were done in different contexts and periods in Kisumu and sections of Nairobi, the built up areas were much higher compared to the area covered by buildings in Eldoret with a built up area of about 40 acres being generated per year. This means that the calculations of the built up areas included vacant spaces and empty plots which require infilling. Spatial urban development trends which emanate from urban development control are known to create environmental problems which respondents outlined as; overcrowding, blocked roads; increased disasters such as floods; traffic congestion and encroachment of roads which the study established that they are more or less similar to the findings of other researcher's as documented by UN Habitat (1986); Hayombe (1997, 2010) and Nyatwanga (2007).

It was established that distance to the main roads influences the locational pattern of buildings in Eldoret Town. It was observed that in general, majority of developments were located near the tarmac road with 63(33.9%) of respondents saying their property was located at a distance of less than 500m from the tarmac road and 1% of respondents said that their developments were located at a distance of over 3km from

the tarmac road. In Elgon View zone, majority of respondents 15 (46.9%) have their properties situated between 1.51 to 2.0 Km from the tarmac road. This could be due to the fact that most roads in Elgon View are tarmacked. It was evident that majority of developments are put up near the tarmac roads.

The study found out that spatial distribution of development in Eldoret Town is explained by the socio-economic characteristic of land values which are also a function of infrastructure availability and neighbourhood quality. The application of Chi-square statistic indicated that there is significant relationship between development patterns and land values in Eldoret Town. The Chi-square test results revealed the chi-square value of 136.806 which is much greater than the p- value of 0.000 and therefore it is concluded that there is a significant relationship between urban zone characteristic of land values and the development trends in various urban zones within Eldoret Town. The findings conforms with the spatial theory of bid rent model of Alonso which states that Urban activities including type of developments compete for space and along major transportation corridors.

5.3 Effectiveness of Urban Development Control Instruments

When assessing the effectiveness of urban development control instruments, the variables that were used included; timeliness in processing of development applications; number of times the structure was inspected; compliance with building lines and setbacks, status of approval of perimeter fences and other structures, discrepancies between approved and constructed buildings; presence of illegal development in the urban zone; rating of development control institutions and neighbourhood zone quality assessment.

5.3.1 Awareness of Urban Zoning Standards

In determining the effectiveness of urban development control instruments, the study tested the awareness level of households through in-depth interviews, to find out whether they had sound knowledge of their neighborhood zone, planning and development standards, prior to submission of development application for building plans for approval.57% (102) of the respondents said they were aware of the zoning standards of their areas while 43% (78) were ignorant about them. Out of the respondents interviewed in the selected neighbourhoods; Elgon view had the highest

level of awareness 88% (29), followed by Langas 76% (29) and Maili Nne at 23% (15). According to the UN Habitat (1999) in Ibadan, Nigeria, it is noted that the level of awareness of the existence of urban development regulations increases progressively from low to high quality residential neighbourhood specifically, 80%, 73% and 56% of households in the high, medium and low quality residential neighborhoods respectively are aware of the existence of urban development and planning regulations. A large proportion of the people on low income areas are therefore, not aware of the regulation. In Ghana, Ahmed et al (2011) noted 57 percent of the study population is aware of the existence of development control in Wa Town and 43 percent are not. However the study established that the level of awareness in Langas, a low income high density area did not agree with studies done in Nigeria as the level of awareness is at 76% which is higher than 56% as stated by UN Habitat. The high level of awareness of zoning standards in Langas could be attributed to many slum upgrading projects which have been done in the past and the unsecure land tenure that makes people to seek for planning permission as a strategy of asserting their plot ownership status. In Elgon View, Low density residential neighbourhood 88% of the respondent said they were aware of urban planning instruments prior to plan submission, which is slightly higher than the stated 80% by UN Habitat (1999).Ogundelele (2010) noted that lack of public enlightenment programmes on physical planning issues by the Federal housing authority makes members of the public-illiterate on physical planning programmes. This leads to development of illegal structures to fulfil their selfish-interest without considering the negative impact of such action. In this regard, there is need for sensitization measures to be mounted for enhancing effective compliance with urban development control instruments.

5.3.2 Time Taken to Process Development Applications

Time taken is considered as an important aspect of ease in doing business which is an emerging aspect in urban development control. Investors are interested in putting their money in an environment where approval processes are faster so that they can recoup the returns of their investment within the shortest time possible. According to the World Bank and ISO specifications, development applications should be processed on the spot and in one day. The study established that majority of the respondents took up to 5 days to get recommendations and approvals from various urban development

control institutions.69.3% (79) of the respondents said it took them between 1-5 days for Physical planning office to grant approval compared to 40% (57) at Engineers Departments, giving an indication of an inordinate delay by the Engineers Department to grant approval. When compared with other studies, the time take to process development applications is much shorter. For instance the Kenya National Housing Survey of 2012/2013 indicated that on average the defunct Local Authorities used to take from 1 to 90 days to approve building plans (KNBS, 2014).

The study by Ahmed el al (2011) in Wa town in Ghana, noted that it took four (4) applicants more than the ideal duration of three months to acquire building permit. This was attributed to the irregularities of statutory planning committee meetings. This results in people building without permits after submission of application. The delay in handling urban development control applications contributes to non-compliance leading to creation of shanty urban character and the likelihood of occurrence of disasters.

5.3.3 Number of Times Building was inspected

Inspection of buildings during the different stages is crucial in that it prevents poor workmanship and also ensures that the approved plans are adhered to by the developers. Cases of buildings collapsing in the process of construction or after completion may not arise if buildings under construction are inspected regularly. It was established that the buildings which were inspected less than 5 times were 122 (70%) while the buildings that were inspected more than five times were 12(7%).This shows that there is a possibility of buildings collapsing because of irregular and random inspections. In terms of zones, Elgon View seems to have the highest number of buildings inspected more than 4 times. Elgon View had only two buildings which were inspected less than 3 times while Kimumu had 21, Maili Nne, 14 and Langas, 4 buildings. In general, most buildings in Kimumu and Maili Nne were inspected between 3-4 times while most buildings in Langas were inspected at least 4-5 times. For a building to be considered compliant in terms of inspection, it must be inspected eleven (11) times which is not the case in Eldoret Town. The reason as to why inspection is not done as expected is because of lack of resources involving, transport

and personnel for site inspections, and hence the need for provision adequate facilitation.

5.3.4 Compliance with Building Lines and Setbacks

To ensure compliance with building standards as stipulated by the codes and the Physical Planning handbook, maintenance of a minimum setback of 2.5m and building line of 3m was used as a compliance yardstick. The study established that 12% (19) of the respondents had violated a minimum of 3m building line requirement and went ahead to carry out development within the boundary between the frontage and the edge of the road. Similarly 49% (80) of buildings had encroached on the distance between the fence on both sides of the plot and walls of the buildings (setbacks).Some developers had built from beacon to beacon and within their property boundaries. In terms of compliance with a minimum 3m requirement on the building line of frontage side; all the respondents (33) in Elgon view had 100% compliance, followed by Maili Nne 95%, Kimumu at 84% and Langas at 74%.The compliance generally was found to be very high for the frontage side of observation of 3m building line requirement, compared to maintenance of the distance between the walls of the building on elevation sides and plot boundaries (setbacks) which stood at 89% compliance in Elgon view,50% in Maili Nne, 47% in Kimumu and 27% in Langas. The reason why some developers encroached on spaces for setbacks and building lines is either failure to carry out regular inspections, or some changes were made on approved designs by the builders on the ground. The results of the study cannot be compared with the findings from Simiyu (2002), who examined the effects of urbanization on the use and control of land at Ngong fringe area of Nairobi and established that 54% of plot owners had contravened planning regulations, of which specific types of regulations violated were not specified because the methodology used was observation and not measurement as it is in this study.

5.3.5 Status of Approval of Perimeter Fences and other Existing Structures

In determining the effectiveness of urban control instruments, the study sought information from the respondents on the type of fences they had erected on their plots, with or without approval. Also the study inquired whether other structures which existed in their plots, such as watchmen structure, cow sheds, Poultry house and

structure for parking vehicles were available and whether they had been accorded approval. It was established that 62% of the different types of fences were approved while 38 % were not approved. This shows that the urban control instruments are not effective and that some developers do not seek formal approval of the perimeter fences. It was further noted that 41% of respondents had a structure for a watchman's house, which had not been approved, with only 11% noting that they had a watchman's structure which had been approved. In general most structures for dogs, cows, poultry and for parking of vehicles existing within the plots were not approved. This was due to the fact that these structures are put up after the completion of the buildings and all relevant inspections had been completed. It also means that there is no follow up on inspections by the relevant urban development control institutions on plots which are already developed. There is need for regular impromptu inspections in all the urban zones to ensure that all structures meet the approved standards so as to avoid problems which may be posed by existence of unapproved structures.

5.3.6 Variation between Approved Plan and Completed Building

The study established from the respondents whether they had carried out any changes or amendments in the building plans on the ground during the process of building construction, 11% (19) of respondents said they changed the design on the ground while 89% (161) complied with approved plans. The analysis of the urban zone compliance rate indicated that Maili Nne zone had the highest level of compliance at 92%, followed by Elgon View 91%, Langas 89% and Kimumu at 85%. The respondents cited the reasons as to why they changed their building design as mainly to enhance the aesthetic value of the building especially, the roofs in Elgon View and because of high cost of construction. It should be noted that changes in the design of structure on the site is not permitted as it calls for the need to re-submit the plan a fresh, like any other new application.

5.3.7 Presence of Illegal developments in the Urban Zones

The study sought to understand from the dimensions of the respondents whether they knew of any existing structure within their neighbourhood zone which is an eyesore for example poor building designs, and 26 (14%) of respondents said that there are structures which they felt were illegal and they were not happy with in their zones,

while 157(86%) said there are no illegal structures in their zones. The fact that some respondents are not happy with the existence of some structures within a neighbourhood zone is a clear indication of the ineffectiveness of urban development control tools. The finding on existence of illegal structures almost agrees with what Ondola et.al (2013) established when examining the effectiveness of housing policies in Kisumu City where he noted that 80.73% of the population sampled agreed that there existed unauthorized housing units within the neighbourhoods while 19.27% disagreed that there existed unauthorized housing units within the neighbourhood, thus depicting high rate of proliferation of informal settlements within Kisumu. In the case of Eldoret town, it can be indicated in this regard that some developers do not adhere to the planning and development regulations. The respondents who noted that illegal structures existed could include temporary or permanent structures for practicing urban agriculture. Eldoret town by-laws and the PPA outlaws urban agriculture which conflicts with the needs and cultures of people. In some communities in Kenya keeping cattle and Poultry within the plot is considered as a lifestyle which is inconsistent with urban development control norms.

