

**URBAN LAND USE CHALLENGES IN NEW ADMINISTRATIVE
TOWNS IN KENYA;**

**A CASE STUDY OF KENOL TOWN, MURANG'A SOUTH
DISTRICT**

BY

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DECLARATION

I declare that this Planning Research Project is my original work and that to the best of my knowledge it has never been presented for award of a degree in any other University.

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DEDICATION

To Mum and Dad, for bringing me up responsibly and teaching me to be true

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First and foremost I thank the Almighty God for the gift of life, knowledge and good health throughout my study. For without God, I could not be breathing to carry out the research and write this research paper.

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ABSTRACT

Urban land use practice in Kenya has failed to influence land development patterns in the rapidly growing small urban centres. Kenya's experience reveals the lack of adequate official government interventions and established procedures in formulating decision making rules for the allocation of land, the control, approval and regulation of urban development. Evidence in Kenya shows the inability of physical planning to hinder the occurrence of the problems associated with contemporary land use planning in these towns.

This research project provides an analysis of the main land use planning problems facing Kenol town as a small district administrative town in Kenya. Urban land development is supposed to take place in accordance to some established policies and guided by a physical development plan. This study focuses on the various land uses found in Kenol town and the planning challenges facing them. As the study will reveal, most of the physical developments in Kenol town have been taking place without a plan and guidance from the physical planners. The capacity of the physical planning institutions in controlling the development has had its influence on the land use problems in the town. The major problems in Kenol town arising from the lack of a spatial land framework is the haphazard mixed developments, inadequate public land for development of public utilities and poor infrastructural facilities. A comprehensive field survey was conducted to gather information which was analyzed to come up with the key study findings outlined in chapter five. Finally, the study makes recommendations for the way forward in tackling the problems of land use planning as in Kenol town.

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LIST OF ACRONYMS

| | |
|---------|---|
| MTC | Makuyu Town Council |
| MCC | Maragua County Council |
| CBS | Central Bureau of Statistics |
| ERS | Economic Recovery Strategy |
| CBD | Central Business District |
| SACCO | Savings and Credit Cooperative Society |
| UN | United Nations |
| D.C | District Commissioner |
| O.C.P.D | Officer Commanding Police Division |
| N.E.M.A | National Environment Management Authority |
| C.B.O | Community Based Organization |
| N.G.O | Non-Governmental Organization |

CHAPTER ONE: INTRODUCTION

1.0 Overview

One-third of population in Africa and Asia live in towns of between 2,000 and 200,000 people (<http://web.worldbank.org>2007). Both the number of towns and the number of people living in them in Africa, Asia, and Latin America are expected to double within 15 years, and to double again within 30 years. This rapid pace of urbanization, together with challenges and opportunities for local governments resulting from this raises fundamental concerns to make towns that will have economic growth and achieve the millennium development goals.

Towns with population between 2,000 and 50,000 face special challenges in planning and administration (<http://web.worldbank.org>2007). The demand for differentiated technologies and the often rapid and unpredictable infrastructure and service demand growth and spatial expansion require planning, design, and management skills that go beyond those needed for community-based management approaches in rural areas. But, unlike larger towns or cities, these smaller towns often lack the financial and human resources to independently plan, finance, manage, and operate their systems.

Another key challenge for small towns is the allocation of limited government resources among a large number of dispersed towns. For every large town with a population of fifty thousands to two hundred thousands, there are about ten smaller ones with a population of two thousands to fifty thousands. The goal should therefore be to establish towns with the minimum viable investment, and to ensure that reforms are put in place so that the utilities can meet carefully defined cost-recovery objectives.

Traditionally, central governments have used their grants on local governments and utilities to bail out poor performers. In the past decade, however, some governments have managed to make their transfers conditional on the milestones in reform or performance of local governments or utilities. Some are preferred to be merged to improve performance of smaller local authorities. Decentralization ó especially in countries that lack the financial resources to fulfill all needs ó enables central governments to provide financial incentives to those municipalities or utilities that do better, and withhold finances from the non-performing ones.

In addressing the small town challenge, governments may need to identify appropriate management arrangements that can cut across more than one town, ensure that design and financing requirements are suited to these towns, and make arrangements to secure effective professional support. A business planning approach that integrates these aspects of service provision and factors in the role of both utility managers (service provision) and town administrators (regulatory oversight) is a fundamental part.

The past few years have seen the steady transfer of administrative functions in Murang'a South District from Mariira to the Kenol Administrative Centre, in fulfillment of the administration's commitment to manage growth without excessively increasing the need for additional resources. This was deemed necessary after the formation of the new district. As the number of programmes and offices increase, Kenol town centre can hardly support its designated functions – particularly in the key areas of information technology and administrative services that have induced mounting pressure to keep pace with the growth of the town within existing financial constraints even as programmes are expected to continue to increase.

1.1 Research Problem Statement

The new districts the Government created in the run-up to the general election have become a challenge for residents they were meant to serve. Districts were created in several parts of the country even after concerns were raised at the pace at which new administrative units were being created. Some critics argued that it was a political move aimed at wooing voters. Calls challenging the move went largely unheeded. In its defense, the Government argued that creation of districts was necessary to take services closer to the people. But more than six months after most of the districts were created. The Government's vision appears to have taken off to a faltering start. Reports from various parts of the country indicate that besides disputes over district boundaries, inadequate funding, lack of key Government departments, offices, and houses for staff posted to the areas continue to plague the new administrative units.

The main problems and challenges in the newly established Murang'a South district headquarters, Kenol town evolve around the lack of a physical development strategy and land use plans to take care of its rapid developments and as a guiding planning framework for its growth. Essential infrastructure facilities/ services and social amenities to support its rapid development are not adequately catered for. There is neither a district hospital nor a divisional police headquarter, housing and offices for staff posted to the new district still pose one of the new administrative units'

major challenges as is the lack of key departments such as education, agriculture, and district information offices.

The purpose of this research will therefore be to understand the planning challenges that face small administrative towns in Kenya. In particular, the study investigates the problems confronting Kenol administrative town as a designated district headquarters for Murang'a South District.

1.2 Goals and Objectives

The goal of this research project is to investigate the grounds under which Kenol town was elevated from a former market centre to a district headquarters and the implications of these for its physical and socio-economic development. The broad objective of the research is to find out whether there was any previous efforts in planning Kenol town to function as a district headquarter. Specific objectives of the study will include:

1. To find out the criteria used to establish Kenol town as the new district headquarters for Murang'a South District
2. To find out whether there was any previous land use planning effort for Kenol town before it became the district headquarter town.
3. To understand the land use challenges facing Kenol town as influenced by its elevated status as a designated district headquarters.
4. To project the impacts of Kenol development as the administrative centre on the surrounding areas
5. To explore planning options that can be applied to transform Kenol into an effective and fully developed district headquarters.

1.3 Justifications of the Study

The increased need for decentralization in service provision has seen the creation of new districts and district headquarters but without pre-planning for these headquarters towns. Murang'a South District lacks a Physical Development Plan/Land Use Plan to guide and coordinate development of infrastructural facilities and for the specific control of the use and development of land thus, no planning framework for its headquarter town; Kenol town. Kenol Town is experiencing rapid urban growth, population expansion, significant commercial activities, residential, institutional and infrastructural facilities and services developments but without a development plan to guide, regulate and coordinate these urban activities. The research is justified since it will benefit various

players in the field such as the central government, local government, developers and residents of Murang'a South District in realizing the importance of planned small towns with necessary infrastructural facilities/services bringing economic and environmental efficiency.

1.4 Scope and Limitations of Study

The study would have covered the whole of Kenol town that is under the Makuyu Town Council and Maragua County Council but particular emphasis is focused on the main commercial zone and administration zones, which are areas under Makuyu Town Council. This area is approximately 5KM² and is the area bounded by the roads forming a round about. Refer to the locational map (plate 1). The study is limited by lack of updated and spatial maps regarding Kenol town and also limitations of information gaps especially on important statistical data.

1.5 Organization of the Study

The study is organized into six chapters. The first chapter is introduction which mainly introduces the study objectives and gives an overview of the whole research undertaking. The second chapter deals with the research methodology. These are the stages that the study has followed starting from objective setting, data collection, data analysis until data presentation. The third chapter on literature review brings out more understanding on the topic of the research and this was done through extensive reading of relevant materials from libraries and published work on the internet. The fourth chapter discusses the study area in depth in terms of its geographical setting, physical conditions, population and the infrastructural facilities available in the study area. Chapter five gives the research key findings and data analysis. The final chapter which closes the research study concludes with critical recommendations and planning proposals for development of Kenol town.

1.6 Operational Terms

The following are operational terms in the study.

1. Development- any material change in use or density that takes place on land or building
2. Land use- the nature under which the land is being utilized or intended to whether developed or not.
3. Administrative town- this is an urban centre that is designated to host the central government offices and mainly administrative nature kind of services to the general public.

4. Developer- this refers to any registered agency or a private person who is undertaking a major land use.
5. Development control- this refers to any means used to guide the nature, intensity and character of development on land within policy guideline.

CHAPTER TWO: RESEARCH METHODOLOGY

2.0 Overview

This section describes the procedure that was followed in conducting the research study. This is an important section since the research design determines the research results and findings. Situations of the respondents, time available and resources available determined the research methodology to have the quickest way to obtain data. Pertinent steps include literature review, site visits, collection of data, data analysis and data presentations. These steps are discussed further in detail as below.

2.1 Nature of Data Needs

There are two natures of data and these are primary and secondary data needs.

2.1.1. Primary Data Needs

This is data that is first hand collected direct from the field survey. A primary source is a direct description of any occurrence by an individual who actually observed or witnessed the occurrence. This review of literature is based on primary sources as much as possible because information from secondary sources may be altered by the writers. Primary data were obtained through interviewing and administering of questionnaires, photography, sketching in addition to observation. Primary data needs will consists of history of the study area, land ownership, household information among others.

2.1.2 Secondary Data Needs

this include data that was collected mainly through literature review and will entail reading published books, scholarly journals, government documents, theses and dissertations, papers presented at conferences, newspapers and unpublished work concerning the subject matter.

2.2 Types of Data

Various types of data have been incorporated in this study. This includes;

2.2.1 Spatial Data

This consists of; Physical developments of buildings, structures, road network, public utilities and other land uses. Spatial data is important in analyzing the physical developments that have influence and impact on spatial aspects of Kenol town.

2.2.2 Social Data

Social data comprises of; Population size, distribution of population, health of population, housing and social services. This data is of much significance in understanding the people we are planning for, the number and distribution is of great importance in designing for their infrastructure needs.

2.2.3 Economic Data

This comprises of; economic activities, formal business, informal business, levels of income, employment, and poverty levels. Data on economic level of Kenol town is significant in establishing the economic growth of the town as well as the standards of living of the area residents.

2.2.4 Environmental Data

Environmental data concerns itself with solid waste disposal, pollution, sanitation and drainage. Environmental data is crucial in ascertaining the living conditions of people and the health standards as dictated by how well the environment is being taken care of.

2.2.5 Cultural Data

Land ownership, land tenure, public interests versus private interests forms the cultural data. Planning should incorporate people's culture and that's why cultural aspects of the people in the planning area should be considered in data collection.

2.3 Literature Review

This involves the systematic identification, location and analysis of documents containing information related to the research problem being investigated. It is aimed at obtaining detailed knowledge of the topic being studied. Literature review will entail reading from several sources including those cited by other researchers. To gather relevant information, wide reading of books and journals about the topic will be undertaken to help clarify the research problem. Specific topics of interests will comprise of; Land use planning in urban areas, Development of small towns, Decentralization of administrative services and its implications, locational challenges of siting new district administrative towns and planning standards for district headquarter towns. Literature was mainly retrieved from secondary sources. These include any publication written by an author who was not a direct observer or participant in the events described. Examples include: published books, scholarly journals, government documents, theses and dissertations, papers presented at conferences, newspapers and unpublished work concerning the subject matter. Information gaps

from the literature review will be filled through preparation of research instruments such as questionnaires and interview schedules.

2.4 Collection of Data

At this stage, techniques of obtaining data developed as research instruments are used to actually collect data during the field survey and site visit time period. Data collection from the selected sample of residents, developers, business people and council official followed. The data collected was in form of both primary and secondary data. Secondary data consists of maps, toposheets and other literature concerning the study area while primary data collected include photographs portraying visual problems, sketches and filled in questionnaires. Information was also collected by use of observation as this was helpful to understand the trends in the study area. Preparation of research instruments used in data collection is discusses further below;

2.4.1 Preparation of Research Instruments

These are instruments which are used to collect the necessary information from the field/study area. Research instrument to be used will include questionnaires, interview schedules and observational forms. But first, the number of people to be interviewed using these research instruments is determined as below:

2.4.1.1 Sampling

The total population in the study area is 5,438 people which were the target population. A sample size is a smaller group obtained from the accessible population. This was necessary in carrying out this research since dealing with all members would involve tremendous amount of time and resources. This subgroup is carefully chosen so as to be a representative of the whole population with the relevant characteristics. A sample size is obtained from the accessible population which in turn is obtained from the target population. A target population is that population that is used to generalize the results of the study for instance this represent the whole of Kenol residents and employees at the town. The accessible population will be obtained from the target population and this will be chosen consistently with the purpose of the study. For the purpose of this research a sample size of 75 members was used. Stratified random sampling will be used to conduct the study because the population is large and scattered over a large geographical area. In stratified sampling, an intact group is selected such that all members of that intact group become a unit of observation. Here, groups will compose of private developers, households/area residents, key informants,

business people, transporters, pedestrians and travelers, service seekers and physical developments within the town. The sample size from each intact group is then selected randomly. The sample size will be distributed as follows;

Table 1: Distribution of Sample Sizes

| Intact Group | Sample Size |
|--|--|
| 1. Kenol residents | 30 |
| 2. Businessmen; a) formal business b) informal business | 30 30 |
| 3. Key Informants; a) Makuyu Town Council b) Maragua County Council c) The District Physical Planner d) The District Engineer e) District Surveyors And Land Valuers f) Social Workers | An interview schedule will be prepared for each of the key informants. |
| 4. Developers | 10 |

2.4.1.2 Questionnaires

Two types of questions will be used in the questionnaires

2.4.1.2.1 Structured/ Close Ended Questions

These are questions which are accompanied by a list of all possible alternatives from which the respondents select the answer that best describes their situation. Category "others" is used to exhaust all possible answers.