5.3.8 Complaints against Illegal Developments

For a neighbourhood to be considered as serene and sustainable, the community and relevant urban development control institutions must work hand in hand to implement neighbourhood plans. According to hedonic housing pricing model (O'Sullivan,1996) value of developments depends on a number of variables including infrastructure availability and aesthetic qualities of the neighbourhood and as such the respondents were asked to state whether they had registered their complaints against bad neighbour developments (NIMBY) or illegal developments which have sprung up within their surrounding environments.8% (15) of the respondents said they had raised complaints to the County Government and against some upcoming eyesore developments within their immediate neighbourhoods. Majority of the complaints hailed from Maili Nne 47% (7), 27% (4) from Elgon View, 20% (3) from Langas and 6% (1) in Kimumu. Complaints against upcoming developments imply the need for urban development control institutions to re-examine their system of enforcement.

5.3.9 Performance Rating of Urban Development Control Institutions

The study examined the effectiveness of urban development control institutions by asking the respondents to rate the overall performance of the various urban development control institutions using the summated rating scale, as they processed for the approval of their building plans.Physical planning office was rated by majority of respondents as very good (24%), followed by NEMA (20%), and the Engineer's Department at 12%. Engineers Department had the highest number of respondents who rated it poorly at 16% followed by NEMA at 5% and Public Health at 12%; Lands office at 9% and Physical Planning at 4%. On average, all the urban development control institutions were rated satisfactory which means that there is need for concerted efforts in the improvement of the entire urban development framework. The study resonates with what Hayombe (2010) in his study of Kisumu-City Lake interface whereby performance of urban development control institutions was rated below average according to public assessments. The performance of Kisumu City Council was rated at 85.9% for unsatisfactory performance using Municipal planning variable, while other respondents rated as fair (8.2%) satisfactory (0.8%) and excellent (4.8%).Poor performance rating of development control is one of the causes of haphazard development in the Municipality, especially in the informal settlements. This had led to deteriorating environmental quality in most neighborhoods such as Bandani, Manyattta, Migosi, Nyalenda and Nyawita (Anyumba, 1995, Hayombe, 2010).

5.3.10. Rating of Neighbourhood Zone Quality

The study sought to assess the impact of urban development control instruments and practices within the neighbourhood level by focusing on the respondent's perceptions on rating of the neighbourhood zone quality, 34% of the respondents rated their zone as poor, while 33% rated their urban zone as good. Those who rated their urban zone quality as satisfactory were 33%. In general majority of respondents are not happy with the kind of developments found within their neighbourhoods, which means that there is need for action in the area of enforcement of urban development control instruments in their respective urban zones. The fact that citizens living in various urban zones are not happy with their neighbourhood zone quality is a clear pointer to a dysfunctional urban development control system.

Little or no studies have delved into the details of how developers comply with specific planning and urban development standards in Kenya. Authors have general observations on compliance with urban development instruments. For example Simiyu (2002),studied on the effects of urbanization on the use and control of land at Ngong fringe area of Nairobi and established that 20% of developers obtained building permits or had approved building plans while 54% contravene planning regulations. The reason cited for non-compliance included lengthy procedures, unrealistic standards, high processing fees charged and lack of awareness (Simiyu, 2002). Mwangi (1997) further notes that the information on the formal sector is also scanty as most developers do not submit their plans for approval. Even in affluent Karen and Langata, in Nairobi, site plan and building plan approvals were sought by 41.7% in Karen while 50% of property owners in Langata. This study deviated from their approach as it focused solely on proponents and individuals who constituted the subjects of laws and the finding are not related to the study findings of Simiyu and Mwangi (ibid).

5.3.11 Effectiveness of urban development control instruments according to professional Designers

The professional Designers in the build environment and who are well conversant with urban development control instruments were asked to give their opinions on the effectiveness of these instruments in controlling urban development. It was observed that the Physical planning laws and regulations as instruments of development control have no clean bill of health as none of the respondents said they are extremely effective, while NEMA has the highest number of respondents (19%) saying it is not effective. The land Act and the Public Health Act have the highest number of respondents at 11% and 10%,respectively who noted that they are extremely effective. Generally the instruments are not effective judging from the responses given by professional designers, and hence the need to review some instruments including by-laws and Acts to suit the rapidly changing socio-economic environment.

While determining the level of compliance, the variables that were considered indicated that many developers do not comply with urban development control instruments and practices. Ngugi (2007) attributes this to failure to enforce existing laws. He notes that whereas the PPA stipulates that fines of up to a hundred thousand

Kenya shillings (Ksh 100,000) and imprisonment of five years, nobody has ever been charged. The study findings are inconsistent with what Ngugi (2007) and Ombura's (1997) have noted by indicating that there are no laws on industrial sitting in Eldoret ,but as it is now there are numerous laws in Eldoret, but which have not created an attractive urban environment. It was established that in the 2014/2015 period,147 people were arrested and charged for carrying out construction activities in Eldoret Town without permission.52% of the defaulters were fined between Ksh 1000 and 70,000 with the option of being given jail terms of between 30 days to 9 months, while 48% of them were released or discharged. However the fines that were meted out seemed to be lenient because they are based on two systems the PPA and the Eldoret Town By-laws 2009.The low fines are not deterrent as non- compliance to urban development control instruments could continue to persist. This underscores the need to harmonize and review penalties for effective compliance.

5.4 Challenges of the Application of Urban Development Control instruments and practices in Eldoret Town

The study had sought to identify the challenges faced when dealing with the processing of building plans in Eldoret Municipality with the guiding research question being; What challenges are associated with the usage of urban development control tools and practices?

5.4.1 Inordinate Delays

The study established that inordinate delay is one of the greatest challenges faced by many respondents (55%) when processing application at the Eldoret Town Engineer's Department. The FGD and the respondents concurred that there is inordinate delay in getting applications sanctioned. It takes time to circulate plans and receive comments, while in the County, the various committees including the Technical Committee and other County meetings have to be convened to consider applications resulting in delays. In some cases, respective committees organizes to make site visits for inspections as a group, in order to appreciate the existing parameters on the ground before approval is granted. It is this process of mobilization of committees that take time causing inordinate delays leading to some developers carrying out illegal developments.

5.4.2 High cost of processing of Development Application

The challenge of high cost of processing of development application accounted for 22% of the respondents. A question was asked to the respondents on how much they had spent on building plan drawings and specifications, of which it was indicated that the cost of seeking development permission was prohibitive according to all FGD's conducted. All development applications which are circulated to urban development control institutions charge approval fees on top of what the applicants had spent on professional fees for preparation of designs, specifications and reports to be attached to application for Development Permission Form PPA1.In fact, majority of the respondents interviewed (76%) said that they spent between Kenya Shillings 10,000-20,000 on professional fees charged by private practicing designers while majority of the respondents (94%) again said they spent between Kenya shillings 1000- 5000 on approval fees for each of the listed urban development control institutions of Engineer's Department, Physical Planning, Lands Office, NEMA and Public Health. It was established that it would cost an applicant, a minimum of Eighty Seven thousand, Five hundred Kenya shillings (Ksh.87, 500) to get approvals from all urban development control institutions in Eldoret Municipality. However applicants were found to be seeking for development permission from few authorities and thereby sidelining others.

It was pointed out that the cost of seeking for development permission including rates clearance payment sometimes exceed the cost of erecting development and the value of the plot and hence making the applicants to circumvent the process leading to non-compliance with Urban development control instruments. CGU on the other hand takes advantage of application for development permission to compel plot owners within its jurisdictional area of the town to clear all the rates payable before development applications are received and accorded approval. This requirement has been found to be providing a disabling environment for investors in Eldoret town leading to many developers constructing without development permission.

5.4.3 Bureaucracy

Bureaucracy and merry-go-round as cited by some applicants of development permission and accounted for 18% of the respondents. Bureaucracy or red tape was found to be what developers and proponents are evading. One has to visit various urban development's control institutions in order for the plans to be approved. In some cases site visits have to be arranged at the client's expenses for each institution at different times. Compared to other Countries like in Peru for example, building a home on state owned land requires 207 procedural steps at 52 government offices (UN Habitat, 2004),while in Eldoret Municipality, it takes about 7 steps for the development application to be considered.

5.4.4 Lack of Awareness

Some people within Eldoret are not aware of urban development control instruments and practices. The study showed that 57% of the respondents were aware of planning and development standards of their urban zone while 43% of the respondents were ignorant. When Eldoret township boundaries were extended, most areas which were previously rural in character were brought to be under the defunct EMC and most people still harbor rural belief that since they are the rightful owners of the plots, they are not subjected to urban development control instruments. There will be need for awareness raising campaign in order to change the trend for better urban planning and development. In deed Hayombe (2010) quotes Buigut (2004) as having noted that ignorance of environmental concern is the main cause of environmental problems, poverty and unsustainable living, which could be happening in Eldoret town if adequate sensitization measures are not put in place.

5.4.5 Corruption

The FGD made mention of the need to embrace the virtues of good leadership and management of urban development control institutions. It was pointed out that there is sometimes a human factor in plan approval process especially in the Engineers Department. For a plan to be passed, in some cases one has to go through a politician or County official who may require an inducement for pushing the plan to be put in the approval agenda. This is corroborated by a publication in one of the local

Newspapers in Kenya, which quoted Uasin Gishu County as leading in terms of the corruption index according to the 2012-2013 report by the Ethics and Anti-Corruption Commission (Daily Nation of 2nd June, 2014). The calibre of leadership in Eldoret town could be facilitating non–adherence to urban development control instruments and practices. If substandard building plans are approved, the probability of buildings collapsing and its attendant effects will be high. There will be need to embrace integrity issue as prescribed in chapter six of the Constitution of Kenya 2010 in all areas of urban development control system.

5.4.6 Type of developments

During the FGD, it came out clearly that most applicants think that a temporary or a semi-permanent kind of structure is exempted from approval and that one applies for development permission when a permanent structure is to be erected. The building code and Eldoret town By-laws require all developers irrespective of the nature of structure to submit plans for approval. The study found out that 62% of the different types of fences were approved while 38 % are not approved. Temporary and semi-permanent structures such as stores for storage of building materials during construction are accorded approval on condition that they are removed once construction is completed. It was also noted in the FGD that people carry out construction of temporary structures because they cannot afford to construct decent houses. Construction of temporary structures in various urban zones facilitates mushrooming up of slums and informal settlements and thereby negating the principles of having sustainable urban livelihoods.

5.4.7 Insecure land Tenure

The people who occupy land with insecure tenure including squatters do not comply with urban development control standards and procedures. This is because it is a requirement that one must first proof ownership of the property either through production of a copy of the title deed, official search or an agreement which is lacking in areas with complicated land tenure arrangements. Musyoka (2004), advocates for regularization of informal settlements as a strategy for sustainable urban livelihoods. Mutual accommodation over standards, procedures contributions to Municipal Revenue enables, other things being equal eventual regularization of subdivisions that

are informal (Musyoka, 2006). Majority of the people who do not comply because of insecurity of land tenure live in the informal settlements of Langas, Munyaka and Kamukunji areas of Eldoret Town. Most of these informal settlements occupy contested spaces with unresolved land disputes and thus making it difficult to apply urban development control instrument and practices. In 2012, the Environment and Land Court registered 1021 land related cases; and 554,378 and 242 land cases in 2013, 2014 and 2015 periods respectively. The number of cases that are on the increase as documented in the Environment and Land Court could stifle urban development control system in Eldoret Municipality.

5.4.8 Environmental problems linked to the application of Urban development control Instruments

Non-adherence to urban development control instruments is known to exacerbate environmental problems which contribute towards making settlements inhabitable. The mushrooming up of informal settlements is the product of non-compliance. The eyesore structures and therefore unattractive urban environment is anathema to investors. The majority of respondents observed that the major environmental problems caused by non-adherence to urban control regulations are overcrowding (29%) and encroachment of public utilities (29%).Traffic congestion seems not to be a problem in all the urban zones as it is confined to the CBD, as it accounted for only 2% of respondents interviewed.

Many respondents (23%) mentioned blocked roads as one of the major environmental problems which may occur due to non- adherence to urban control regulations. From the dimension of professional designers, Consultants were also asked to give their views on the likely consequences of non-adherence to urban building control instruments. Based on analysis, creation of slums and lowering of land values accounted for 10 (71%) of the respondents. The study also sought to identify the environmental impacts associated with urban development control in various urban zones. The findings revealed that the major environmental problems experienced in all the zones is garbage disposal (65%) with overcrowding, de-vegetation, water shortage and air pollution being the least problems experienced in these zones, each accounting for less than 5% of the respondents interviewed. Other major environmental problems experienced include; surface runoff/or flooding (13%) and

sewage disposal (10%).Air pollution was experienced mainly in Elgon view, due to loose surface roads which become very dusty during dry season. Water shortage is mainly experienced in Kimumu zone as compared to the other zones. From these statistics, it is important for the County and other stakeholders to device better means of managing wastes in Eldoret Town. Despite the fact that the County has introduced privatization of garbage as part of the solution, the residents still view garbage disposal as a serious problem in various urban neighbourhood zones. The FGD in addition noted that the selected neighbourhoods are affected by many other environmental problems which included; mushrooming up of slums, encroachment of agriculture land by urban developments, roaming livestock, land use conflicts and disputes, blocked roads, leachate of oil from Pipeline, air pollution from smoke in Raiply Factory, water pollution from car-wash activities, overflowing toilets in Langas and Kimumu, inadequate provision of social amenities, and insecurity. The environmental issues that are associated with urban development control resonates with the findings of other studies done in other urban areas and cities (Kibwage 1996, Kiplagat 1999, Hayombe, 1997, 2010, Sumukwo 2007).

5.4.9 Institutional Challenges of Application of Urban Development Control instruments and practices

The urban development control institutions such as the Town Engineer's Department, NEMA and Physical planning generate revenue from processing of various applications such as building plans, subdivisions/or amalgamations, change of user, extension of users, extension of leases and EIA and Audits. The revenue collected varies from one institution to another and they are specified in their respective service delivery characters. CGU takes advantage of the development applicants to charge Municipal rates which the owners are required to pay annually. For an application to be processed, one must clear all rates due to the CGU.Most plot owners in Eldoret town have defaulted in rate payments despite the many waivers given to them. The accumulated rates together, with approval and processing fees makes urban development control process expensive and beyond the reach of many people, leading to developers violating building regulations, and attendant urban environmental problems. The emphasis on the collection of rates and revenues by development control institutions is an issue as it deviates from the real core function of objectively ensuring quality control in the urban environment. The targets which have been set for

each urban development control institutions to collect revenue and fees, under performance contract targets, could be compromising on the Planning and development standards, leading to approval of substandard plans.

The CGU generates revenue through development control process in order to finance its operations including service provision to all residents within its jurisdictional area of 147.9 Km2.Lack of financial resources continues to militate against effective operation of the institutions that are charged with the responsibility of urban development control. For example, it is estimated that fuel expenses and repairs for vehicle for use by the Surveillance team in the Town Engineers Department is a half a million Kenya Shillings (Ksh.500, 000) per year which is low considering the geographical spread of the jurisdictional area of the town and the many upcoming developments. There is therefore need to allocate adequate financial resources for effective urban development control.

Physical Planning Department like any urban development control institutions generates revenue from urban development control processes from mainly building plans, subdivision plans/amalgamation, extension of leases, and extension of user, change of user and from conducting Physical Planning Liaison committee meetings and sale of Minutes. On average the CPPO incurs about one thousand Kenya shillings in terms of expenses for site inspection prior to approval. Most Urban Management Authorities have limited finances for development control. The findings on inadequate funding of the development control is consistent with what Ogundelel (2010) who observed that compared with other sectors of the economy, physical planning programmes suffer a lot of set back through inadequate funding in Festac Town. Rather than government at the three tiers seeing urban and regional planning activities and programmes as social service, instead they misconstrue the development control authorities and agencies to be revenue-generating units in their setting (Ogundelel, 2010).In Kenya the emphasis of urban development control process as a source of revenue for the County could be contributing to approval of substandard building plans. Harmonization of site inspections by all urban development institutions would help in reduction of expenses and avoid duplication of effort, resulting in a more orderly urban environment.

5.5 Conclusion

Eldoret town has been increasingly expanding in a concentric fashion since its establishment in 1908.The spatial development trend of the town exhibit a ring-like pattern occupying an area of 11.2 Km2 in 1912; 25Km2 in 1928; 59Km2 in 1974 and 147.9 Km2 in 1988. The boundary extensions have since brought into the Municipality farms such as Yamumbi, Kipkenyo, Maili Nne, Kamukunji, Munyaka, Kimumu, Langas, Kapyemit and part of former EATEC-owned land. Each Municipal boundary extension brings privately owned land into the Municipality with a lot of implications in urban planning and management. Developments in Eldoret town have spilled over beyond the 1988 boundary as evidenced by growth of new settlements in such areas as Kipkorgot, Chepkanga, Sogomo, Kapseret, Baharini and Outspan. The implication of boundary extension in Eldoret Municipality has been the preparation of Local Physical Development plans to guide its growth and development. The growth of the town contributes to a built-up area of about 40 acres annually leading to negative environmental problems if developments are not properly controlled. It was established that urban development control instruments are not effective as many developers had failed to comply with the stipulated urban planning and development standards. The challenges faced by developers in the application of urban development control tools include; high cost of design, processing and approval, insecure land tenure, inordinate delays, bureaucratic ambience, type of development whether permanent or semi-permanent and lack of awareness/or ignorance. The institutional challenges of urban development control include; lack of resources for site inspections and institutional conflicts over space in urban development control system.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 Overview

This chapter gives conclusions, recommendations and points out areas for further research in line with research objectives and research problem. It presents a description of what needs to be done in order to ensure proper urban development control in Eldoret town and other towns in Kenya. A raft of interventions and mitigation measures are proposed to address environmental problems and challenges emanating from poor urban development control.

6.2 Conclusions

The conclusions of the study are concretized according to the research objectives which included; to determine spatial urban development patterns in Eldoret Town; to assess the effectiveness of urban development control tools and practices being applied in Eldoret town; to establish challenges associated with the application of Urban development control tools and practices and to explore appropriate strategies for improving the usage and application of urban development control tools.

It has been documented that as cities grow about 320 km2 of built-up area is created every day globally. The Urban population in Kenya is expected to rise from 30% to 50% by 2030.Eldoret town has its share of expansion rate at the local and global arena and hence the need to design effective urban development control tools.

The amount of developments in Eldoret Municipality has been on the increase consequential from boundary expansions which started from a Post Office in 1908 and by 1912 the town occupied an area of 11.2 km2.Subsequent boundary extensions saw new areas being incorporated into the town and as such 25km2, ^{59km2}, 147.9 km2 were included in 1928, 1974 and 1988 respectively. The development trends in Eldoret Municipality has been following a concentric pattern, forming rings around the CBD. The development pattern created is similar to concentric zone theory of Burgges and Patrick Abercrombie's rings of the Greater London Development plan.

The 1988 boundary extension brought into the Municipality farms such as Yamumbi, Kipkenyo, Maili Nne, Kamukunji, Munyaka, Kimumu, Langas, Kapyemit and part of the former EATEC-owned land. Each Municipal boundary extension brings privately owned land into the Municipality. Developments in Eldoret town have spilled over beyond the 1988 boundary as evidenced by growth of new settlements in such areas as Kipkorgot, Chepkanga, Sogomo, Kapseret, Baharini and Outspan. The implication of boundary extension in Eldoret Municipality has been the preparation of spatial development plans on piecemeal basis to guide its growth and development. However the expansion of Municipal boundaries have not been informed by any study to determine land suitability and as such the town has expanded haphazardly towards environmentally fragile ecosystems. The growth of Eldoret town has not been in harmony with nature as espoused by Mc Ian Harg, because natural areas such riparian reserves and hilly areas have been encroached by urban developments and thereby making Eldoret town not to grow as a green city.

The spatial urban development trends reflected by submission of building plans in Eldoret Municipality has generally been increasing, from 600 building plans in 2005 to 3139 in 2015.However there was a drastic decline in the number of building plans processed in Eldoret Municipality from 619 numbers of applications in 2007 to 423 in 2008.This represented a decline of 32%.The decline is attributed to post election violence of 2007 and 2008.There was again a rapid increase in the number of building plans processed by Eldoret Municipality in 2010 to 2011, from 642 to 1134 building plans respectively, a clear indication of restored investor confidence and climate in Eldoret Town. The decline in processing of building plans in 2012 and 2013 is attributed to the CGU policy of suspension of developments in order to pave way for formulation of new urban planning and development policies. There was again a sharp increase in the number of approved building plans from 1320 to 3139 in 2014 and 2015 period, a factor which is attributable to the lifting of an embargo on suspension of approval of development applications.

Infrastructure availability was found to be a key variable influencing spatial distribution of developments in Eldoret Municipality as evidenced by a chi-square test value of 136.806 which was found to be much greater than the p-value of 0.000

indicating a significant relationship between land values as influenced by infrastructure availability and development trends in Eldoret Municipality.

It was established that approximately 40 acres of land are transformed into built environment every year, and if there are no interventions, numerous environmental problems are likely to arise including, loss of biodiversity, increased surface runoff, traffic congestion, pollution arising from solid waste disposal and pressure on infrastructure facilities and services, which will need to be addressed through effective urban development control instruments and practices.