2.4.1.2.2. Unstructured/ Open Ended Questions

These are questions which give the respondent complete freedom of response.

2.4.1.2.3 Administering of the Questionnaires

The questionnaires will be administered in two ways; through Self Administered Questionnaire whereby respondents will be requested to complete the questionnaire themselves after hand delivery to them and secondly, by Researcher Administered Questionnaire. Here, items and categories were read to the respondents and responses written down by the researcher.

2.4.1.3 Interviews

An interview is an oral administration of a questionnaire or an interview schedule.

This was administered face to face with the respondents. Interview schedules were prepared mainly for the key informants who included the, the Makuyu Town Council, the District Physical Planning Department, and other users such as road users and the people seeking services in the town.

2.5 Field Survey/Site Visit

Field survey was undertaken after the official consent was given as an authorization to conduct a research study in the study area of Kenol town. Site visit is very important since it is from this step that primary information and data is obtained from the study area of Kenol town. Research instruments which were of use included; written questionnaires, oral interviews, focus group discussions, observations, recording, sketching and taking of photographs. The instruments were distributed among selected developers, business people, residents and officials who are the main key informants at the Makuyu Town Council. A reconnaissance visit was undertaken to first familiarize with the area of study thereafter actual field study and site visit commenced on 15th December, 2008 to 15th January, 2009.

2.6 Data Analysis

Data obtained from the field in raw form is difficult to interpret. Such data is cleaned, coded, key-punched into a computer and analyzed. It will be from this that the data will make sense. A detailed process of data coding, data entry and statistical procedures used in the data analysis are discussed as below:

2.6.1 Coding and Data Entry

After administering of questionnaires and interview schedules, the mass raw of data collected was organized in a systematic manner that facilitated analysis. For quantitative analysis, data was converted to numerical codes representing attributes or measurement of variables. The conversion of data into these numerical is what is called coding. A coding scheme was prepared to ensure consistency in coding so that no details were omitted when entering the data to the computer. Data was then entered into the computer direct from the questionnaire.

2.6.2 Qualitative Data Analysis

Qualitative data analysis refers to non-empirical analysis. Examples here will include content analysis and historical studies. This is useful in analyzing information in a systematic way to come up with useful conclusions and recommendations especially on patterns, trends and relationships from the information gathered. This also included spatial data which mainly consisted of photographs taken from the field.

2.6.3 Quantitative Data Analysis

This is useful in meaningful description of a distribution of scores or measurements using a few indices and statistics. Data collected from the site visits has been analyzed quantitatively using methods such as; means, averages, mode, frequency distribution, percentages and charts. Important tools for data analysis include Statistical package for social sciences (SPSS), excel, Geographical Information System (GIS) and use of sieve maps.

2.7 Data Presentation

Quantitative data is presented by use of tables, graphs, pie charts, and bar-charts while qualitative data forms the maps, reports, and photographs taken from the field containing images of development characteristic of Kenol town.

Matrix 1: Data Needs for the Study of Kenol Town

| Research Objectives | Type of Data Required | Source of Data | Method Of Data Collection | Method of Analysis and Presentation | Expected Output |
|--|--------------------------------|--|--|---|--|
| 1. To find out the criteria used to establish Kenol as the new district headquarters for Murang'a south district. | primary data secondary data | field survey books, journals, government documents, statistical abstracts and scholarly articles from libraries, internet | use of interview schedules literature review | Qualitative Analysis Presented as Reports | Full report on criteria used to designate Kenol town as the new district headquarters for Murang'a South District. |
| 2. To find out whether there was any previous land use planning effort for Kenol town before it became the district headquarter town. | primary data secondary data | field survey books, journals government documents, statistical abstracts and scholarly articles from libraries, internet | administering of interview schedules literature review | Qualitative Analysis Presented as Reports | |
| 3. To understand the land use challenges facing Kenol town as influenced by its elevated status as a designated district headquarters. | primary data secondary data | field survey books, journals government documents, statistical abstracts and scholarly articles from libraries, internet | administering of questionnaires and interview schedules literature review | qualitative analysis by photography quantitative analysis method such as statistical program for social sciences(SPSS) presented in form of figures, charts, percentages and tables | Land use challenges in Kenol town and their spatial representations on map. |

| | | | | | |
|--|--------------------------------|--|--|--|---|
| 4. To project the impacts of Kenol development as the administrative centre on the surrounding areas | primary data secondary data | field survey books, journals government documents, statistical abstracts and scholarly articles from libraries, internet | administering of questionnaires and interview schedules literature review | qualitative analysis by photography quantitative analysis method such as statistical program for social sciences(SPSS) presented in form of figures, charts, percentages | projections of impacts of Kenol development on surrounding land uses |
| 5. To explore planning options that can be applied to transform Kenol into an effective and fully developed district headquarters. | primary data secondary data | field survey books, journals government documents, statistical abstracts and scholarly articles from libraries, internet | administering of questionnaires and interview schedules literature review | qualitative analysis by photography quantitative analysis method such as statistical program for social sciences(SPSS) presented in form of figures, charts, percentages | Opportunities and potentials of developing Kenol town To Full Administrative Town |

CHAPTER THREE: LITERATURE REVIEW

3.0 Overview

This section provides very useful background information regarding the topic of this research project. The literature reviewed helps in understanding the problems in the area of study and clarifying the problem of the research. Land use challenges in urban areas and especially regarding new administrative headquarters forms the larger part of this research. Kenol was designated as the new district headquarters for Murang'a South district without a proper land use plan and a local physical development strategy which are important tools in urban planning. This has resulted to numerous planning challenges within the town and to the larger district. The relocation of the district headquarters has brought up a number of consequences and impacts in the town. Whether these impacts are political or administrative, they have had a role in the physical development of a town. Information gathered regarding the same will include examples from other countries to gain experiences of setting up of new administrative headquarters and its implication to the effectors and affected. For the purpose of understanding the wider scope of such movement, reviewed literature will include towns of larger scale like capital cities of a country but within the context of the study. Important lessons learnt from this slightly larger scale will be applied in the case of Kenol.

3.1 Urbanization

Urbanization has taken a centre stage in shaping urban centres. This therefore is an important area in review of literature to establish the urbanization trends in Kenya and how it influences the growth of small urban centres in relation to Kenol town.

3.1.1 Definition of Urbanization

Urbanization is defined by the United Nations as the movement of people from rural to urban areas with population growth equating to urban migration. The UN projects half the world population will live in urban areas at the end of 2008.

Urbanization could also be defined as the complex interaction of different processes which transform landscapes formed by rural lifestyles into urban like ones. Here, urbanization causes profound changes in the ecological functioning of the landscape and gradually results in changing spatial structure that is, forms new landscape patterns. The existing cities and urban framework form the basis for this change which is affecting increasingly larger areas in the countryside. It is from this that urban planners think of optimization of the land use and aesthetics when reshaping

the environment in a highly dynamic landscape. It is also important to note that elevation of Kenol town to be the district headquarters is considered as the main parameter of urbanization within the context of the study.

Urbanization is the process of transition from a rural to a more urban society. Statistically, urbanization reflects an increasing proportion of the population living in settlements defined as urban, primarily through net rural to urban migration. The level of urbanization is the percentage of the total population living in towns and cities while the rate of urbanization is the rate at which it grows (UNFPA, 2007). This transition is projected to go on well into the second half of the 21st century. Urban mobility problems have increased proportionally with urbanization; a trend reflected in the growing size of cities and in the increasing proportion of the urbanized population. Since 1950, the world's urban population has more than doubled, to reach nearly 3.16 billion people in 2005, about 48.7 percent of the global population. The outcome has been a fundamental change in the socio-economic environment of human activities as urbanization involves new forms of employment, economic activity and lifestyle.

3.1.2 Urbanization Trends

Globally, the major challenge of rapid urbanization poses a concern in planning, especially for the increasing population. Two thirds of the world population is currently living in the urban areas and with the current rate of global urbanization, 50% of the world population is expected to be living in the urban areas by the year 2020. Africa is predominantly rural with 37.3 percent of the population living in the urban areas as per 1999 UN report. The rate of urbanization in Africa is 4.87 percent and 50 percent of the population will be living in the urban areas by the year 2020. The rate of urban population growth has been rising in Kenya with the current rate standing at 3.9 percent. In Nairobi the rate of urban growth is at 4.7 percent. The result of this is the unsustainable urban growth and deterioration of the urban environment. The urban centres are experiencing rapid growth and developments that are not well planned, coordinated, and controlled. Problems of increased population, unemployment, poor housing and squatter settlements, poor transport and infrastructure services, increase in crime rates and the urban environment poses danger to the lives of the people. However, urban centres have potentials of being growth centres for the wider regional hinterland. Urbanization has recently been recognized as a problem of importance in Kenya yet little is done in planning for economic and social development such as providing legislative and administrative mechanisms adequate for the programs and projects needed or making appropriate allocation of

resources. It is important to note that urbanization is associated with land use modifications which significantly impact on the environment. Urbanization can be planned or organic whereby planned urbanization (that is, new towns) is based on an advance plan which can be prepared for military, aesthetic, economic or urban design reasons to give cities distinctive geometry. Examples can be seen in many ancient cities; although with exploration came the collision of nations, which meant that many invaded cities took on the desired planned characteristics of their occupiers. Many ancient organic cities experienced redevelopment for military and economic purposes, new roads carved through the cities, and new parcels of land were cordoned off serving various planned purposes giving cities distinctive geometry. There is ongoing change as people move, needs change and building and infrastructure come up to create a spatial structure for a given centre. No discussion about the urban spatial structure can take place without an overview of urbanization, which has been one of the dominant trends of economic and social change of the 20th-21st century, especially in the developing countries.

3.2 Urban Land Use Planning

Urban Land use planning is a term used for a branch of public policy which encompasses various disciplines which seek to order and regulate the use of land in an effective and ethical way. The Canadian institute of planners define land use planning as the scientific, aesthetic and orderly disposition of land, resource facilities and services with a view to securing the physical, economic and social efficiency, health, well being of urban and rural communities. Local land use planning and decision making can be seen as a multiparty competition over an area's future land use pattern. Adoption and implementation of future land use plan, development regulations and development decisions that most benefit the area residents of towns is the role of planners. Urban land planners play land use game in an arena with other players, each with resources and influence over the decisions to be made. Planners also act as managers, drafting and enforcing rules and advocating community cooperation to achieve multiparty benefits. Planners should therefore be neutral and advocates in dealing with various interests. Effective land planners carefully watch and respond to the interests, actions and alliances of other players. In this subsection, a discussion of the structure, content and dynamics of land planning arena as the stage upon which the local land use game is played has been researched on. The purpose of this literature is to illustrate the context for land use planning in order to realize the ways that the institutional environment can affect planning work and this is in the context to understand the land use planning environment in Kenya.

3.2.1 Land Use Planning Arena

This can also be paraphrased as; land planning as a serious game for easy understanding. The land planning arena can be confusing and frustrating to the urban planners. Rather than an orderly and rational procedure of adopting land plans and policies based upon systematic technical studies aimed at overall public interests, it often appears to be an ad hoc, political process based on influence and narrow interest group bias responding to the issue of the moment. The main concern is the fact that the art and science of land use planning takes place within the face of such a politicized decision making process and an unpredictable future.

One of the premises is that land use planning and decision making brings competition over an area's future land use pattern. The players are in a framework of interdependence in which they gain agreement with other players in the same field to achieve their goals. Characterizing planning as a serious game helps to visualize the dynamics of the process and to see how to apply land use planning techniques to improve the overall game outcomes.