The analysis of variables of compliance and effectiveness of urban development control instruments yielded an absolute figure of compliance rate of 62% while non-compliance rate was found to be 38%.Even with 62% of the respondents who had showed evidence of compliance had contravened one or more urban development control standards.Most respondents in various neighbourhoods had unapproved structures on their plots mainly for practicing urban agriculture. The penalties meted out for defaulters of Urban development control instruments are lenient as they are based on Eldoret Town bylaws as opposed to the stipulations in the PPA and therefore non-deterrent. It can therefore, be concluded that urban development control instruments and practices in Eldoret Town are not effective. There is need for all the stakeholders to address themselves to the issues of non-compliance and how to make urban development control instruments to work. The challenges identified for urban development control by respondents and FGD's included; high cost of designs, processing and approvals, inordinate delays, bureaucratic ambience or merry-go-round, corruption lack of awareness of urban development control instruments, insecure land tenure, land disputes, nature and type of development as it relates to whether semi-permanent or permanent developments.

The challenges which confront almost all development control institutions in executing their mandates revolve around, niggardly available resources for urban development control, conflicting roles and competition over urban development control space, lack of data or records, corruption, application of two sets of laws, Eldoret town-by laws and PPA in courts, lack of spatial plans for use in development

control resulting in poor urban development control and associated environmental effects.

6.3 Recommendations

6.3.1 Spatial urban development patterns

The growth of Eldoret town has been expanded through boundary extensions for five times since it started as a Post Office in 1908 and by 1912 the town occupied an area of 11.2 Km2. Subsequent boundary extensions saw new areas being incorporated into the town and as such 25Km2 , 59Km2, 147.9 Km2 were annexed in 1928, 1974 and 1988 respectively. The development trends in Eldoret Municipality has been following a concentric pattern, extending to all directions irrespective of whether land is suitable for urban development or not. It is therefore recommended that any town/city expansion should be guided by land suitability analysis which should specify direction of urban growth as well as identifying environmentally fragile areas for protection. A policy on urban boundary expansion should be developed which will give a framework for towns and cities to be designed and be guided to grow in harmony with nature, as green cities.

Eldoret town is growing very fast with many developments coming up in different locations in a haphazard and random trajectory. It is was found out that approximately 40 acres of land are transformed into built environment by buildings every year resulting in negative urban environmental problems such as; loss of biodiversity, blocked roads, overcrowding, traffic congestion, terrestrial pollution and water shortage. There is need to guide and control developments towards the desired direction and in accordance with urban planning and development standards. The County government and other urban management stakeholders should adopt Smart growth strategies which involve protection of land from premature development and promote development in an environmentally friendly areas and which are arrived at using sieve plan analysis approach.

Developments should not be allowed to creep into environmentally sensitive areas and to encroach on potential agricultural areas. It was observed that buildings have been constructed for example in Milimani ridge in Maili Nne area; near natural water

drains in Langas, within the Sosiani riparian reserve in Elgon View area, and on waterlogging areas of Kimumu. Adoption of Smart growth will curb this kind of urban sprawl and promote development within designated areas of growth and protect conservation and agricultural areas. Smart growth entails designation of an environmental cell or area and giving the zone detail treatment in terms of provision of tangible infrastructure and concentration of building developments in a compact city fashion. Concrete developments should not be constructed haphazardly but in a coordinated manner in Eldoret town. Through zoning, growth areas should be identified within the purview of Smart growth for development. The County Government and other investors should make funds available for infrastructure development including roads, electricity, and water and sanitation services prior to construction of buildings on new sites. Under Smart growth strategies, stakeholders are encouraged to embrace infrastructure development model. Smart growth approach or policy should be used to prohibit development in areas outside designated growth areas, unless the proponents or developers are ready to invest their resources on the require site infrastructure. If Smart growth is adopted at the policy level by UGC, urban sprawl will be curbed by influencing location and spurring developments in various neighbourhood zones. Based on the number of urban developments in Eldoret town, the potential areas for Smart growth will be Maili Nne, Moi- Annex and Kimumu neighbourhood Zones.

The developments in all urban Zones were found to be concentrated on areas which are well served with infrastructure and of high land values. Even within individual plots there were some temporary structures which existed together with approved permanent residential structures, a clear indication that the demand for residential developments in Eldoret town is on the increasing trend. The increasing urban population, coupled with scarcity of land has pushed land prices to be on a higher side such that developers have increased densities of plots in order to meet the housing demand leading to over-development of plots and hence non-compliance. These underscores the need for the County Government and other stakeholders to devise ways and means of availing affordable land for development in various urban zones. This may include acquisition of land from freehold land owners so that it can be planned so well and be allocated at nominal rates to investors and people in need of

residential housing. By so doing urban developments can be coordinated in a meticulously planned manner.

6.3.2 Recommendations for Effective Urban development control

For purposes of ensuring effective compliance with urban development control instruments and practices; the following recommendations are made;

1. Development of a Single Urban development control Instrument

The first step in ensuring that there is better planning and urban development control in Eldoret town is to harmonize all types of plans that govern urban development control decisions. The study found out that there many types of plans which have been prepared on piece meal basis over time which are either statutory or non-statutory. The plans range from Eldoret Town Physical Development plan of 1981 covering the leasehold area; Eldoret Central township development plan, Eldoret Town Land Use Plan; plan for Kipkenyo and Yamumbi areas, Eldoret West-side zoning plan covering Block 20, 21 and 23; Langas informal settlement plan, Moi-Annex Zoning plan, Kapsoya development plan; Kimumu structure plan, Uasin Gishu County Integrated Development plan and the Eldoret Interim land Use proposals plan of 2014.

These types of plans cover over thirty urban zones designated for various land use functions and within a geographical spread of 147.9 Km2.Within the urban control area, are other lower level plans which include land subdivisions, Change of user and Part Development Plans. The weaknesses of these plans are that the plans are overlapping, contradictory and outdated. The plans are also disjointed and inaccurate. Whenever there are building plans requiring consideration for approval, a sectional plan for that zone in question is identified and used in decision making rather than having one single plan for Eldoret town addressing all development control issues. For effective urban development control, it is important that these plans are revised and updated so that one integrated instrument is made available for use in making informed urban development control decisions. The single urban development control instrument which should be developed will be used as a bible by all other urban development control institutions and stakeholders alike. There are some areas within

the jurisdictional area of Eldoret town without any development plan to inform development control decisions and that such areas should be planned very fast in order to solve the existing lacuna in urban development control system in Eldoret Town.

2. Strict Enforcement of Urban Development Control instruments and practices

The study established that none of the building plans underwent through all stages of inspection during the construction stages. It is a requirement that any structure that is to be constructed must be inspected at least eleven (11) times before certificates of occupation and compliance are issued. Failure to carry out regular inspections leads to non-adherence to urban development control instruments and practices and the likelihood of buildings collapsing. This was evident in most of the plots that were visited where there were some existing illegal temporary structures. There is need for the enforcement and inspectorate departments to stop this kind of laxity and ensure that all stages involved in urban development control system are followed to their logical conclusion. There is also need for the County Government to provide the enforcement and compliance wing of Engineer's Department with adequate resources including equipment and finances so that it can be able to discharge their duties well.

3. Elimination of inordinate delays and Bureaucracy

Over 55% of the respondents complained that one of the greatest challenges which they encountered while seeking approvals for development applications was inordinate delays. The delays emanates from consultations with a number of urban development control institutions and agencies which take a lot of time to give comments for their applications before one moves to the next step. As an example the PPA Cap 286 empowers the Physical Planner to make a decision on whether to approve or reject the application within 30 days. Others institutions of urban development control are not bound by any time lines in decision making. It also takes time for various approving technical committees to arrange for sittings and site meetings for considerations of development applications. To solve this challenge of undue delay a central approving station should be set up. An urban development control board should be constituted comprising of independent professionals from different backgrounds in the field of built environment both in the private and public

sectors. The function of the proposed urban development control board will be to receive, approve or reject development applications submitted by clients in cooperation and collaborations with other stakeholders. In the past and even the current situation, the holders of urban development control institutions are the ones designing and approving developments for clients and hence creating a conflict of interest. An independent urban development control board will offer a panacea solution to inordinate delays, bureaucracy and resolution of conflict of interests. Figure 6.1 provides an integrated and collaborative model of Urban Development control which should be christened as an' urban promotion and development board' as a strategy for transforming the negative connotations associated with urban development control which has been viewed as inhibiting rather than facilitating development.

4. Reduction of High Cost of Development Applications

The respondents indicated that high cost of processing development applications is one of the reasons as to why many developers do not comply with the stipulated urban development control instruments. While designing a building plan, the proponents have to engage the services of various private sector professionals including Registered Architect, Quantity Surveyors and Structural Engineers whereby their fees and charges are beyond the resources limits of the developers. Every development control institution is charging fees at every stage of development application process. The study established that the minimum approval fees payable to all urban development control institutions in Eldoret is Eighty Seven thousand Five hundred(Ksh.87,500).At the County Government level a developer is required to clear all the land rates before an application is submitted for consideration.

Most developers have defaulted in rate payments and the amount of outstanding rates have accumulated over the years because of non- payments and despite the waivers frequently given to the land owners by the County Government. Levies charged by urban development control institutions coupled with demand for rates clearance makes developers to shy away from adhering to the laid down development control machinery and thereby resorting to construction without approvals. To solve this problem, it is proposed that prototype plans be designed for every urban zone by the County Government and to be made available to developers who cannot afford to

meet the cost of drawings and specifications. The fees and charges payable to various urban development control institutions should be harmonized so that one form of reasonable fee is levied.

On the question of requiring the applicants to clear all the rates, prior to submission of development applications, the County Government should devise a better approach of collection of land rates for example by requiring plot owners to make rate payment as a continuous process. This may be done by working in tandem with the Service providers such as the KPLC and ENDOWAS, so that as the landlords pay for the utility services of electricity and water, a certain amount of money is factored in for land rates payments. This will address the challenge of accumulation of land rates and which must be cleared before approvals are granted, thereby enhancing effective compliance with urban development control instruments and practices.

5. Creation of awareness

The study revealed that 43% of the respondents were not aware about the existence of urban development control instruments. Although urban development control instruments and practices are applicable to all parts of the country, some developers have the notion that it is only applicable to the public land which is leased to the land owners and not freehold and private land. There is therefore need to mount public sanitization and awareness raising campaigns in all the neighbourhoods on the importance of the application of urban development control instruments. The modes of public education can be through Barazas, radio, newspapers, Bill boards and posters. In the long run there is also need to inculcate people with a culture of being a planning society through introduction of planning in the curriculum in schools and in religious institutions. By so doing the citizenry will grow and appreciate the essence of compliance of planning norms for sustainable urban livelihoods.