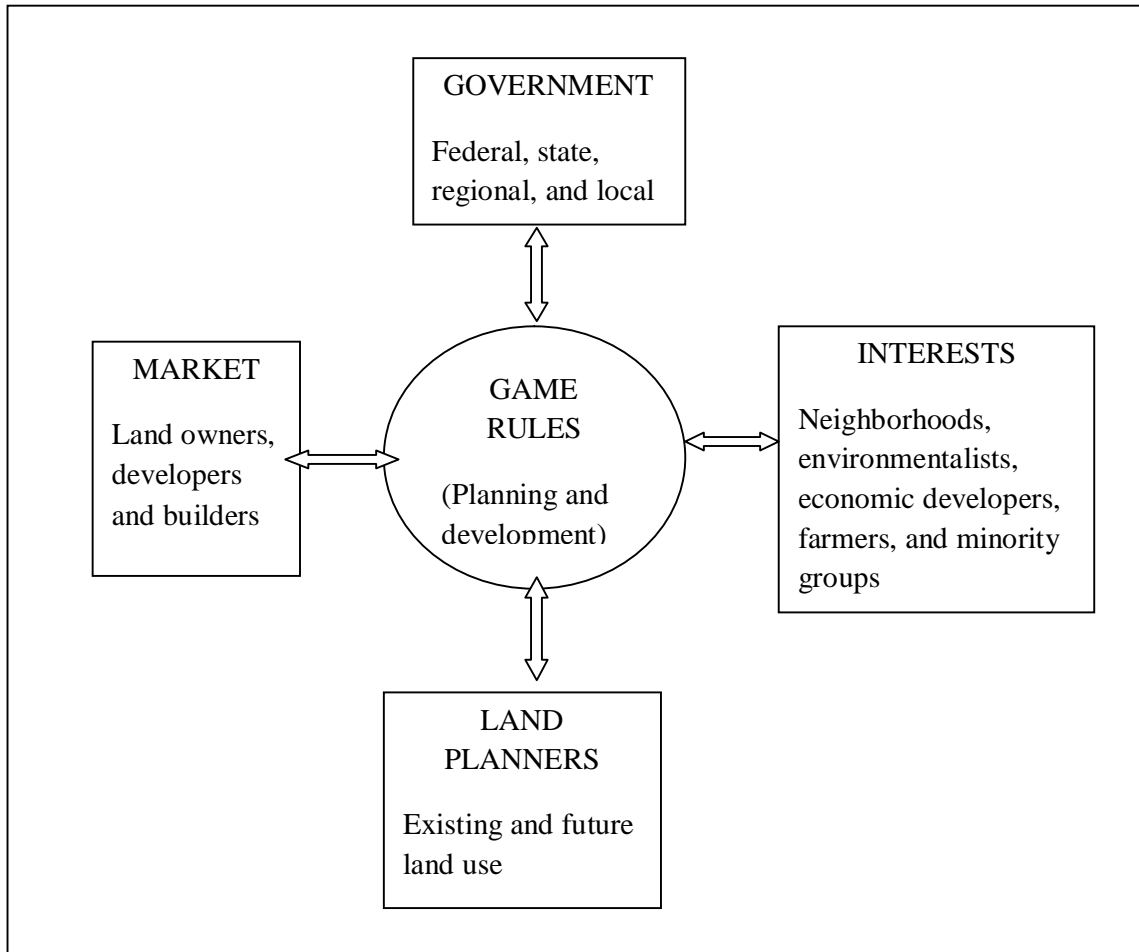
A second premise is that the land use plan is a key tool in coordinating community development activities. Land use planning is a process guided with a plan and not only a bare process. It helps to turn competitors into collaborators through involvement in its preparation. The plan incorporates different objectives serving as a community dispute resolution mechanism. It ensures that the public interests goals are not overlooked in the rush to realize narrower aims, preventing the tragedy of the commons in which a valued community resource is destroyed by unbridled self-interest. Land use plan lays out a vision of the area's future and a strategy for achieving it. As game conditions change, the plan is regularly revised in order to maintain currency and consensus. Planners therefore have a critical role as land use change managers and have opportunities to initiate cooperation among competing interests in building a better community. In addition to planners, the major types of institutional stakeholders who influence the direction of future urban growth and change are development market players, government officials and advocates of various interests. Market oriented players include private sector such as land owners, developers, builders and others who seek to benefit from the land use change. Government players include the public sector who comprise of the elected and appointed officials of federal, state, regional and local levels. These groups frame the laws and make governmental land use decisions aimed at public interests. Interest group players include representations of special interests, neighbourhood preservation, environmental conservation, economic development, farming, minority groups and others who view

land use as an area of interest. The interests of the unstructured and the general publics are channeled through the special interest groups who act as their representatives. Land planners include those in government concerned with both current and future land use issues. These stakeholders compete over the content and procedures of land use regulations, plans, and development decisions.

3.2.2 Relevance to the Study Area

Land use practices in Kenol town as influenced by the urbanization process can also be looked as a land planning game. There are various interests within the town especially in the development of the town. Interests may include the Makuyu Town Council and the Maragua County Council who share the boundary of Kenol town. Other interests groups who are likely to have a conflicting interest over the use of land are the private developers, the area residents and the physical planners. This is mainly due to conflicting public versus private interests. The land on which development takes place is the main arena for this game. There are many competing users of this land. Most of the land is held under freehold making the quest to provide public facilities difficult. The institutional framework for planning urban centres play as the game rules in guiding the way Kenol town develops. From this, it is seen that urban land use planning is an important tool and both the process and the product are critical in ensuring good planning which incorporates interests of all stakeholders involved in the planning area.

Figure 1: The Land Planning Game: Stakeholders, Planners and Rules



Source: J. Edward. (1995)

3.2.3 Concepts of Land Use Change and Management

In managing change, local land planners deal with three powerful types of land use values. These are social values, market values and ecological values. The three sets of land use values are discussed further;

3.2.3.1 Social Values

Concepts of social values include those derived from theories of urban form, activity systems and the social neighborhood. They all consider connections between the physical environment and the quality of life, although their underlying concerns differ. Urban form theories are concerned with designing the physical environment. Activity systems theories are concerned with understanding the behavior patterns of urban residents. Neighbourhood theories are concerned with both design and

behavior, but at a sub city level. Social value express the weight that people give to various arrangements of land use as settings for their lives. This view sees land use as a facilitator of desirable activity patterns and social aspirations.

3.2.3.2 Market Values

Commodity values of land drive the business side of urbanization, providing incentives to developers and financiers as well as measures of locational advantage for firms and organizations. In this view, land should be placed at its highest and best use as determined by the operations of the market. However, market competition fails to meet all needs of the desirable community. Land use planners face the challenge of two opposing sets of ideas, relationship of planning and market. The market is an effective mechanism for organizing transactions, which should only be guarded by government regulations and planning to intervene. This view focuses on correcting the market failure. On the other hand, the public intervention should substitute for market process in order to redistribute wealth and opportunities. In between is the merger of the market and the government in public-private partnerships. Land use planning practices then operate in an environment that is broad and responsive to changing urban conditions. Market values thus express the weight that people give to land as a commodity. This views land use as a real estate profit medium.

3.2.3.3 Ecological Values

Ecological values stem from various conceptions of the role of the natural environment in human affairs. It is possible to link efficient use values to views of the environment as an asset. Natural systems functional integrity values to carrying capacity, land suitability, sustainable development approaches and preservation values to endangered species and natural preserve approaches. There is a tendency to politicize the environment as a means of accomplishing such other ends as stopping a project or slowing urban growth. Ecological values express the weight that people give to the natural systems on the land and sees land use as a potential environmental threat to be mitigated.

3.2.3.4 Integrating Land Use Values

Effectiveness in land use change management as a local government responsibility depends upon integrating the use, exchange and ecological views of land into a balanced system. If there is no integrating structure, there will be no way to resolve conflicting claims through the land use change management process. This is mainly because of the inherently selfish nature of interest group advocacy of individual values. A strong coordinating process is necessary to provide analytical,

synthetic and sociopolitical efforts needed to balance and coordinate competing interests. Public leadership in land use change management provides the primary coordinating process. Sustainable development can be an important guiding principle in the search for balance among the three land use values. This can be achieved by either a land use plan change management model that incorporates structural concerns of human ecology and political economy theories through land use planning concepts or a planning discourse model that incorporates process concerns of game theory through participation and dispute resolution concepts. The latter recognizes not only the values of the major stakeholders in the land use game, but also the values of the planner as both a technical expert and a player.

3.2.4 The Land Use - Transport System

Urban land use comprises two elements; the nature of land use which relates to where certain activities are taking place and the level of spatial accumulation, which indicates their intensity and concentration. Central areas have a high level of spatial accumulation and corresponding land uses such as retail, while peripheral areas have lower levels of accumulation. Most economic, social or cultural activities imply a multitude of functions, such as production, consumption and distribution. These functions take place at specific locations and are part of an activity system. Activities have a spatial imprint; some are routine activities, because they occur regularly and are thus predictable, such as commuting and shopping. Others are institutional activities that tend to be irregular, and are shaped by lifestyle (e.g. sports and leisure), by special needs (e.g. healthcare and administration services). Still others are production activities that are related to manufacturing and distribution, whose linkages may be local, regional or global. The behavioral patterns of individuals, institutions and firms have an imprint on land use. The representation of this imprint requires a typology of land use, which can be formal or functional:

Formal land use representations are concerned with qualitative attributes of space such as its form, pattern and aspects. These are descriptive in nature.

Functional land use representations are concerned with the economic nature of activities such as production, consumption, residence, and transport, and are mainly a socioeconomic description of space.

Land use, both in formal and functional representations, implies a set of activities. For instance, commercial land use involves relationships with its supplier and customers. While relationships with suppliers will dominantly be related with movements of freight, relationships with customers

would include movements of people. Thus, a level of accessibility to both systems of circulation must be present. Since each type of land use has its own specific mobility requirements, transportation is a factor of activity location, and is therefore associated intimately with land use. Within the urban system each activity occupies a suitable, but not necessarily optimal location, from which it derives rent. Transportation and land use interactions mostly consider the retroactive relationships between activities, which are land use related, and accessibility, which is transportation related. These relationships often have been described as a "chicken-and-egg" problem since it is difficult to identify the triggering cause of change; do transportation changes precede land use changes or vice-versa? Urban transportation aims at supporting transport demands generated by the diversity of urban activities in a diversity of urban contexts. A key for understanding urban entities thus lies in the analysis of patterns and processes of the transport / land use system. This system is highly complex and involves several relationships between the transport system, spatial interactions and land use.

3.2.4.1 Transport System

This considers the set of transport infrastructures and modes that are supporting urban movements of passengers and freight. It generally expresses the level of accessibility.

3.2.4.2 Spatial Interactions

Consider the nature, extent, origins and destinations of the urban movements of passengers and freight. They take into consideration the attributes of the transport system as well as the land use factors that are generating and attracting movements.

3.2.4.3 Land Use

This considers the level of spatial accumulation of activities and their associated levels of mobility requirements. Land use is commonly linked with demographic and economic attributes.

3.2.4.4 Relevance to Kenol Town

Kenol's exceptional rapid development is attributed primarily to the superior road network of Nairobi-Nyeri that has attracted investors. The good network of Nairobi-Nyeri (class A) road in Kenol town acts as the major supporting urban movement of passengers and goods. The road network makes Kenol town to be highly accessible. The highway links Nairobi and Thika with Kenol town on one side and Nyeri and Murang'a on the other side. This linkage to principal towns

contributes to economic growth of Kenol town through trade and opening up of new branches of businesses.

3.2.5 Urban Land Use Models

The relationships between transportation and land use are rich in theoretical representations that have contributed much to geographical sciences. Several descriptive and analytical models of urban land use have been developed over time, with increased levels of complexity. All involve some consideration of transport in the explanations of urban land use structures (Carter, 1995).

Von Thunen's regional land use model is the oldest. It was initially developed in the early 19th century (1826) for the analysis of agricultural land use patterns in Germany. It used the concept of economic rent to explain a spatial organization where different agricultural activities are competing for the usage of land. The underlying principles of this model have been the foundation of many others where economic considerations, namely land rent and distance-decay, are incorporated. The core assumption of the model is that agricultural land use is patterned in the form of concentric circles around a market [Krumme, 2002]. Many concordances of this model with reality have been found, notably in North America.

The Burgess concentric model was among the first attempts to investigate spatial patterns at the urban level (1925). Although the purpose of the model was to analyze social classes, it recognized that transportation and mobility were important factors behind the spatial organization of urban areas. The formal land use representation of this model is derived from commuting distance from the Central Business District, creating concentric circles. Each circle represents a specific socioeconomic urban landscape. This model is conceptually a direct adaptation of the Von Thunen's model to urban land use since it deals with a concentric representation.

Sector and multiple nuclei land use models were developed to take into account numerous factors overlooked by concentric models, namely the influence of transport axis (Hoyt, 1939) and multiple nuclei (Harris and Ullman, 1945) on land use and growth. Both representations consider the emerging impacts of motorization on the urban spatial structure.

Hybrid models tried to include the concentric, sector and nuclei behavior of different processes in explaining urban land use. They are an attempt to integrate the strengths of each approach since

none of these appear to provide a completely satisfactory explanation. Thus, hybrid models, such as that developed by Isard (1955), consider the concentric effect of nodes (CBDs and sub-centers) and the radial effect of transport axis, all overlain to form a land use pattern. Also, hybrid representations are suitable to explain the evolution of the urban spatial structure as they combine different spatial impacts of transportation on urban land use, let them be concentric or radial, and this at different points in time.

Land rent theory was also developed to explain land use as a market where different urban activities are competing for land usage at a location. It is strongly based in the market principle of spatial competition. The more desirable the location is, the higher its rental value. Transportation, through accessibility and distance-decay, is a strong explanatory factor on the land rent and its impacts on land use. However, conventional representations of land rent are being challenged by structural modifications of contemporary cities.

3.2.5.1 Conclusion

Most of these models are essentially static as they explain land use patterns. They do not explicitly consider the processes that are creating or changing them. A few of the aspects from the various models apply for the case of Kenol town's spatial structure. For instance, the hybrid model can be used to explain the evolution of the urban spatial structure as it combines different spatial impacts of transportation on urban land use. This could be used to link the major transport network of Nairobi- Nyeri road to the overall development of the urban land uses within Kenol town over time.

3.2.6 Transportation and Urban Dynamics

Both land use and transportation are part of a dynamic system that is subject to external influences. Each component of the system is constantly evolving due to changes in technology, policy, economics, demographics and even culture/values, among others. As a result, the interactions between land use and transportation are played out as the outcome of the many decisions made by residents, businesses and governments. The field of urban dynamics has expanded the scope of conventional land use models, which tended to be descriptive, by trying to consider relationships behind the evolution of the urban spatial structure. This has led to a complex modeling framework including a wide variety of components. Among the concepts supporting urban dynamics representations are retroactions, where as one component influences others, the changes will

influence the initial component back, either positively or negatively. The most significant components of urban dynamics are:

3.2.6.1 Land Use

This is the most stable component of urban dynamics, as changes are likely to modify the land use structure over a rather long period of time. This comes as little surprise since most real estate is built to last at least several decades. The main impact of land use on urban dynamics is its function of a generator and attractor of movements.

3.2.6.2 Transport Network

This is also considered to be a rather stable component of urban dynamics, as transport infrastructures are built for the long term. This is particularly the case for large transport terminals and subway systems that can operate for a very long period of time. For instance, many railway stations are more than one hundred years old. The main contribution of the transport network to urban dynamics is the provision of accessibility. Changes in the transport network will impact accessibility and movements.

3.2.6.3 Movements

The most dynamic component of the system since movements of passengers or freight reflect almost immediately changes. Movements thus tend more to be an outcome of urban dynamics than a factor shaping them.

3.2.6.4 Employment and Workplaces

They account for significant inducement effects over urban dynamics since many models often consider employment as an exogenous factor. This is specifically the case for employment that is categorized as basic, or export oriented, which is linked with specific economic sectors such as manufacturing. Commuting is a direct outcome of the number of jobs and the location of workplaces.

3.2.6.5 Population and Housing

They act as the generators of movements, because residential areas are the sources of commuting. Since there are a wide array of incomes, standards of living, preferences and ethnicity, this diversity is reflected in the urban spatial structure.

3.2.7 Urban Land Use Planning Practice in Kenya

Land use planning practice in Kenya has virtually failed to influence development patterns in the rapidly growing urban centres. Kenya's experience reveals the lack of adequate official government interventions and established procedures for formulating decision making rules for the allocation of land, the control, approval and regulation of urban development. This is particularly obvious when one considers the official perception of on the effectiveness of land use planning in achieving sustainable land development patterns and what actually happens in real situations. Evidence in Kenya shows the inability of physical planning to hinder the occurrence of the problems associated with contemporary land use planning in towns. Kenya's policy on land use planning is very similar to the one in Britain. Most of the spatial planning concepts and land use plan tools are borrowed from Britain. The adopted planning instruments served as tools for regulating urban land development. They were intended to arrange the various urban land uses according to determination of character of buildings and communication routes with a view to achieving economy, convenience and beauty. During the colonial period, zoning was done along racial land. Development control ordinance was proposed and formulated on the 1932 Town and Country Planning Act in Britain. The onset of town planning required preparation of planning schemes, control and subdivision of land as well as the provision of infrastructure. Thus, the Nairobi master plan was prepared in 1948 based on Great Britain's 1947 Town and Country Planning Act. Until 1965, land use planning in Kenya was limited to the preparation of town planning schemes for major urban centres with the planning service being provided by the central office in Nairobi to all local authorities throughout the country. In 1969, the situation changed when through a cabinet decision and directive the practice was extended to include rural areas. This broadened the perspective of physical planning but remained organized around central structures of government. The public sector therefore is the most active participant in land use planning. The western style master planning systems that emphasizes the production of convectional master plans with limited contributions to actual implementation and land use planning practice in Kenya has virtually failed to appreciably influence land development patterns in the rapidly growing urban centres. Most of the planning tools for land use planning have turned out to be inefficient and inappropriate to the local conditions, and therefore failed in their mission either due to institutional, social or economic reasons. They have failed to provide sufficient services to the urban population and to create new and more adaptive urban values and norms through providing better spatial and physical

arrangements in urban areas. The detailed restrictions and land use controls have reached the point of oppressiveness and are inevitably triggering an illegal informal system to compensate for the rigidities of the formal system. In addition, planning institutions are generally powerless to influence town growth and development activities (Olima 1993:3)

3.2.8 The Main land Management Problems in Kenya

Kenya's experience reveals a lack of adequate guidance and procedures in formulating decisions rules for the allocation of land, for the control, approval and regulation of urban development. This is particularly clear when one considers the perceived effectiveness of land use planning in achieving sustainable land development patterns. Evidence in Kenya shows pure inability of physical planning to hinder the occurrence of the problems associated with contemporary land use planning in Kenyan towns. According to Olima (1993:3) the most easily recognizable manifestations of the improper use of land and irrational land use patterns in Kenya's urban centres include : urban sprawl, proliferation of informal and slum settlements, deterioration of the urban physical environment, problems of overcrowding and congestion, absence of social and community facilities, unbalanced land development patterns, land sue conflicts, land speculation and escalating land and property values. Further argues that the urban planning and development approach has so far been unable to solve the problems relating to availability or accessibility to land, land ownership, land tenure system, efficient land use, rational land development patterns, land and environmental management and social-cultural relations. Due to the inability to provide effective urban land management, various problems have arisen in the development of urban areas. These include: proliferation of informal development and slum/squatter settlements, incompatible land uses, dumping of wastes on unauthorized areas, hazard and unbalanced urban land development, and unavailability of public land.

3.2.9 Urban Land Management Instruments

Land use planning utilizes various tools in order to be effective in urban land management. Various land use planning, instruments and processes are important in day to day urban land management in the context of the various urban plans. The main land use plan for an urban center is A Local Physical Development Plan. This type of plan as stipulated in the physical planning act is prepared by the director in reference to any government land, trust land or private land within the area of authority of a city, municipal, town or urban council or with

reference to any trading or marketing centre for the general purpose of guiding and coordinating development of infrastructural facilities and services for the specific control of the use and development of land or for the provision of any land in such area for public purposes.

The Physical Planning Act also provides for control of developments which is vested in the local authorities' power. Subject to the provision of the act, the following are the powers of the local authority regarding development control in their areas of jurisdiction: to prohibit or control the use and development of land and buildings in the interests of proper and orderly development of its area, to control or prohibit the subdivision of land or existing plots into smaller ones, to consider and approve development applications and grant all development permissions, to ensure proper execution and implementation of approved physical development plans, to formulate by-laws to regulate zoning in respect of use and density of development, and to reserve and maintain all the land planned for open spaces, parks, urban forests and green belts in accordance with the approved physical development plan.

Other instruments used for carrying out development control and regulate land use include:

3.2.9.1 Zoning

Zoning is the regulation of land use involving the separation of parcels of land in a locality by giving them broad classifications of appropriate uses in the context of a structure plan. These include residential areas, industrial areas, educational facilities, recreational areas, public purpose areas, public utility and transportation. This is an important aspect of regulating land use in that, only those uses specified in the structure plan can be undertaken in that area hence avoiding the various land use conflicts that may arise.

3.2.9.2 Extension and Change of User

This is another planning aspect that ensures effective urban management. Change of user is the process of converting an existing use of land to another use. Mostly, change of user is from a low rewarding to a higher rewarding one. Extension of user on the other hand refers to alterations of a restricted user of a plot, for instance from one residential house per plot to additional extensions or other houses.

3.2.9.3 Development Control Regulations

Development control seeks to harmonize the different uses of urban land according to the approved plan of an area and to ensure that buildings constructed adhere to standards specified in the building

by-laws and planning legislation. Development control emphasizes proper land use planning and includes among other activities: subdivisions, extension of leases and building plans.

3.2.9.4 Subdivisions

Before any subdivisions of a plot, development applications have to be made to the appropriate authority. If it is council land it is applied to the local authority to ensure that the resulting sub-plots are accessible and adequately served by open spaces and social infrastructure. This process also serves to ensure population density in accordance with available services such as water, sewer, roads and drainage and to coordinate planned development. The application for subdivisions and proposed subdivisions plans are submitted to the relevant authority for approval. Some of the statutes that govern subdivisions of land include the Governments Lands Act, Trust Land Act, Land Control Act, Local Governments Act and the Physical Planning Act.

3.2.9.5 Extension of Leases Building Plans

The extension of leases which is also a planning issue is a significant method of land use regulating the urban areas. Most of the leases in urban areas in Kenya are granted by the government for a period of between 33 and 99 years. Upon the expiry of this term, the land is deemed to revert to the government or the local authority. Thus, before the approval of the extension of lease, the commissioner of lands or his agents checks the nature of the proposed developments and confirms whether the infrastructural developments conditions have been met. This In Itself Regulates The Utilization Of The Land.

3.2.9.6 Building Plans

The approval of building plans as stipulated under the conditions in a lease or grant of government or trust land is another tool used in regulation of land use. It is a requirement that before any development or construction on the land is carried out; a building plan must be prepared and submitted for approval by the local authority. This is supposed to guard against dangers in human life, health, and the general environment.

3.2.9.7 Plot Allocations

Urban land use may be regulated through land allocation procedures. There are three main ways in which land is allocated in the Kenyan system. One is through advertisement in the Kenyan Gazette by the commissioner of lands. Before any advertisement for allocation, valuation of the plots is done. Then the plot allocation committee ballots on the applications` after advertising. Successful

applicants are notified and issued with a letter of allotment. The selling of the land is done through public auction according to the Governments Lands Act section 12. Direct allocation is another method whereby the commissioner of lands has the powers to allocate land directly to individuals and institutions if he deems fit after consultations with relevant ministries. Reservation is the last method of allocation of government or trust land. The land is reserved to a government body or a local authority for future operational use. This method appears to be in line with the requirements of effective land management. It caters for future land use demands as opposed to all the others that consider current use. Plot allocation is a useful tool in land use planning because the close scrutiny that is undertaken throughout the process. The very land use that is planned for is the only one that can be undertaken in the allocated plot.

3.3 Cases of Moving and Siting of New Capitals

The construction of new capitals and planned cities in Third World countries is no longer a novel experience. Since the Second World War, twelve governments in Africa, Asia and Latin America have announced the building of new capitals; many others have built important new industrial and administrative centres. In many of these previous projects, there has been a tendency to embrace rather over-ambitious goals. Some have claimed that the new city would transform the national settlement system or provide a new image on which to base the future development of the nation. Even where political rhetoric has eschewed such grand notions, highly ambitious goals have dominated the planner's vision of the city. In Africa, Asia and Latin America, few new city projects have escaped strong criticism whatever their accomplishment, they have never been able to meet either the rhetoric or paper plans. The lesson from past experiences is not that new city construction is undesirable, but that the plans were over ambitious and bound to fail. Not only have these plans led to some spectacular and avoidable problems, they have also guaranteed disappointment with the final result.

3.3.1 Experiences from Africa, Asia and Latin America

Though aims behind new city projects have varied from country to country, construction of new cities is almost essential. For example; newly independent Mauritania and Botswana did not have national capitals, their previous administrative headquarters being located in the neighbouring country. In Belize, the construction of Belmopan was a sensible response to the frequent devastations wrought by the hurricanes in the coastal capital. In Venezuela, a new city was needed

to accommodate the population working to develop the Guayana regions rich in iron ore, bauxite and hydroelectric potential.

Whether the nation has been a newly independent country or a long established but flawed society matters little. Governments have argued that the new cities would help in the necessary task of reconstructing the nation. Underlying almost every project however, has been more ambitious goals. The most blatant example of this was in Brazil where president Kubitschek, the motivating factor behind the Brasilia project expressly wanted a completely different city to focus Brazil's attention on the sparsely settled interior. He wanted a symbol for the future greatness of Brazil, something to mark Brazil presence in the concert of other nations. The spectacular new capital would also show how a harmonious and efficient city would be created. Not only would Brasilia change the national urban system, it would also represent a fundamental change in the typical social morphology of the Brazilian city. The city's plans were dominated by a fundamentally utopian premise that the design and organization of new capital were meant to transform Brazilian society.

Abuja was also intended to do much more than provide a new capital for Nigeria. It was a symbol of the country's future greatness, to demonstrate Nigeria's wealth and power to the international community. It was also intended to overcome tribal discord, and to reduce the urban squalor that had come to be associated with Lagos. The new city was to be a neutral city in which Northern, Eastern and Western people could co-exist in harmony, free of the historical legacies which dominant groups had imposed on existing urban centre.

Similarly, Islamabad was conceived partly out of Ayub Khan's desire to strengthen links between the two separate parts of Pakistan. This desire would be assisted by creating a symbol of national effort and pride. The capital of a country is the focus and the centre of the people's ambitions and desires and it is wrong to put them in an existing city, it must have character of its own. In Tanzania, Africa's largest brick and tile factory was constructed near Dodoma; under the town itself lies buried unused network of sewers, an overly ambitious master plan which did not match Nyerere's hopes for African socialism.