6. Provision of Good Leadership and Governance

It was cited by FGD that there is an element of human factor in urban development control process. It is believed that the officials of urban development control institutions have developed a tendency of frustrating applications that emanate from designers in the private sector. It was cited in the media in the Daily Nation Newspaper of June 2014 that Uasin Gishu County was leading in terms of corruption

index. Corruption is a two way traffic the giver and the taker, which contributes to substandard approval of plans and therefore, unsustainable urban environments. There is need to identify personnel of unquestionable integrity to take charge of urban development control processes. The County government should motivate such personnel with better remunerations and emoluments so that they can operate independently without undue influence. The anti-corruption laws and chapter six of the constitution of Kenya 2010 should be applied through vetting of the concerned staff, in order to root out corruption in the entire urban development control system.

7. Specification of Types of developments

There is a dilemma according to the respondents as to whether semi-permanent developments require approval. According the urban development control instruments all developments whether permanent or semi-permanent are subject to approval. A survey revealed that almost every plot in the selected urban zones had a semi-permanent structure or an unapproved perimeter wall. There is need for information to be given to the public on list of types of developments requiring approval and the ones that are exempted. This can be done through a sensitization programme. In addition it is important for urban development control institutions to carry out impromptu inspections in all the plots once in a while in order to remove illegal structures and maintain attractive living environments.

8. Provision of Secure Land Tenure

The respondents are harbouring a belief that where there is insecure tenure, one can carry out development without development permission. This was found to be particularly true in Langas informal settlement and other contested spaces. The argument given is that one is not likely to be evicted once a permanent development is erected. The County government in collaboration and cooperation with the Ministry of Lands, Housing and Urban development, and the National Lands Commission amongst other stakeholders should work out a programme of land titling and resolution of disputes in contested spaces as a strategy for assurance of security of tenure, which is a very important aspect of enhancing compliance with urban development control tools.

9. Branding of urban development control framework

Urban-development control as seen from the lense of development applicants and the FGD has a negative connotation. The activities that are associated with urban development control are still reminiscent of what was performed by the defunct Eldoret Municipal Council involving confiscation of wheelbarrows, demolitions and general harassment of the developers. It is considered as a process which inhibits development rather than guiding it. Urban development control should be christened urban development promotion or urban development management. By renaming urban development control process, people will change their mindsets and business as usual tendencies and support orderly planning and development of urban areas.

10. Review of Urban Planning and Development Standards

There is need for a review of existing standards of urban development control that are inconsistent with the needs and aspirations of the residents. Urban development control instruments outlaws urban agriculture and associated development. The study revealed that majority of the respondents had development structures in form of Dairy shed, and Poultry/Chicken structure, Green houses and the like in their plots which had not been accorded approval. The instruments that are violated frequently by majority of urban population underscore the need for review and development of endogenous and home grown standards.

11. Review and harmonization of urban development control Penalties

There are numerous laws and instruments that govern urban development control including statutory and non- statutory with different approaches to urban development control and sometimes contradictory. The PPA and Eldoret town By-laws are used simultaneously. The PPA stipulates that a fine of a defaulter of Urban development control instruments is up to a hundred thousand Kenya shillings (Ksh 100,000) while Eldoret Town By-laws is a fine of as little as one thousand Kenya shillings (Ksh 1000).The study established that fines of the By-laws are favoured in Court more than those ones stipulated under the PPA because they are low. This leads to the offenders being given lenient penalties that are not deterrent leading to persistence of non-compliance. There is need to review and harmonize all the penalties relating to non-compliance with urban development control instruments.

12. Computerization of Urban development Control Processes

Computerization of spatial urban data should be done to facilitate an establishment of a planning portal for paperless submission and approval of urban development control applications. A good land cadastre system should be developed for effective urban development control. This will result in reduction of bureaucracy and merry-go-round, high cost of processing applications, elimination of inordinate delays, influence of human factors and sometimes disappearance of plans and records. The County Government may seek external support in this venture. Most of the GIS based data bases in urban areas world over, were spearheaded and developed by Universities and research institutions, and as such the County Government can partner with research institutions such as Universities and the donor community for implementation of this GIS-based programme for land management and urban development control. Opakas (2009) identified some of the impacts of Moi University on the local community as; production of graduands from its programmes and University applying its research initiative to the needs of the area. Universities can become handy in this strategy. The County Government may find this strategy useful for data capture for use in revenue generation which is anticipated to increase as a result of its application.

13. Capacity Building

Lack of capacity in urban development control was found to be a cross-cutting issue in all development control institutions. There is need for increased resource allocation specifically for expenses to be incurred on surveillance, involving transport operating expenses for site visits and inspections. Personnel manning urban development control systems should be increased in terms of the relevant professional skills. As a strategy for performance improvement among staff involved in Urban Development control, twinning or networking among Towns and Cities should be encouraged. Sharing of experience and know how among cities through exchange programmes, benchmarking or swapping of personnel in charge of development control will create a synergy for better urban planning and development control of urban areas.

14. Need for inclusion of Emerging Developments in Urban development control instruments

The study established that there are a number of new developments within Eldoret Town which are not recognized by the existing planning norms requiring to be controlled. A survey showed that some households had utilized the remaining part of the plot which is supposed to be left open, for Green house development. Green houses act as some kind of industrial agriculture. Besides changing the micro-climate of the place at the plot level, it also involves use of agro-chemicals which are deleterious to the environment. The wastes that emanate from green houses such as the polythene materials used in roofing and the plastic vessels for storage of chemicals are non-biodegradable and exceed the earth's assimilative capacity. The Green houses also generate a lot of water leading to increased surface runoff and therefore causing flooding.

Similarly it was also established that the change in technological advancement in communication involving installation of cellular masts in storey buildings in the CBD, the hills and other higher grounds in Eldoret Town, contributes towards changing the once beautiful scenery and the form and character of buildings leading to other technological impacts on the environment. Other developments requiring regulation include; M-Pesa ; Tent for shelter structures, Container structures for alternative Postal services and businesses, as well as new type of Kiosks for Shoe polish and the like. These developments look insignificant but they occupy a lot of space especially in the CBD, thus exacerbating congestion and insecurity. Once put in place they cause political undertones when it comes to the process of removal or/ withdrawal. It is therefore, recommended that a clause should be inserted in the statutes and the by-laws that all new and emerging developments that were unforeseen at the time of enactment of laws and other instruments should be subjected to development control instruments.

6.3.3 Proposed Urban Development Control Model

The study has established that development control in Eldoret Town is really a challenge. Urban environmental problems continue to persist despite the existence of urban planning and development control norms. It is the manner of application of these urban development control tools and practices that impact negatively on the environment. There are many urban development control tools and institutions alike

that influence the pattern of urban development in Eldoret town. The institutions that are responsible for urban development control are conflicting and contradictory and are not auguring well to guarantee a well-planned environment. Within the contexts of spatial development theory, systems theory, procedural planning theory, urban management theory, sustainable development paradigm and the concept of public participation, a model of urban development control is proposed.

The model brings together stakeholders in the public and private sectors including the County government's Departments of Fire; Engineer's, Housing and Public Health. Others are; Lands Physical Planning, National Lands Commission, National Construction Authority, National Environmental Management Authority, Occupational Health and Safety Department, Professional bodies of Architectural Association of Kenya (AAK),Kenya Institute of Planners (KIP) and Environmental Institute of Kenya (EIK),Service providers of EDOWAS,KPLC, CCK and Research Institutions. There is provision in the model to co-opt other stakeholders in decision-making pertaining to urban development control. The salient issues in the proposed model of urban development control include; the establishment of urban development promotion and management Board at the centre and whose functions will be to approve development applications in close collaboration with the Physical Planning Office. The aggrieved development applicants can seek redress from appeals bodies such as the Physical Planning Liaison Committees, Land and Environment Court and the High Court. The Proposed model is as shown in the diagram below;

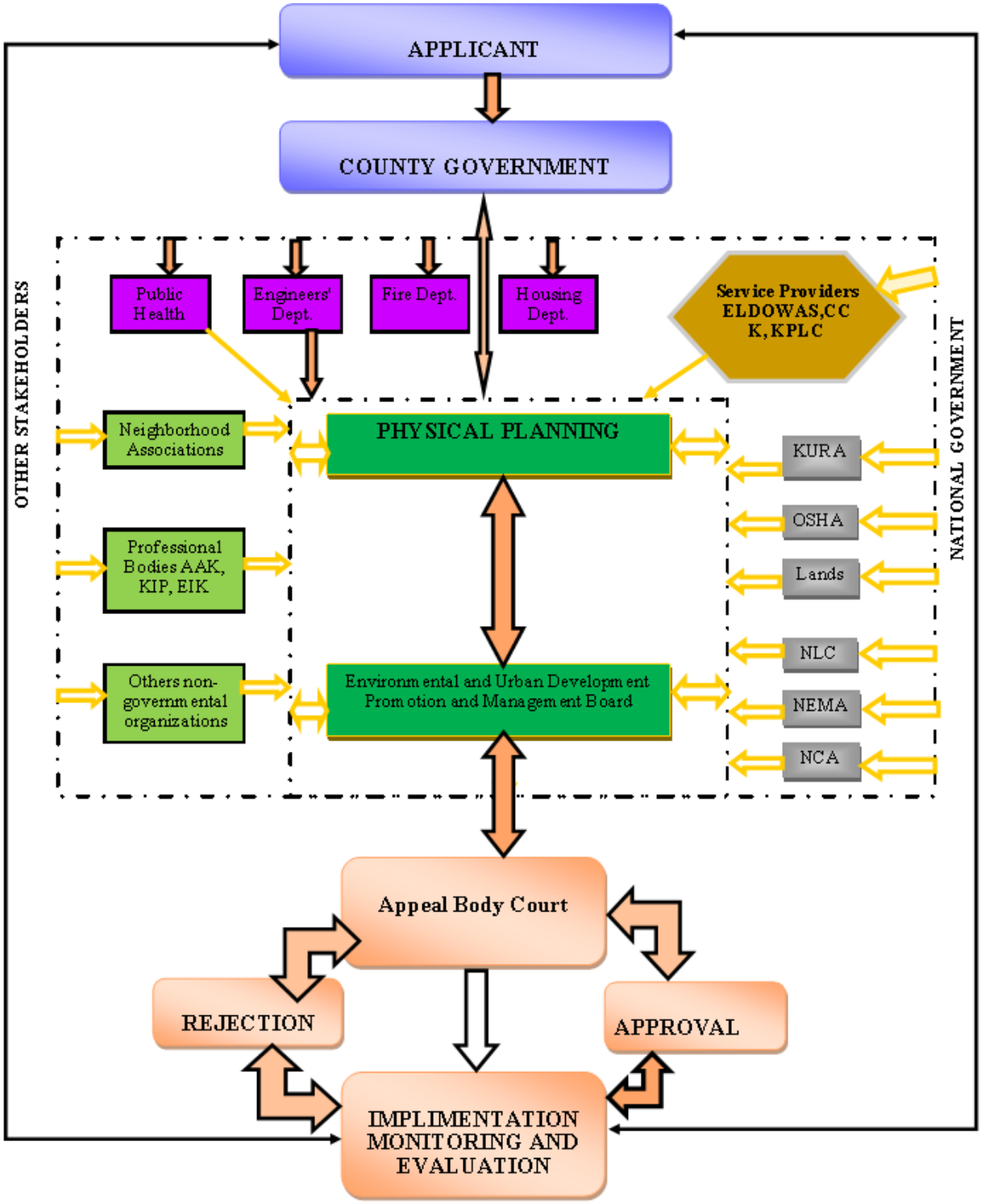

Figure 4.52: Proposed Model of Urban Development Control. Source: Own Construct

6.4 Recommendations for Addressing Environmental problems associated with urban development control

The environmental problems which were identified by respondents, FGDs and through observation that have arisen because of poor urban development control in the selected urban zones can be reversed and corrected through measures that are outlined in Table 6.1

Table 6.1 Environmental problems of Urban Development Control and Proposed Interventions for Sampled Urban Neighbourhoods

Neighbourhood/Urban zone	Environmental Issues/ Problems	Causes	UDC Tools/Interventions
Maili Nne, Block 20,21,23 Peri-Urban Area	Proliferation of Slums e.g. Bondeni, Shirika, Baringo, Kingongo, Keroka, Bondeni, Emkoi, Umoja	-Uncontrolled land subdivision and development of poor structures	-enforcement of planning standards -control sub-division -slum upgrading -provision of sewered sanitation -increase surveillance
	Encroachment of agricultural land, Milimani hill-Kiplombe ridge	-settlement expansion e.g. IVC church area quarrying -creation of roads	-enforcement of EMCA -Regulation of quarrying -zoning of escarpment as a conservation area and tree planting -rehabilitation of quarries
	Flooding/surface water run-off	-increased construction activities -de-vegetation -farming activities -blocked drains -building along streams and natural water drains	-control of developments -protection of natural water drains -unblocking of drains -provision of sewered sanitation
	Blocked roads and poor accessibility	-Construction of buildings on road reserves -narrow roads	-opening of roads -grading of roads -removal of structures on roads
	Terrestrial Pollution	-indiscriminate disposal of wastes including polythene papers -washing of vehicles along streams -leachate of oil from Pipeline	-proper disposal of wastes -provide wash bays -enforce NEMA regulations on waste disposal
	Land use conflicts	-conflicts of roads, land ownership, change of user from e.g. residential to religious user, bars and churches	-use of County physical planning liaison committees, and Environment and land Court Act,2011 -enforcement of zoning regulations

	Air pollution	-Lorries along A104 -Dust pollution during dry season -smoke from Raiply	-enforce EMCA regulations
	Loss of biodiversity	-settlement of escarpment -quarrying activities -cutting of trees by KPLC for power supply	-tree planting -encourage environment friendly designs -enforcement of EMCA
Langas	Overcrowding	-non- adherence to planning standards -poverty	-slum upgrading -economic empowerment programmes -enforcement of planning standards
	Blockage of roads	-non-enforcement of regulation -unauthorized construction -hawking	-unblocking of roads -surveying of plots and roads -acquisition of roads
	Garbage disposal	-non-collection of garbage -indiscriminate waste disposal	-extend privatization programme of solid waste to Langas -provide designated waste collection points
	Boundary and land dispute	-unsecure land tenure	-provision of security of tenure -surveying of plots -solving of disputes Enforce Land Act
	Roaming livestock especially pigs	-urban agriculture -poverty	-enforcement of By-laws -explore alternative income generating activities
	Noise pollution	-vehicles -churches and mosques -radio/music players	-Enforcement of EMCA regulations on noise
	Water pollution	-disposal of waste -high water table -lack of sewered sanitation services,	-provision of extended sewer connections -enforcement of EMCA -provision of piped water
	Poor drainage and flooding	-high water table -lack of drains -blockage of drains -high plot coverage	-mapping and opening of drains -enforcement of development control standards -provision of sewered sanitation
	Inadequate provision of public utilities such as schools, playgrounds, markets, parking, health centres	-poor planning -land disputes -no compensation given to original owners for surrender of land	-acquisition of land for public utilities -enforcement of planning standards -repossession of grabbed land

Kimumu	Ribbon pattern of development along Iten-Chepkoilel road	-non-enforcement of building lines and set backs -poor development control	-enforcement of Physical Planning standards -revision of Kimumu structure plan -demolition of illegal structures
	Encroachment of wetland and fragile areas	-construction of settlements -farming activities	-enforcement of EMCA -protection of wetland/fragile areas
	Pollution of River Marura and streams	-car washing -discharge of waste -buildings near rivers/streams	-enforcement of EMCA -maintenance of 30m riparian reserve -acquisition of privately owned fragile areas
	Blocked drains near Subaru, Peris and Chebarus areas	-construction of buildings	-unblocking of drains -protection of rivers and streams -acquisition of privately owned fragile areas -compensation for built up areas
	Sinking and overflowing toilets near Sinai, Gituro and Rotterdam area	-construction on fragile areas -high water table -lack of sewered sanitation services	-provision of sewered sanitation -control of developments -protection of fragile ecosystems
Elgon View	Pollution of River Sosiani	-overflowing toilets in Sugunanga -car/matatu washing/ -farming, urban agriculture, including green houses	-provide sewered sanitation -provide car washing bays -enforce EMCA regulation
	Land use conflicts	-location/change of user to accommodate bad neighbourhood developments -incompatible uses	-strict enforcement of zoning standards and by-laws -resolution of conflicts through Physical planning liaison committee, and Environment and Land Court,2011

The evidence of environmental issues associated with urban development control is further presented in plates 1-15 in Appendix VI.

6.5 Further Research

a) Assessment of compliance with urban development control instruments was done through external checking of developments and structures against set planning and development standards. It was observed that once approved developments have been constructed and completed, the developers then proceed to make alterations

on the original designs by creating more rooms and spaces without involving urban development control institutions. This is particularly true with some buildings in the CBD where some informal partitions have been done in some offices and eating places. Modification of buildings is a disaster in waiting as materials used are temporary or contributes to overloading of developments leading to the likelihoods of outbreaks of fires and buildings collapsing. There is need to establish the extent to which developers have complied with standards of internal designs.

b) The study gave detail treatment to building plans as one of the aspects of development control. Other components of urban development control worth studying are; change of user, extension of user, subdivisions, and extension of leases. These urban development control elements could be compared with what the scenario is like in other urban areas in Kenya.

c) Urban development control standards are debatable in view of the prevailing socio-economic and environmental situations. An urban development control standard which is violated every now and then by many people calls for a thorough review. There is need for a study on appropriate standards of urban development control in various jurisdictions.

The other broad areas requiring further research include;

i. Urban development control and disaster management
ii. Informal settlement, Investment, and urban development control
iii. Urban development control and climate change
iv. Technology and urban development control.

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APPENDICES

APPENDIX I:INTERVIEW SCHEDULE FOR DEVELOPMENT CONTROL INSTITUTIONS

The interview schedule is intended to collect information on a **study on effectiveness of urban development Control in Eldoret Municipality.** Please respond to all questions provided. Your honest answers are very important to this study. Your responses will be treated with utmost confidentiality and will not be used for any purpose other than this study.

Name of Institution……..

1. Give an overview of the past and present urban development control instruments which have been used in Eldoret Town (Attach copies).

2. How many laws, regulations and other instruments are governing various aspects of urban development control? Indicate the number of provisions and clauses for urban development control.

3. What type of plans and standards are used for urban development control in Eldoret Town?

4. What procedures are involved in urban development control processes for various categories of developments?

5. What costs are incurred by the applicants/developers in your Department in urban development control?
6. Who are your stakeholders in urban development control and their corresponding roles?

7. What provisions in law, regulations, by-laws and other instruments have not been used in urban development control?

8. What types of plans are handled in the process of urban development control?

9. How many applications were received from 2005 to 2015 indicate in the table below.

Type of Application	Period/Year										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Building Plans											
Extension of Lease											
Change of User											
Extension of user											

10. Indicate the number of plans which were approved or rejected in 2005to 2015.

11. Which development applications are contentious?

12. What is the direction of urban growth as evidenced by applications in Eldoret Town?

13. What are the cost and time taken when processing various types of plans (Attach Service Charter).

14. What considerations are taken into account during plan approval process?

15. What development control standards are followed in various zones? (Attach plans.)

16. What reasons can be given for plan rejections?

17. In case an application is rejected, what is the applicant supposed to do?

18. How do you monitor the implementation of development applications?

19. What tools, documents do you use to control developments?

20. How many planning appeals have been lodged from 2005-2015?

21. Indicate the nature of appeals and the corresponding verdicts?
22. How many planning appeals have landed in Physical planning liaison committee and Land and Environment Court and the High courts? Indicate their verdicts.

23. What are the strengths and weaknesses of the institutions which determine planning appeals?

24. What is the cost of lodging planning appeals?

25. In your view, what reasons are given by developers for non-compliance with urban development control instruments?

26. In the recent past there are various cases of buildings collapsing in urban areas, what causes the buildings to collapse?

27. What can be done to prevent buildings from collapsing?

28. What is the relationship between your Department and other development control institutions (Attach organizational chart)?

29. How many personnel are manning urban development control processes in your Department?

30. What are their qualification and experiences?

31. How many consultants and designers are registered with your institution and who handle development control application?

32. In your budget, how much of the total cost is spent on urban development control activities?
33. How do you involve the public on matters pertaining to urban development control?
34. How many neighbourhood associations are registered with your organization and what are their roles? List them and indicate their areas of operation.
35. What Environmental problems are associated with urban development control?
36. What solutions do you suggest to address the problems?
37. How many Environmental Impact assessments (EIA)/Environmental Audits (EA) been done for buildings? Provide the information in the following format;

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
EIA											
Audit											

38. What type meetings are convened to address the Urban Development control issues?
39. How are the resolutions enforced?
40. What non-statutory urban development control practices, (not legislated) have been adopted to improve urban development control process in Eldoret Town?
41. How can urban development control laws, by-laws, regulations and other instruments be improved?
42. What other information do you consider important for this study?

Thank You very much I might come back again for your assistance with additional data

APPEDNDIX II:QUESTIONNAIRE FOR HOUSEHOLDS

The Questionnaire is intended to collect information on the **Study on the Effectiveness of urban Development Control instruments in Eldoret Municipality.** Please respond to all questions provided. Your honest answers are very important to this study. Your responses will be treated with utmost confidentiality and will not be used for any purpose other than this study.

SECTION A: BACKGROUND INFORMATION

Please respond by ticking [✓] or filling appropriately in the spaces provided.