Over ambition has weakened almost all of these projects. Whatever their considerable achievements, reality could not match the dreams. Far from helping to change their nations, too many of the new cities construction have been seen as a remedy. Rather than demonstrating the superiority of planned urban design, the new cities have taken on most of the undesirable

characteristics of existing urban centres. Architects and planners have tried to create good urban environments. In particular, they have tried to produce cities without slum housing and social divides so evident in the existing urban area. Despite authorities' determinations, shanty towns have spread extensively. In Brazil, the shack is at least as typical of Brasilia. In Tanzania one third of the households live in illegal settlements, a development seriously damaging the city's intended showpiece value. Faced by the inflow of migrants much poorer than they anticipated or desired, the planners have been forced to respond. In Guayana, three quarters of the city's population live in the unplanned municipality of San Felix. The majority of the industrial workers have to make trips of between 40-60 kilometers to get to work. This created traffic congestion even to the planned city where employment was available. This paradox of urban planning is one outcome of the failure to face up to the inevitable arrival of the urban poor. Urban plans have failed to address the issue of social structure. This same kind of pattern is evident in Brasilia where the low income population was permitted only in the satellite cities, located between 8-43 kilometers away from the administrative centre. Their policies of political subordination and preferential recruitment established a dual social order that was legally and spatially maintained. The negative experiences in Brazil and Guayana are matched by those of many other new cities.

Finance has been a recurrent problem given the ambitious goals; budgets were bound to be excessive, certainly beyond the means of most of countries concerned. In Malawi, expenditure took an important part out of the development budget and resulted in a significant political compromise that is, a loan from the South African government. In Brazil, less than a decade into its construction, the Brasilia project had monopolized the national budget, undermined the monetary system and threatened the entire economy. In Nigeria, the economy has suffered greatly from the drain on foreign reserves and the financial management at Abuja. Nowhere has utopia proved as elusive as in obtaining the funds with which to construct.

3.3.2 Conclusion

The eventual success of the new capitals was not due to mainly good planning, although it counted. What was critical was the socioeconomic environment in which they were created. The point is that new capitals are more likely to take on the characteristics of the wider society than the rest of the country. It is also clear that the lower price of land in new cities does offer some savings on making a comparable expansion in the existing capital. Unfortunately, while the specific goals have varied,

too many projects in less developed countries have adopted much more overambitious goals. This grandiose aim has served more to inflate the budget than to bring changes in the national psyche. It is also realized that planning beforehand formed a major step in making new capitals and cities. This was not the case for Kenol town as there were no previous planning efforts for its various urban land uses. A lesson learnt also is that an urban land use plan for instance a master plan is prepared in preparation for relocation of capitals. This is essential in planning for the anticipated land uses and to act as a guideline for new development in the towns. Influential to the siting of these cities is the political arm which has resources and control/power to the final decision making.

3.4 Decentralization

This seeks to analyze the working policy of decentralization as a means to improve the central government and the local government administration and development in a political system. The term local government is used to refer to the participatory institutions under popular control which are dependent on the national government for resource allocation and utilization. First the different interpretations of the concept and practice of decentralization are reviewed. Second, a case of decentralization in Bangladesh will be examined in the context of administrative reforms carried out since 1982. Third, an attempt is made to assess the impact of the decentralization process. This literature is necessary and important in order to understand the decentralization in the context of the study area which acts as a decentralization of central government offices especially administrative and in infrastructure services and facilities to the local communities.

3.4.1 Interpretations of Decentralization

The interpretations of decentralization discussed for the purpose of this research are those of Festler, Conyers and Rondinelli. Festler views decentralization as a complex issue, both as a concept and in practice, he looks at it from four perspectives: decentralization as a doctrine, as a political process in a given political setting, as an administrative problem, and finally as an administrative process involving forced choices and changes in the functional and area based administration, and between the regulatory (law and order) and development functions of appointed and elected officials. Conyers, like Festler, notes that discussion on decentralization can easily become confused because of analytical problems surrounding the concept of decentralization. Conyers accepts the definition by Rondinelli that is, the transfer of authority to plan, make decisions and manage public functions from the national level to any individual, organization, or agency at

sub national level. Conyers that the definition limits attention to territorial as opposed to functional decentralization. It excludes the question of transfer of authority from central to peripheral organization at the national level, for example, from a government department to a parastatal. Centralization and decentralization should be regarded as processes of change rather than as fixed poles. It is further argued that it is not possible to envisage a totally decentralized system of government, and also that centralization and decentralization can take place simultaneously. Rondille, Nellis and Cheema have reviewed the recent experiences of centralization in developing countries finding that objectives of decentralization may be broadly classified into; administrative and management; and secondly, political. The political objective assumes that local government or administrative units can provide an effective channel of communication between the national government and the local communities. It further assumes that greater participation in development planning and management supposedly promotes national unity by giving groups in different regions in a country a greater ability to participate in planning and decision making, and thus increases their stake in maintaining political stability.

Administrative and management objectives mainly rely on the deconcentration of authority to appointed officials to quickly react to un anticipated problems. It is important to point out that the line of difference between political and management and administrative objective is often in the real world of government, very marginal. Rondille, Nellis and Cheema view decentralization as an ideological principle associated with objectives of self reliance, democratic decision making, popular participation in government, and accountability of public officials to citizens. Festler however argues that decentralization does not contribute to democratic decision making. He finds that in the doctrinal approach, there is a tendency to link, merge and confuse decentralization and democracy.

It is argued in so far as developing countries are concerned the typologies of devolution, deconcentration, delegation and privatization may not truly reflect the underlying objectives of decentralization that a given country adopts. Rondille has accepted the fact that there can be one or a combination of objectives and forms of decentralization. He has further argued that ultimately decentralization is a political decision, and its implementation a reflection of a country's political process. Conyers arguments centering on the objectives of decentralization also supports the overwhelmingly political connotation inherent in any effort at decentralization.

3.4.2 Decentralization in Bangladesh

In this section an attempt is made to discuss the decentralization efforts of the governments of Bangladesh since 1982 within the framework of the concept and practice of decentralization presented above. For familiarity with the stages of political development in Bangladesh, in particular its local government administration, it is necessary to provide some back ground information.

3.4.2.1 The Setting

Bangladesh, under the British colonial rule, formed the Eastern part of India's Bengal province. Its administrative system as in the case of many other British colonies, centered on the District Commissioner system. The district was the basic administrative unit, below which were the subdivisions consisting of a number of police stations called *Thana*. Below the *Thana* were the villages. Under the local government law, the villages were grouped into what came to be called unions and local government councils called union boards were established. District councils known as district boards at the sub district level were short lived. The two level systems completely under official tutelage, continued, with the district magistrate and collector the pivot of local government.

3.4.2.2 The Decentralization Process

The primary objective behind such a move was to train and educate the Indians in the art of popular and representative government. In the process a new level of local government council was created with limited power in decision making in regard to planning and implementation of local development projects. *Thana* councils were created under the sub divisional level. The political objective behind the creation of *Thana* councils was to mobilize and sustain popular support for what was called the basic democracies system. The constitution declared establishment of elected local governments at all levels of administration. Reforms were made later that produced radical change in the system of local government. The explicit objectives were one, to review the structure and organization of the existing civilian administration with a view to identifying the inadequacies of the system for serving people effectively and two, to recommend an appropriate, sound and effective administrative system based on the objective of taking the administration nearer to the people. The underlying political-administrative assumptions were clear enough. First, the structure and organization of the existing civilian administration were perceived to be inadequate to serve the

people effectively. Second, based on the inadequacies, an administrative system was to be designed taking into account the spirit of devolution and the objective of establishing a closer relationship between administration and the people. Implicit, in the second was the assumption that the administration was perceived to be distant from the people. It is clearly indicated that the objective was that of moving from the top down and from the bottom up through interaction.

An even more important factor which needs attention is the argument that decentralization occurs in a political setting and its implementation is a reflection of a country's political process. Under normal circumstances, a political setting is one in which the basic law-the constitution is in force and under it the principal organs of the state, the legislature, the judiciary and the executive are free to act within the parameters set by the basic law. The non bureaucratic structures such as political parties and different interest groups are also free to voice out their own feelings. The preparation of the decentralization process in Bangladesh did not take place in a political setting. Consequently, there arose conflicts to the design of decentralization during the implementation phase. This tends to support the view taken by Conyers that the introduction of decentralization reform is a complex issue because of the many different factors and interests involved in particular, because of its highly political nature. Formal power distribution, politics, legislative institutions, adjudication and administration interact each with others to constitute the whole government system. It is argued that in the case of Bangladesh, although the legislature and the judiciary could not play their roles, politics and administrations interacted to make the implementation process of decentralization a highly complex and difficult issue.

3.4.2.3 The Decentralization Design

The decentralization design had the following features; first it eliminated a more than century old administrative unit called the subdivision. Second, it upgraded the *Thana* to include both regulatory and developmental functions. Third, it converted the old subdivisions into districts but without creating any corresponding local council at these levels. Fourth, it assigned greater authority to the *Thana* councils renamed upazila parishads in terms of decision making in planning and implementation of local development projects. Fifth, the basic structure of the Thana councils was placed under the control of the chairman of the upazila parishads. Sixth, all functions at the upazila level of government were placed under the administrative control of the chairmen of the upazila.

3.4.2.4 Conflicts in Implementations

The conflicts emanating from the implementation process of decentralization may be categorized as political, administrative and developmental. In political, the national parties perceived the proposed upazila system as a redefinition of center-local relations in a unitary state. From the point of view of conventional politics, it was a matter of constitutional, not executive responsibility. The government divided the subjects under central authority and transferred responsibility which led to sharp reaction by the opposition group. This was because the creation of upazila and new districts led to severe public reaction at the local level that helped to strengthen the political opposition against the implementation process. The primary impetus here was the determination of the local to keep their boundary of the administrative units unaffected and not allow the one to be merged with another as the government had planned. For instance it was demanded that all previous subdivisions be upgraded into districts irrespective of their size and population, as against the government wish to merge the smaller units to create new districts. It is therefore clear that the local level public reaction was not necessarily against the upazila system but the choice and selection of the administrative units. The opposition was opportunistic in interpreting it as public rejection to the upazila system.

The administrative conflicts flowing from top down and bottom up continues even now. The stated objective of the upazila system was to bring the administration nearer to the people based on the spirit of devolution while the unstated objective was to make the local level bureaucrats accountable to popular leadership and this was made explicit by the government policy of placing bureaucrats under the administrative control of elected chairmen. This led to command and control controversy between chairmen on one hand and departmental heads on the other hand. However this conflict was later resolved by the government directives. The other aspect of administrative conflict was from the transition of a simple role to a dual role approach. This generally arises from the function-area conflict. In respect to development, the conflict was stated as what Festler called function-area conflict. This was followed in the wake of creation of new districts out of old subdistricts and upazila out of the old *Thana*. The operational areas of many government departments such as roads and highways, public works, and some parastatal bodies such as the power development and water development boards, rural electrification boards, and the Bangladesh agricultural development corporation did not coincide with the administrative area of either newly created districts or upazila.

3.4.2.5 Impact of Decentralization

In this section, an attempt is made to discuss the impacts of decentralization on the political, administrative and development processes. On politics, the creation of the upazila system, mainly in the person of the elected chairman created a new powerbase in the rural countryside that was expected to be loyal to the government in power. New problems in the sharing of resources in rural areas arose. On administration, the most impact was on the district administration. Not only was the old sub divisional system done away with, but the deputy commissioners of new districts felt that their image and authority were eroded by the upazila system. They could no longer head the local councils as they did before in their capacity as the controlling or prescribed authority for the previous *Thana* councils. Under the present local government law, the prescribed authority over the upazila is the government. Although it still relies on the deputy commissioners for odd inquiries, the latter feels let down by the government. One of the major effects of the upazila system was to substantially cut down the administrative decision making layers. Concurrently, the *Thana* level bureaucracy was brought under the complete control of an elected functionary. However the decentralized judicial system was not perceived by many to be functioning well for two reasons: first, owing to the rather hastily implemented measures, persons without adequate training, background or expertise were appointed as judicial officers. On development, the upazila was given more autonomy than it had ever enjoyed in the past in decision making, planning, and implementation of development projects. To what extent, however, popular participation in decision making was ensured remains to be fully investigated. The upazila was required to follow guidelines in the planning and implementation of development projects and these are set by the national planning commission. Apprehension was expressed in official quarters that such guidelines were not followed in many cases. Of more fundamental significance than what was described was the fact that upazila system was perceived by many to have taken away the vigor and energy of the union parishads, the lowest level of local government.

3.4.3 Decentralization in Kenya

Kenya is characterized by centralization of its urban activities in a few towns and more in the city of Nairobi. Once the colonial administrators decided to centre most of its activities in Nairobi, further investment in the centre has continued over the years. There is a tendency for humans to agglomerate to take advantage of the economies of scale by concentrating activities in the same place. Nairobi has always been attractive because of the existence of better economic,

administrative, social, cultural and leisure facilities. Furthermore, more considerable economies of scale are exhibited in the provision of public services such as electricity, sewerage and water supply. Thus the tendency for the centralization of activities in Nairobi was established, the process tended to become self-reinforcing and established its dominant position. From this, it is observed that Kenya had a centralized system of urban development and thus need for decentralization was essential. The system of planning for the urban centres spread in the rest of the country was also centralized whereby all decisions regarding developments were made from Nairobi. It was noted that the planning and coordination of development had become a complex process which could only be easily managed at the district level (Kenya, 1983). The implementation of the district focus for rural development strategy began in early 1983 when the districts were required to prepare their district regional plans for the 1984-1988 National Development Plan. Regional planning projects for each district are to be identified at the local level (sub location and location) selected and channeled through the district commissioner to the district development committee where they will be more fully evaluated and formulated. Approved projects at the district are then sent to the provinces for technical improvement and subsequently forwarded to the ministries to provide the basis for ministerial and national budget estimates. From there, the projects are then coordinated and implemented by the district development committee in conjunction with the relevant ministry. Sectoral and project planning in Kenya has been centralized, the former being the responsibility of headquarters-based planning units. Local authorities usually operate independently from the ministry of planning and national development in implementing other regional plans. This organizational structure has resulted in difficulties in organizations responsibility and project implementation. Large projects that cut across administrative boundaries have tended to be difficult to coordinate. In order to combat these problems, Kenya has increasingly recognized the need for decentralized planning. Strategies such as service centres strategy and selective dispersal strategy in Kenya are employed as guides to urban growth. The selective dispersal is based on the principle of hierarchical organization of urban centers in which the small urban centres depend on the intermediate ones and the intermediate urban centres depend on the large urban centres for more specialized functions. The service centre strategy is to ensure optimal use of basic services such as health services, markets, sanitation, water, power and education among others this strategy is designed to ensure the provision of services at the grassroots with maximum economic efficiency by concentrating these in certain centres instead of dispersing them throughout the district. The

government of Kenya has adopted a strategy consisting of designated service centres in which the above services and facilities should be concentrated. It was expected that this would ensure a more equitable and national geographical distribution of infrastructure facilities and social services in terms of population distribution over the country (Kenya, 1978; 67).