Please provide the following:

1. Gender

   Male ☐ Female ☐

2. Age

   20-24 years ☐ 25-29 years ☐ 30-34 years ☐ 35-39 years ☐ 40-44 years ☐

   45-49 years ☐ 50-54 years ☐ 55-59years ☐ >60 years ☐

3. Level of education

   Primary ☐ Secondary ☐ College ☐ University ☐

   Others specify…….

4. What is your current occupation……
5. How many people are living in your plot……..
6. Name of your neighbourhood/zone…….
7. Distance to the Central Business District……..

SECTION B: SITE CHARACTERISTICS

Please provide the details of your plot

1. Plot number……
2. Acreage in Hectares…….
3. User

   Residential ☐ Commercial ☐ Industrial ☐ Educational ☐ Public Purpose ☐

   Others specify……..
4. Value of the plot……..
5. Land tenure

1. Government lease ☐ 2.Council/County lease ☐ 3.Freehold ☐ 4.Private lease agreement ☐

   Other specify……..
6. Indicate whether you have applied for a change of user,

   Yes ☐ No ☐
7. How did you acquire the plot

   Buying ☐ Government allocation ☐ Council allocation ☐

   Inheritance/gift ☐ Leasing agreement

   Other specify……
8. Methods of sewage disposal

   Municipal sewer ☐ Septic tank ☐ Pit latrine ☐

   Others specify……
9. Source of water supply

   ELDOWAS water supply ☐ Borehole/wells ☐

   River streams ☐ Roof catchment ☐

   Water vendors ☐ others

specify……
10. Main Source of Energy

    Electricity ☐ Paraffin/kerosene ☐ Charcoal/fuel wood ☐

    Solar ☐ Wind ☐ Gas ☐

    Others specify…….
11. Distance to the tarmac road

    <500m ☐ 0.51-1.0km ☐ 1.1-1.5 km ☐ 1.51-2.0 ☐

    Km

2.01-2.5 km ☐ 2.51-3km ☐ 3.1-3.5 km ☐ >3.51km ☐

SECTION C: DEVELOPMENT APPLICATION PROCESS

1. Who prepared a building plan for you?

Registered architect ☐ Registered engineer ☐

Registered physical planner ☐ Municipal officers ☐

Public health officer ☐ others specify……

2. How much did you spent on building plan drawing?

1000-5000 Kshs ☐ 5001-10,000 Kshs ☐ 10,001-15,000 ☐ Ksh

15,001-20,000 Kshs ☐ >20,000 Kshs ☐

3. What steps did you follow while processing you application? Rank them.

Municipal Engineer ☐ NEMA ☐ Lands office ☐

Public Health ☐ Physical planning ☐ NCA ☐

KURA ☐ NLC ☐ Fire Dept. ☐

Others specify…….

4. Who processed your application?

Self ☐ Agent ☐ County official ☐ Designer ☐

Others specify……..

5. What documents were required to be attached to your application?

Drawings ☐ Copy of title deed/lease ☐

Official search ☐ Rates clearance certificate ☐

Pin certificate ☐

Others specify……

6. Please indicate the time you took and the corresponding costs incurred in processing your application in various offices as tabulated below.

Office	**Time taken (days)**	**Cost (Kshs)**
Town Engineer		
Physical planner		
Land office		

Nema		
Public Health		
Fire Department		
NLC		
KURA		
Airport's Authority		
ELDOWAS		
Others Specify		
KURA		
NCA		
FIRE Dept.		
NLC		

7. Please rate the performance of the listed development control institutions when processing your building application. (Tick One).

Institution	**Very good**	**Good**	**Satisfactory**	**Poor**
Town Engineer				
Physical planning				
Lands office				
NEMA				
Public health				
Others Specify				
KURA				
NCA				
FIRE DEPT				
NLC				

8. Were you aware of the Planning and Development standards of your neighbourhood or zone before you began to submit your application?

   Yes ☐ No ☐

9. What challenges did you face while processing your application from various

developmental control institutions?

Institution challenge	Delay	Bureaucracy	High cost	Rejection	Others specify
Eldoret Municipal					
Physical planning					
Lands office					
NEMA					
Public Health					
Others Specify					
KURA					
NCA					
FIRE DEPT					
NLC					

10. What documents were given to you as evidence of plan approval?

Compliance certificate ☐ Occupation certificate ☐

Development application form PPA2 ☐ Job card ☐

Others specify……..

SECTION D: BUILDING DEVELOPMENT

1. Indicate whether development is

Massionate ☐ Bungalow ☐

Flat ☐ Servants quarters ☐

Town house ☐ Temporary ☐

Other specify……..

2. What motivated you to develop your plot?

Zoning standards ☐ Availability of sewerage supply services

Availability of water supply services ☐ Proximity to CBD ☐

High rents charged ☐ Land values ☐

3. What stage of building development have you reached?

Foundation ☐ Partitioning ☐

Lintal level ☐ Roofing level ☐

Finishing ☐ Completed/inhabited ☐

Other specify…….

Is there any variation between the approved plan and the constructed building?

Yes ☐ No ☐

4. If Yes, what reasons do you give for variation……..
5. What is the plot coverage in square metres of your building? (Measure the area).
6. Provide measurements for;

   (a) The distance between the edge of the road and the building……..metres (building line)

   (b) The distance between the fence and the walls of the building……metres (setback)
7. How have you utilized the remaining part of your plot? Indicate the space area utilized?

   Open grass ground ☐ Parking space ☐

   Garden/Farm ☐ Other buildings ☐

   Other specify……..
8. What type of fence do you have?, and state whether it is approved or not;

Fence	**Approved**	**Not approved**
Construction wall		
Chain link		
Edge gross/trees		
Wire mesh		
Others Specify		

9. Do you have in your plot the structures for the following?

Structure	**Yes**	**No**	**Approved**	**Not approved**
Watchman				
Dogs				
Cows/Shed				
Chicken/Poultry				
Parking of vehicles				
Others Specify				

10. In your opinion what kind of developments should be exempted from approval…….
.
11. How many times was your building inspected during construction?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

Other specify……..

12. Is there a case in your neighbourhood or a zone where an applicant has constructed a structure which you are unhappy with (Illegal)?

Yes ☐ No ☐

13. If yes, explain……
14. Have you ever complained about illegal developments?

Yes ☐ No ☐

If yes, which approach did you use to channel you complain?

1. Complain to physical planner/liaison committee ☐
2. Reported to County ☐
3. County Administration (Chief) ☐
4. No action ☐

Other specify……

17. In your view, what is your rating of your zone/neighbourhood in terms of developments which are coming up?

Poor	Satisfactory	Good	Very good
☐	☐	☐	☐

18. Are you a member of a Neighbourhood Association?

Yes ☐ No ☐

19. If Yes, When did you last attend a Neighbourhood Association meeting?

1 year ago ☐ 2 years ago ☐

3 year ago ☐ Over 4 years ☐

Other specify…….

20. Would you like the development standards of your zone or neighbourhood to be changed?

Yes ☐ No ☐

21. If Yes Explain……

22. In your view, what reasons do people give for not complying with building regulations and standards?

High development standards ☐ High cost of rates Red tape ☐

Others don't apply/precedent ☐

Others

specify……

SECTION E: ENVIRONMENTAL ISSUES

23. What are the consequences of non-adherence to urban development controls instruments? Rank them using numbers 1 – 7.

Blocked roads	☐	overcrowding	☐
Traffic congestion	☐	Encroachment of public utilities	☐
Increased disputes	☐	Disasters/flooding	☐

Other specify…….

24. What environmental issues do you experience at your plot level? Rank them using numbers (1-7).

Surface runoff/flooding	☐	Overcrowding	☐	Garbage disposal	☐
Sewage disposal	☐	Devegetation	☐	Air pollution	☐
Noise pollution	☐	Traffic congestion	☐	Water shortage	☐

Others specify……

25. What positive environmental impacts are associated with building development? Rank them using numbers.

1. Income from rents ☐
2. Increase lands/plot value ☐
3. Provision of infrastructure, (Water, road, electricity and sewer system) ☐

4. Employment directly or indirectly ☐
5. Improved scenic appreciation ☐
6. Other

specify……

26. What are the environmental problems of your zone/neighbourhood?

Air pollution	☐	Surfaces runoff/flooding	☐
Blocked drainage	☐	Traffic congestion	☐
Noise pollution	☐	Overcrowding	☐
Devegetatiuon	☐	Eyesore structures/buildings	☐

Others specify…….

27. How can urban development control related environmental problems be solved?

……

SECTION F: RECOMMENDATIONS FOR BETTER IMPROVEMENT OF URBAN DEVELOPMENT CONTROL INSTRUMENTS AND PRACTICES

28. In your opinion how can urban development control systems be improved?

……

29. List some institutions and stakeholders that you think should be enjoined in the urban development control process in Eldoret Town?

.....……

30 What other information do you have to say on urban development control instruments and practices……

Thank You very much I might come back again for your assistance with additional data.

APPENDIX III:QUESTIONNAIRE FOR PRACTICING DESIGNERS

The questionnaire is intended to collect information on a **Study on the Effectiveness of urban Development Control instruments in Eldoret Municipality.** Please respond to all questions provided. Your honest answers are very important to this study. Your responses will be treated with utmost confidentiality and will not be used for any purpose other than this study.

SECTION A: BACKGROUND INFORMATION

Please respond by ticking [✓] or filling appropriately in the spaces provided.

1. State the category of the professional consultant;

   Planner ☐ Quantity Surveyor ☐ Advocate ☐ Engineer ☐

   Architect ☐ Valuer ☐ Contractor ☐

   Others specify……

2. What professional qualifications do you hold?

   ☐ Certificate ☐ Diploma ☐ Degree ☐ Masters ☐ PhD

   ☐

   Others Specify…….

3. For how long have you practiced?

   Less than a year ☐ 3 years ☐ 4 years ☐

   5 years ☐ over 5 years ☐

4. Indicate whether you are registered by the following professional institutions?

   Architectural association of Kenya ☐ Planners Registration Board ☐

   BORAQS ☐ Law society of Kenya ☐

   NEMA ☐ Engineers registration board ☐

   No registration ☐ National Construction Authority ☐

   Others specify…… …….

5. Under which provisions in law allows you to practice (attach a copy)……

6. What is the scope of your activities? (List them) ……

7. How much time do you take on average to design a drawing for a client?

   Less than a week ☐ 2 weeks ☐ 1 month ☐ over one month

   Others Specify……

8. How much do you charge on average in Ksh…….

9. a)Do you process the application on behalf of the clients

   b) Yes ☐ No ☐

   c) If yes, how much do you charge for processing one application?

   ……

10. Please provide the information of the number of drawings done from 2005 to 2015

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
No of plans											

11. Kindly distribute the number of buildings drawn according to the neighbourhoods and zones…….……

12. In your opinion what factors do you consider as being responsible for spatial development trends in buildings and development?