3.4.4 Conclusion

Decentralization policies can hardly avoid conflicts in the process of implementation and they are not a panacea for the administrative, political or economic problems of developing countries. Their application does not automatically overcome shortages of skilled personnel, but initially creates a greater demand for them. Decentralization in a resource poor country may lead to a greater dependence on the centre by local administrative units and local government units may act as bureaucratic instruments of the centre.

3.5 District Headquarters in Kenya

Centres which are District Headquarters (Central Government Administration) are designated as at least urban centres. Urban centres are expected to have a residential population of at least 2,000. A designated urban centre is the highest category of planned service centre. Urban centres are important in providing services to the rural population and are therefore urban in the true sense of the word urban with the full range of services usually associated with a town including a treated piped water supply and a piped sewerage system and disposal plant. Urban centres are the locations for a fully equipped hospital, secondary school and other specialized services. They are designed to become the focal points of commercial, industrial, administrative, recreational and social services required by the rural population. They are designed to serve not only the present needs, but also reflect the increasing needs and development of the whole national economy. In addition to their role as service centre practically all the urban centres will function as reception centres for rural migrants seeking employment and social benefits which will eventually be offered there (Kenya, 1978:70). The successful creation of service centers at all levels depends on the concentration of infrastructure within the centre of all urban infrastructure required by the particular area served by the centre. Whether it be a primary school, or market to serve small rural population or a technical college or major commercial centre to serve a district. All such infrastructure if sited correctively plays an important role in building a vital urban and rural human settlement framework. In terms of linkage, all designated urban centres should be linked by means of primary roads as minimum.

3.6 Infrastructure Provision in Urban Areas

Urban areas are the focal points for infrastructure development. It is unfortunate that Kenyan urban centres have been developing without commensurate increase in infrastructural facilities to keep with the face of urbanization and increased demand. This therefore is an important area of review in terms of what measures are in place to provide infrastructure in urban areas of Kenya.

3.6.1 Kenya Vision 2030

To realize socio economic transformation, vision 2030 will require that the three economic, social and political governance pillars be firmly anchored on six foundations: infrastructure, science, technology and innovation, land reform, human resource development, security and public service reform. These foundations will be developed to support the vision and the country's overall development process. Thus, vision 2030 is relevant in discussion of Kenol town since it is an urban centre that requires infrastructure provision as envisioned in the strategies.

3.6.2 Infrastructure

The vision of the infrastructure section is to provide cost-effective, world class infrastructure facilities and services in support of vision 2030. Poor infrastructure was identified in Economic Recovery Strategy (ERS) as a major constraint to promoting economic growth. It was cited as a necessity in improving livelihoods of people living in farming and pastoral districts. Infrastructure is also important in improving security. Successful transition to vision 2030 calls for considerable shift in which the manner Kenya deploys her resources to acquire necessary capacity and access to infrastructure services (transport, telecommunications, energy, water, sewerage, and sanitation) by firms and citizens in their wealth creation efforts. While significant gains in infrastructure development have been realized over the last 5 years, areas such as energy costs, telecommunications, water availability and the cost of urban transport system particularly in Nairobi is estimated to be 2% of growth domestic production.

3.6.2.1 Goals for Infrastructure;

A number of goals will be pursued to deal with infrastructural problems. These include; accelerating ongoing infrastructure development, focusing on quality, aesthetic, and functionality of infrastructural services developed; Building infrastructure development to support identified flagship projects to ensure contribution to the economic growth and social equity goals; Improving efficiency and effectiveness of the infrastructure development process at all levels of planning,

contracting, and construction; Providing utility sector (water, sewerage and electricity) that is modern, customer oriented and technologically enabled to provide efficient, cost effective, quality services to all citizens; Creating an interconnected, technologically advanced society with modern information and communication systems driving innovation, growth and social progress; and Cultivating a social attitude of respect and care for the public infrastructure facilities and services amongst all citizens.

3.6.2.2 Strategies

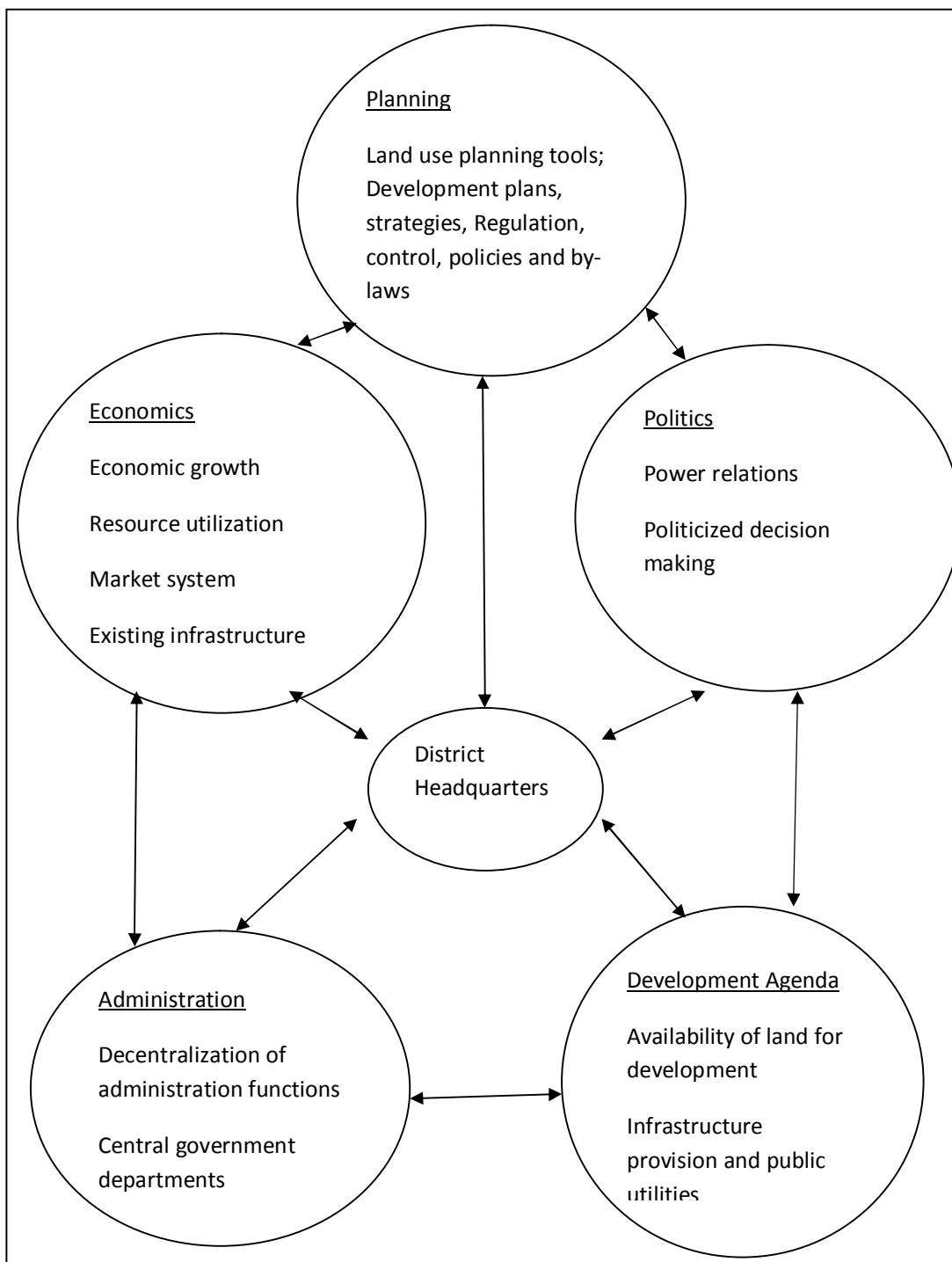
A number of strategies will be utilized in the effort to improve the infrastructure services available and to maximize the economic and social impact of infrastructure development and management. Strategies to be pursued involve the following; strengthening the institutional framework for infrastructure development and accelerating the speed of completion. Thus, raising efficiency and quality of infrastructure projects so that they are completed in specified time frames; Enhancing local content (materials and services) of identified infrastructure projects that is, minimizing import content; Developing and maintaining an integrated, safe and efficient transport network; Supporting the development of infrastructure initiatives around flagship projects; Benchmarking infrastructure facilities and services provisional with globally acceptable performances standards targeting enhanced customer satisfaction; Intergrading information and communication technologies in the processes of infrastructure service provision; Implementing infrastructure projects that will stimulate demand in neglected areas targeting increased connectivity and reduced transport and other infrastructure costs; Developing a national spatial plan to optimize the development and utilization of infrastructure facilities and services; Identifying, developing and retaining the requisite human resources to support the infrastructure facilities and services and Enhancing private sector participation in the provision of infrastructure facilities and services strategically complemented by public sector intervention.

The first National Spatial Plan was to commence in 2008 to guide physical development activities for over 50 years. This will provide a spatial illustration of all national projects and will also identify a strategy for land development. The plan will address issues such as settlement, environment, transport and economic development. This national spatial plan will form the basis upon which development activities in support of vision 2030 will take place. Therefore, its development will require extensive consultation between the relevant stakeholders, the Ministry of

Planning for National Development, The Ministry of Lands and other ministries and other state agencies with a view to incorporating their long term plans within the national spatial context.

There is also a 50 year Integrated National Transport Master Plan which will be completed in the next two years of initiation and is linked to the National Spatial Plan. This plan will ensure that investment and location of transport infrastructure and services are consistent with other public policies. This will facilitate improvement and expansion of transport infrastructure in a manner that will reduce transport costs and also open new frontiers for economic development. The policy will provide the government and the private sector with a systematic decision making tool for investment in transport infrastructure over the next 50 years. This programme will have an integral component of institutional capacity building to manage roads, ports and air, sea, land transport systems with a view to improving efficiency and effectiveness of service delivery and enhancing revenue earning capabilities. The agencies involved in the delivery of transport services will be adequately equipped to deliver quality services through modernization of their operation, strengthening of their management capability and the introduction of performance-based assessments and competency systems.

Figure 2.0: Conceptual Framework for Literature Review



Source; Author Generated, 2009

CHAPTER FOUR: THE STUDY AREA

4.0 Historical Background

Kenol town is a recent urban centre that has been developing rapidly between 1990 and 2000 due to the administration functions that were relocated to the town. The elevation of Kenol town to a designated district headquarters has triggered urban development that brought about tremendous land use changes. The urban developments have been triggered by the administration functions in the town. Formerly, Kenol was known as Makutano because of the road junction formed by the Kenol-Sagana and Kenol Murang'a road. Makutano had only one petrol station; Kenol petrol station where vehicles would stop for refueling and passengers would alight at the same junction for an eatery stop adjacent to the petrol station. The Kenol petrol station became a major land mark which residents could use for easy reference and thus gradually the place attained its name Kenol its local name being Gitura. However, there are still contentions on the naming of Kenol town as the appropriate urban name for the urban centre has not been settled upon. The establishment of the District Commissioner's offices at Kenol (2004) acted as the major attraction of investment with major financial and banking institutions opening new branches in the town. Establishment of four banking institution within a period of one year is a clear indicator of rapid growth as the research found out from the field. The rate of land subdivisions around the town into smaller parcels of land denotes urbanization process taking place. With a lot of construction work going on, this implies that Kenol town is at the peak of developing. The town is however developing without a clear land use plan or a physical development strategy to guide these physical developments.

4.1 Location and Regional Setting

Kenol Town Centre is found in Murang'a South District which is one of the seven districts in Central Province. The district was carved from the larger Murang'a District in September 1996 and its district headquarters is at Kenol town centre in Makuyu division. Administratively, the district has four divisions namely Maragua, Kagumo, Makuyu and Kandara divisions. There are also three constituencies in the district which are Kandara, Kagumo and Maragua (which covers both Makuyu and Maragua divisions). The district also has four local Authorities which are Maragua, Kandara and Makuyu Town Councils and Maragua County Council. The district lies between latitudes 36° East and 37° 27' East. It borders Thika district to the South, Murang'a to the North, Machakos to the East, Nyandarua to the West and Mbeere and Kirinyaga to the North East. The study area is located in Kimorori sub location in Makuyu location, Makuyu division. The town is also shared by

the Makuyu Town Council and Maragua County Council. Kenol town is strategically located along the busy Nairobi- Nyeri highway (A2 class road) and Kenol- Murang'a road (C71 class road) thus close proximity to the city of Nairobi, the capital of Kenya. These two major roads have played a central role in giving Kenol town a more significant locational advantage than demographic or environmental variables in determining the economic potential and social organization (refer to plate 1 next page).

4.2 Topography

Murang'a South district rises gradually from an altitude of 1100M above the sea level in the East to the altitude of 2950M to the Western side (Aberdare). The highest area is at the Aberdares Mountains which is the main water catchment area for the district and its neighbouring districts. This area has deeply dissected topography with steep ridges and very deep valleys. Further to the West of the district the ridges are too steep and hinder agricultural activities. The lowlands east of the Aberdare ranges are less steep towards the border with Thika and Machakos Districts.

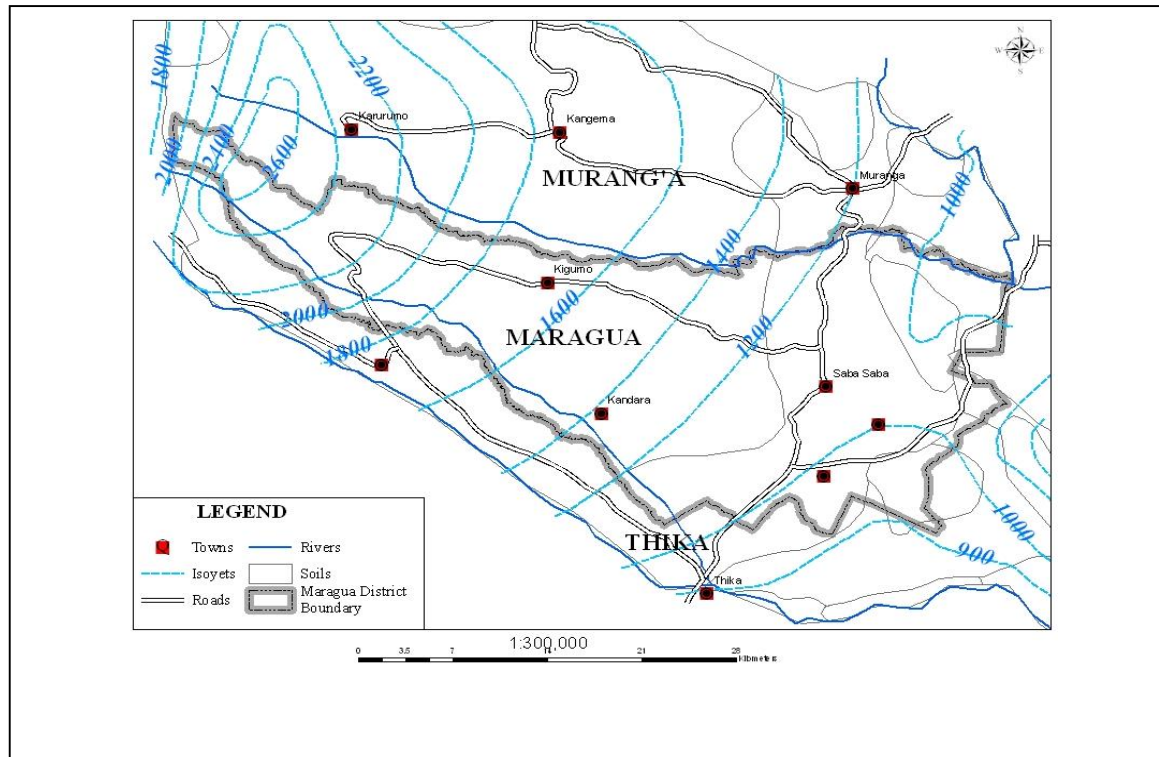
4.3 Climatic Condition

Climatic condition is very important in understanding an area for planning. The main weather elements are examined to determine the suitability of a planning option especially on siting of buildings and choice of building materials. The climatic condition of Kenol town is analyzed by looking at the wider Murang'a South District rainfall amounts and distribution, temperature variation, humidity and wind.

4.3.1 Rainfall

Murang'a South District receives an annual rainfall ranging from 900 millimetres in the lower zones to 2700 millimeters in the upper zones. Rainfall increases with the increase in altitude. There are two rainy seasons. The long rains are experienced between mid March and June while the short rains are experienced between mid October to December. Besides the two main seasons there is a short season of light drizzles that is experienced between July and October usually called 'Gathano' and it only occurs in the upper zones of the district during the cold weather. The rainfall pattern in the area is erratic and sometimes occurs in storms causing serious land slides and soil erosion.

Plate 2.0: Rainfall Distribution in Murang'a South District



Source: Physical Planning Department (2008), Draft Kenol Zoning Plan (2008-2035), Nairobi: Physical Planning Department.

4.3.2 Temperatures

The temperatures range from 26⁰c to 36⁰c in February and 14⁰c to 18⁰ in July. However, the monthly mean temperatures are 20⁰c. As a result of rainfall and temperature patterns, Murang'a South District can be classified as having 87 percent of the land suitable for farming.

4.4 Geology and Soil Structure

Geology determines ground potential of any area. The district is covered by two geological formations namely:

4.4.1 Volcanic

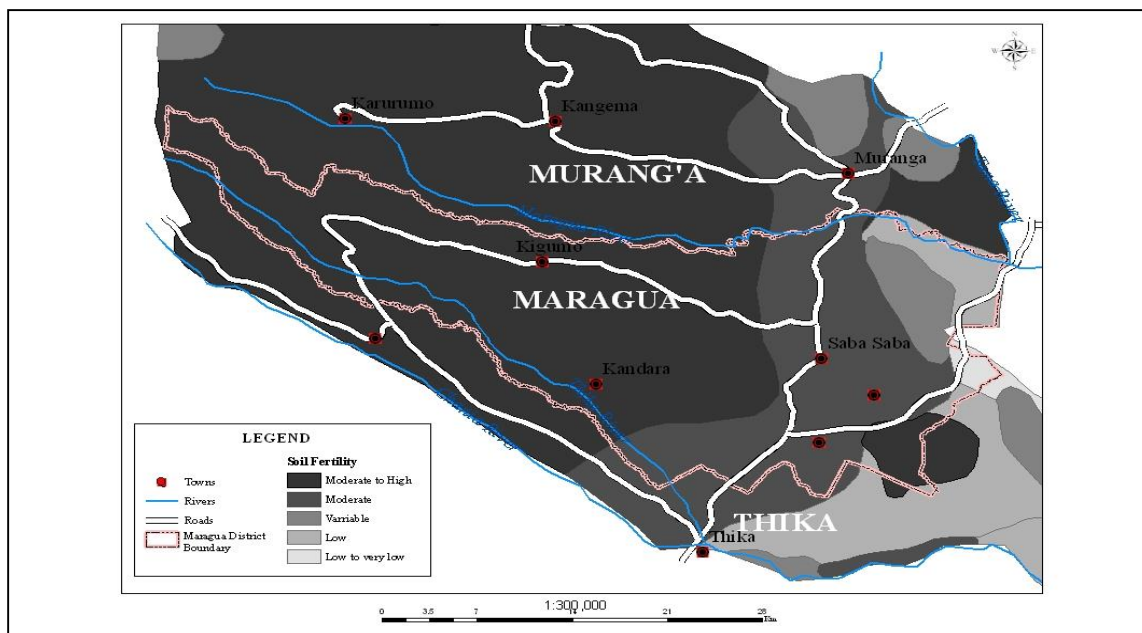
This covers most of the district's rock formation. The ground water potential in them ranges between medium and high. The rocks are mainly agglomerates (Basaltic), tracylic tuffs and

phonolites. These rocks are mainly found in rough areas and parts of Kandara area. However the water table is deep due to the highland nature of the area.

4.4.2 Basement Systems Rocks

This covers the lower parts of the district where volcanic have thinned out the runs in the North-Southern trend. The ground water potential varies from poor to medium. The rocks found in these areas are: tracylic tuffs, agglomerates (Basaltic) , phonolites and biotite gneisses. The water table in these areas can be reached even at 200m depending on the area and rock type.

Plate 3.0: Soil Type Distribution throughout Murang'a South District



Source: Physical Planning Department(2008), Draft Kenol Zoning Plan (2008-2035), Nairobi: Physical Planning Department.

Major parts of the district consists of soils of volcanic origin mainly red loams (nitosoils). These soils have great farming potential and decreases from west to eastern part of the district. The rest of the district consists of shallow poorly drained soils with some areas consisting of stony soils which are mainly sandy and black cotton soils.

Generally the major part of the district is covered by volcanic soils with variable top soils. These soils are high in organic matter and are moderate to high fertility. They have great agricultural potential. Crops such as tea, coffee, and food crops such as maize, beans and Irish potatoes do well

in the western part of the district. On the lower areas crops which are more resistant to drought are grown and include sorghum, cassava, pigeon, and pea by irrigation farming.

4.5 Population and Demography

Population is very critical in the urban ecosystem since it's the people that we are planning for. Population generates activities, demands services, provides services, produces chaos, complains and also determines the status of the system. Understanding the population characteristics of the study area is very important for planning in the area. The size of the population will determine the quality of living in that sharp population decline may adversely affect economic development implying labour decline. Population structure which is the composition in terms of sex differentiation and age cohorts is used to devise mechanisms to manage labour force and plan for social facilities like health, education and security which are more emphasized in Africa, while pension, health and special housing is emphasized in the developed countries. The need to address the social issues by understanding the needs of different population brackets for Kenol will help in coming up with improved models of plan proposals. Different cohorts have different requirements. Population density on the other hand refers to population per unit area. This will help in comparing areas in terms of concentration of people; an area is densely populated if it has relatively more people over small unit area. It would determine what level of services will be needed at time, what land values would prevail and what environmental conditions would exist at time. High density means competition for services and calls for higher service provision. Juja's density will be used to project numbers before coming up with proper plan for service provision. Migration affects density in that in-migration increases density and emigration lowers the density. Kenol Township is faced with in migration trends especially from the City of Nairobi and Thika town whereby people move in search for better investment land and for residential purposes thus acting as a dormitory town.

4.5.1 Regional and Local Population of Kenol Town

According to the population census report (Central Bureau of Statistics-1999), the population of Murang'a South District was 388,000 people while the intercensal growth rate was 0.8 percent against a national growth rate of 2.9 percent. This low growth rate is attributed to the fact that people are migrating to nearby towns such as Thika and Nairobi for higher opportunities. The low growth rate for the district is however expected to result in decrease in demand for the basic services and a saving of resources that could be channeled towards improving the welfare of the

district population. However, the growth rate for the urban centres within the district is estimated to be at 10 percent mainly attributed to urban to urban migration and rural to urban migration in search for better opportunities in the urban areas. The population distribution is influenced by different factors including water, type of climate and soil. Population distribution is measurable by population density. The population distribution of the location and sub-location affecting the area of study is as shown in the following table.

Table 2.0: The Population for Kimorori Sub Location

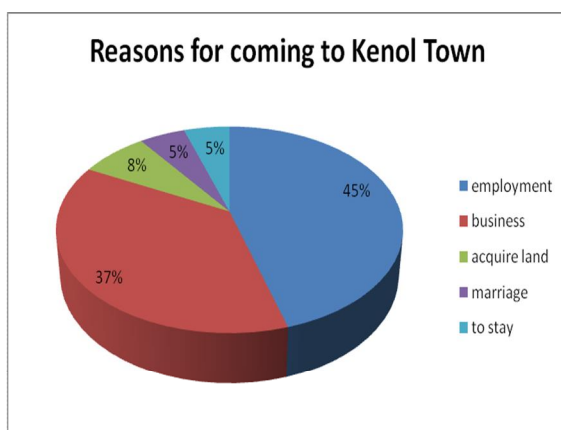
| | Male | Female | Total | No. of HH | Area (km ²) | Density (persons per km ²) |
|------------------------|--------|--------|--------|-----------|-------------------------|--|
| Makuyu location | 11,193 | 11,502 | 22,695 | 5,518 | 110 | 206 |
| Kimorori sub-location | 2,760 | 2,678 | 5,438 | 1,295 | 24 | 227 |

Source: G.O.K, 1999 National Population Census Report; Nairobi, Government Printer

Kenol town centre served a population of 5438 people as per the 1999 population census. This population is projected to rise to 5891 persons in 2009 using the overall district population growth rate of 0.8 percent (District Statistics).