13. When processing the applications, what challenges do you encounter in the following developmental control institutions?

    Town Engineer……..

    Fire Department…….

    Physical planning……

    Land office……..…….

    NEMA……..

    Public Health

    National Construction Authority

    Others specify……

14. On what basis is plan approval granted by the development control institutions?

    ……

15. Which sections of the urban development control instruments needs Review.....

16. In the recent past, some buildings have collapsed in other towns. In your opinion what causes buildings to collapse? .....
17. What reasons do applicants give for not adhering to urban development control instruments and practices …….....
19. Please indicate the degree of effectiveness of the following urban development instruments where;

    5= extremely effective (EE) 4 =Quite effective (QE)

    3= Effective (E) 2 =Least Effective (LE)

    1 =Not effective (NE) as shown in the table below.

Urban Development Instruments	EE	QE	E	LE	NE
Eldoret town physical plan					
Eldoret Town by laws					
Physical planning laws and regulations					
Land Act					
Public Health Act					
NEMA					
Airport Regulations					
KURA					
Other material considerations					

20. In your opinion which development applications should be exempted from development control framework…….
21. Is there a lacuna in the urban development control instruments?

    Yes ☐ No ☐

    If yes, explain…….
22. What emerging developments do you think should be subjected to urban development control instruments ……
23. What do you consider as the effects of non-adherence to urban development control instruments?
24. How can urban development control processes be improved?

25. What other information do you have to say on urban development control instruments and practices in Eldoret Town?

Thank You very much I might come back again for your assistance with additional data

APPENDIX 1V:QUESTIONNAIRE FOR FOCUSED GROUP DISCUSSIONS

The questionnaire is intended to collect information on a **Study on the Effectiveness of urban Development Control instruments in Eldoret Municipality.** Please respond to all questions provided. Your honest answers are very important to this study. Your responses will be treated with utmost confidentiality and will not be used for any other purpose other than this study.

Name of the Urban zone/Block……

1. Give a brief background of the zone that you live in indicating population, area, the number of plots and infrastructure availability.
2. Why do people prefer to live and work in your zone?
3. How many types of plans have been prepared to guide development in the zone?
4. What development standards are observed in this zone?
5. To what extend have the physical development plans been implemented? (Indicate what has been implemented and what has not).
6. How are the developments/buildings monitored during the constructions?
7. How many Neighbourhood Associations are operating in this zone? (List them).
8. What are the activities of the Neighbourhood Associations?
9. (a) Are there any buildings which have been demolished in your zone? ( )Yes () No

   (b) If yes explain……
10. What about buildings which have collapsed? ()Yes () No

    If yes explain……
11. Explain why some developers do not comply with urban development control instruments?
12. Please indicate the type of planning conflicts which have been experienced in your zone.
13. Which method is used to solve urban Development Control related conflicts?
14. How effective are the conflict resolution methods stated in 13 above.
15. What environmental problems are associated with Urban Development control instruments and practices?
16. How can these problems be addressed?

17. In your zone, who should be involved in Urban Development Control process and why?
18. In your opinion how can urban development control system be improved?

APPENDIX V: CIRCULATION FOR COMMENTS FORM

REPUBLIC OF KENYA
COUNTY GOVERNMENT OF UASIN GISHU
MINISTRY OF LANDS, HOUSING & PHYSICAL PLANNING

EXAMINATION OF DEVELOPMENT APPLICATION FORM

PLAN NO: _____ DATE. _____
BLOCK NO: _____ NATURE OF DEVELOPMENT _____
OWNER & ADRESS _____ P.O. BOX _____

Contact Person: _____ Tel. No: _____

CIRCULATION FOR SECTORAL COMMENTS: _____

S/N	OFFICE / SECTOR	COMMENTS	SIGN & STAMP
1.	COUNTY PHYSICAL PLANNER		
2.	COUNTY LANDS OFFICER		
3.	PUBLIC HEALTH OFFICER		
4.	COUNTY STRUCTURAL ENGINEER		
5.	COUNTY ARCHITECT		
6.	FIRE & RESCUE SERVICES OFFICER		
7.	PLANNER - DEVELOPMENT CONTROL		
8.	OTHERS APPLICABLE SECTOR(S)		
9.	APPROVAL:		

APPENDIX VI: PICTORIAL EVIDENCE OF THE STATUS OF APPLICATION OF URBAN DEVELOPMENT CONTROL INSTRUMENTS IN ELDORET MUNICIPALITY

Plate 1: Water pollution caused by car wash at Marula River, Kimumu. Source: Field Data

Plate 2: Encroachment by buildings on the natural water drains in Maili Nne. Source: Field Data

Plate 3: Construction of structures on top of water and sewer lines in the CBD. Source Field Data

Plate 4; Encroachment of A104 Road by Lorry Parking at Road Block area, Maili Nne. Source: Field Data

Plate 5: Traffic congestion in the CBD due to Non-provision of underground parking spaces. Source: Field Data

Plate 6: Monopitch Housing development type encroaching on natural water drain in Elgon View Low Density Neighbourhood. Source: Field Data

Plate 7: Emerging Green House developments in Elgon View Area. Source: Field Data

Plate 8: Existing Workshops, Industrial User in Elgon View High Class Neighbourhood. Notice that this development has been a source of conflict between the owner and the residents over its location. Source: Field Data

Plate 9: Compliant Kerio Valley Development Authority (KVDA) building with underground parking. Source: Field Data

Plate 10: Evidence of Non-implementation of Resolution of Physical planning Liaison committee on demolition of the structure in the CBD. Source: Field Data

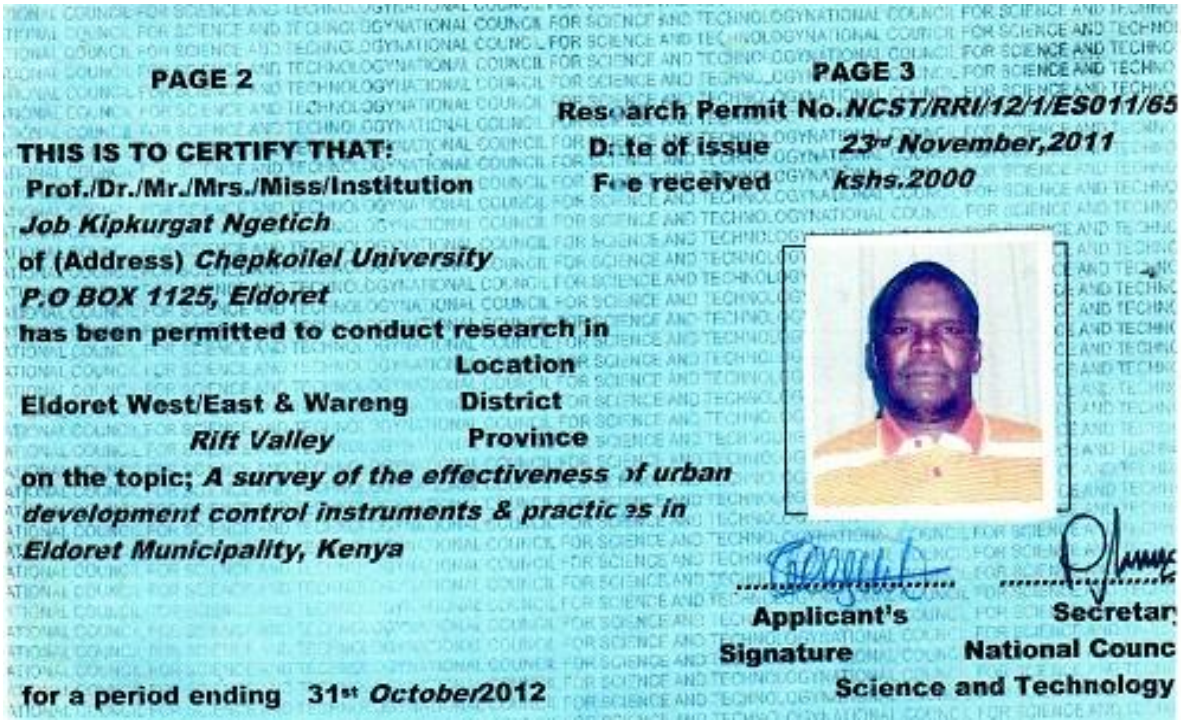
Plate 11: Demolished part of the building that encroached on the Road Reserve along Yamumbi - Langas Area. Source: Field Data

Plate 12: Upcoming developments in Kimumu along Eldoret - Iten Road. Source: Field Data

Plate 13: Encroachment of the roads by structures at Elgon View Road. Notice KURA's Yellow X Marking. Source: Field Data

Plate 14: Encroachment of structures on River Sosiani's Riparian Reserve. Source: Field Data

APPENDIX VII: RESEARCH PERMIT FOR THE NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY



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THIS IS TO CERTIFY THAT:

Prof./Dr./Mr./Mrs./Miss/Institution *Job Kipkurgat Ngetich*

of (Address) *Chepkoilel University P.O BOX 1125, Eldoret*

has been permitted to conduct research in

Location Eldoret West/East & Wareng

District

Province *Rift Valley*

on the topic; *A survey of the effectiveness of urban development control instruments & practices in Eldoret Municipality, Kenya*

for a period ending 31st *October*2012

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Research Permit No.*NCST/RRI/12/1/ES011/65*

Date of issue *23rd November,2011*

Fee received *kshs.2000*

Applicant's Signature

Secretary National Council Science and Technology

APPENDIX VIII: RESEARCH PERMIT FOR THE COUNTY GOVERNMENT

REPUBLIC OF KENYA
COUNTY GOVERNMENT OF UASIN GISHU

Tel. NOs:direct line:020-33754
020 2329037
+253-053-2033737
+254-053-2061330
+254-053-2062208
+254-053-2062884
Fax: +254-053-2062884
Website:www.uasingishu.go.ke
Email:info@uasingishu.go.ke

When Replying, Please Address to:
County Secretary
Uasin-Gishu County
P.O. Box 40 – 30100
Eldoret, Kenya.

REF: UGC/ADM.1/31/VOL.VI/(116) 31 January, 2015

Mr. Job K. Ngetich,
P.O. Box 1125-30100,
ELDORET.

PERMISSION TO CARRY OUT RESEACH

You are hereby granted authority to carry out research entitled "**A Study on the Effectiveness of Urban Development Controls Instruments and Practices in Eldoret Town.**"

You may request for data and information from our departments. Our Planning Section has been informed of this authority.

Please file a report on your findings with the Chief Officer Lands, Housing & Physical Planning for our internal use upon completion of the study.

Please accept my wishes as you embark on the study.

Peter Leley
COUNTY SECRETARY/
HEAD OF COUNTY PUBLIC SERVICE

c.c. Chief Officer Education, Culture, Youth Affairs & Social Services
Chief Officer Lands, Housing & Physical Planning