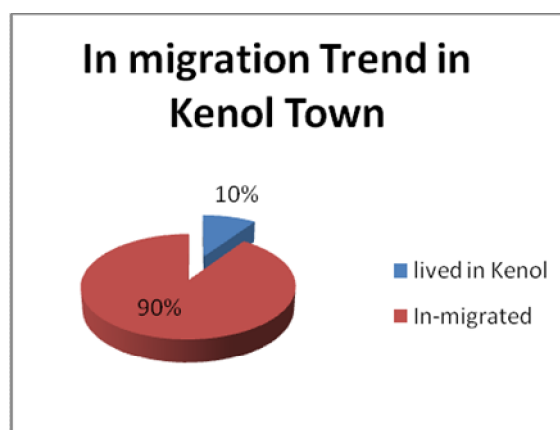
4.5.2 Migration Trends in Kenol Town

Figure 3.0: Reasons for In-Migrating



Source: Field Survey, 2009

Figure 4.0: Proportions of Immigrants

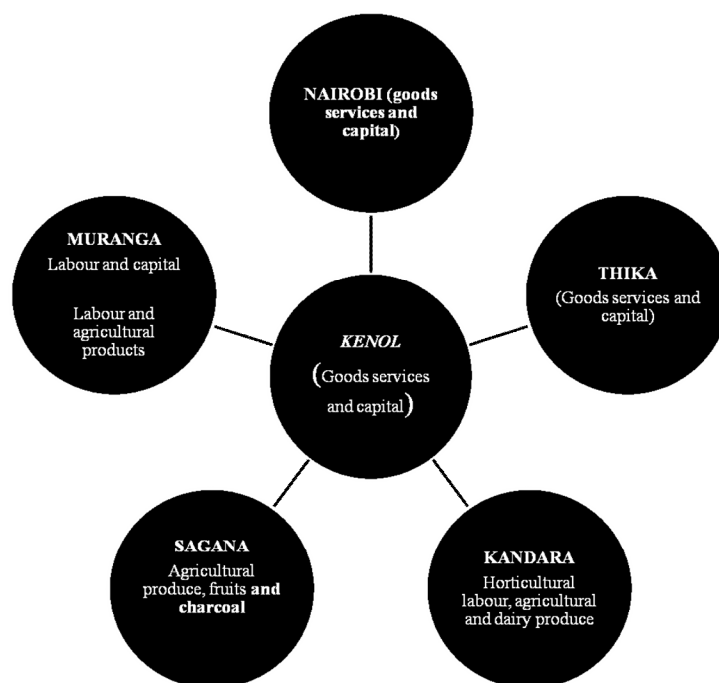


Source: Field Survey, 2009

4.6 Economic Activities

Kenol town's location is very strategic since it serves the city of Nairobi and the towns of Thika, Murang'a, Sagana and Kandara. Goods and services are exchanged from these growth points or centers creating a vibrant economy which is behind the development of Kenol town. Fruits and agricultural produce are transported to Sagana from Kenol while labourers from Murang'a bring their skills to work in the horticultural farms. There are various commercial enterprises with most being located in Kenol town's main commercial zone. Major commercial activities are in the service industry with power saw milling, retail shops, drapers and hair saloon leading. Other commercial activities are bicycle repair, video library; animal feed distribution, pool table, car wash, shoe and radio repairers. There are services of informal sector which include furniture making, food kiosks and informal market, which are situated on the road reserves. The councils charge the traders on this informal market since there is no formal market due to shortage of public purpose land.

Figure 5.0: Economic Interaction of Kenol Town with Other Towns



Source: Field Survey, 2009

4.7 Community Services and Facilities

Community facilities and services are all those physical and utilitarian provision that enhance the amenity and pleasantness of urban environment and whose provision and utilization is perceived as a common public good. broad categories include education facilities, health facilities, religious facilities, library facilities, social and community halls, commercial facilities, recreational, open spaces and sports facilities, civic and administration facilities, homes for people with special needs, police stations and prison facilities, post office, fire fighting facilities and cemeteries. The facilities provided have to meet the required planning standards to ensure efficiency in their usage.

4.7.1 Housing

The housing in Kenol town is mainly provided by the private developers. The housing units are mainly high rise buildings and range from single to double rental rooms. Rental charges for the housing units within the town range from 2,500- 4,500 Kenyan shillings. This implies that the houses cater for the lower middle income (earning Kshs10, 000-20,000) that are the majority in the town and mainly do business as their source of livelihood. The house structures are made from permanent materials, that is, stone walls, cemented floors and iron sheets roofs. However, some of the houses within the town do not meet the required standards for instance lack very essential facilities such as water and sanitation facilities.

4.7.2 Health Facilities

There are three categories of health facilities in the district including government facilities, private hospitals and mission sponsored hospitals.

Table 3.0: Health Facilities by Management Agency

| Division | G OK | Mission | Private | Total |
|-----------------|-------------|----------------|----------------|--------------|
| Kandara | 9 | 4 | 22 | 45 |
| Maragua | 5 | 1 | 15 | 21 |
| Kigumo | 4 | 3 | 19 | 26 |
| Makuyu | 4 | 1 | 14 | 19 |
| Total | 22 | 9 | 70 | 101 |

Source: Murang'a south District Health Records Office – 2004.

The health facilities are categorized further into hospitals, health facilities, dispensaries, nursing homes and private clinics as shown below.

Table 4.0: Health Institutions by Type

| Division | Hospitals | Health Centres | Dispensaries | Nursing Homes | Private Clinics |
|----------|-----------|----------------|--------------|---------------|-----------------|
| Makuyu | 1 | 2 | 3 | 0 | 1 |
| Kandara | 2 | 1 | 11 | 1 | 3 |

Source: Murang'a South District Health Records Office – 2004.

Outpatient Morbidity

Most commonly occurring diseases include malaria, typhoid, diseases of the upper respiratory system and intestinal worms. Improper solid waste disposal and poor water and sanitation is attributed to the prevalence of typhoid and malaria. The table below is an indicator of the most prevalent of the diseases.

Table 5.0: Prevalent Diseases

| Disease | Total No. Of Cases Attended – 2004 |
|-------------------------------|------------------------------------|
| Disease of respiratory system | 125, 708 |
| Malaria | 111, 115 |
| Rheumatism | 71, 222 |
| Intestinal worms | 40, 978 |
| Skin diseases | 36,404 |
| Accidents and burns | 14,381 |
| Eye Infections | 6,044 |
| Pneumonia | 5,528 |
| Urinary tract infections | 5,251 |

Source: Murang'a South District Health Records Office – 2004.

4.7.3 Water Supply

The major source of water in Kenol town is from boreholes. There is one borehole that was dug by the world vision whereby water is pumped from the borehole and stored in a tank before supplying to part of Kenol town. This is the only source of piped water in Kenol town and does not serve the whole town population. This source of water is therefore inadequate and unreliable since it is rationed on timely basis. The part that is not covered by the piped water buy water from the water vendors who supply water fetched from people with boreholes and community based water

projects. One can of 20 litres costs 4-10 shillings. Residents within the town thus depend on water vendors while others are fortunate where the developer drills a borehole within the building premises. However, continuous draw of water from the boreholes renders them dry thus inadequate and have to top up from buying. On average, a single household uses one hundred and twenty litres of water for domestic use only and costs approximately a hundreds shillings which most residents deem as very expensive.

4.7.4 Sewage and Storm Water Drainage

Kenol Township is not served by a sewer system. Residents use septic tanks and pit latrines as the main means of liquid waste disposal. There are plans underway by the Makuyu Town Council to provide the sewer facility to cover the whole of Kenol town. However, the town council is faced with financial and land availability constraints. The use of septic tanks and pit latrines are major threats to safe drinking water since underground seepage leads to underground water pollution. This poses risks on the safety of borehole water since they are dug up to 60 feet below the ground. During the rainy season, liquid wastes and sewers flood into peoples home which is an implication of poor drainage system in the town. The open storm water drainage system is blocked and clogged by solid waste thus ineffective. Combination of sewage and other wastes flowing in the drainage channels produce pungent smell which pollutes the air in the town.

4.7.5 Solid Waste Disposal

Litter and garbage are collected by the Makuyu town council. The council does not have a designated dump site for solid waste though it collects the garbage twice per week. The waste is collected and dumped in an open quarry located fifty kilometers away from the town by the Makuyu Town Council. Most of the waste is generated by the town residents from different households and from the town's open air market and the central business district (CBD) where waste is generated from peelings of agricultural goods delivered for sale. The council's collection of waste is not efficient and effective since there are heaps of wastes which accumulate within the town. This attracts animals, flies, and vectors which further pollute the environment and may be a cause for disease outbreak.

4.7.6 Recreational Facility

Kenol town lacks major recreational facilities including open spaces and grounds. The only open spaces available include playing field in schools within the surroundings of the town. The council is

faced with the challenge of providing these recreational areas as scarcity of public land stands to be the major constraint.

CHAPTER FIVE: STUDY FINDINGS AND ANALYSIS

5.0 Introduction

This section provides the key findings based on the study objectives as informed by the field research carried out in the study area. The data was collected from formal and informal businessmen, key informants, residents, developers and other relevant stakeholders in the town like the road users, and people seeking services in the town. Issues addressed cut across problems experienced in the various land uses. Critical areas of analysis include land ownership and tenure, housing, transportation, solid and liquid waste disposal, water supply, education, public utilities, public purpose and commercial activities.

5.1 Criteria Used To Choose Kenol Town as the District Headquarter

The siting of Kenol town as the district headquarter town was a highly politicized issue with various interests contesting for its location. Sources from the field indicated that the government officials preferred the development of the district commissioner and other government departments at Kenol town since it is nearer to Nairobi, the capital city of Kenya. Mariira which was the former headquarter was too interior to the district and remote zone. Compounded by poor road networks, Mariira accessibility became problematic and undesirable for a district headquarter. Kenol town was thus, chosen as the alternative centre for location of the administrative services. From the planning point of view, Kenol town was chosen as the preferred centre given its locational advantage at road junctions and its superb road infrastructure; the Nairobi Nyeri road which is a class A2 road.

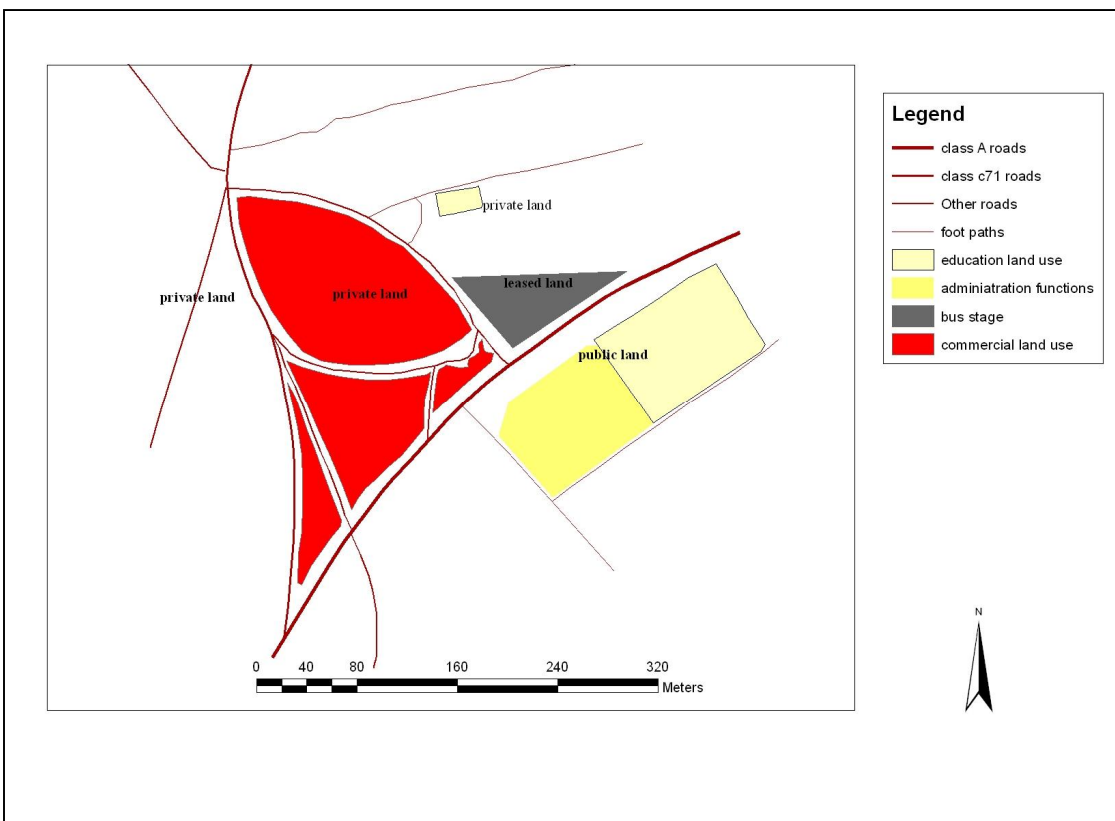
5.2 Land Tenure System

A larger part (67percent) of land in Kenol town is owned privately. This has hindered the efforts of the Makuyu Town Council to provide essential public purpose facilities like the bus park, markets, health facilities, staff housing, recreational places, dump sites, sewer treatment plant among others. The council is also faced with financial constraints to buy land from private owners and use it for public purpose. Makuyu Town Council has leased land for the bus stage and has plans of acquiring land to set up a market for the town. This has resulted to acquiring of a proposed market site (0.5 acres) outside the town since private owners within the town have developed their land for other commercial uses. The freehold ownership of land also limits the council's capacity to collect revenue accruing from land rates. Land tenure system in the town is a major developmental problem

and provides a challenge in development control within the town. The interest of the public versus the private interests regarding the use of land provides a challenge to the planner.

Land under the main commercial centre is private land. The only government land in Kenol town is that under the district headquarter offices (approximately 6 acres) and Kimorori public primary school (approximately 9.2 acres).

Plate 4.0: Land Tenure Map of Kenol Town



Source: Author, 2009

5.3 Land Use Planning and Zoning in Kenol Town

Kenol town does not have any approved Local Physical Developments Plan or zoning plan to guides its development. The only tool used to guide development is the draft Kenol zoning plan (refer to plate 4) which was prepared in 2008 by the Physical Planning Department and awaits approval by the minister in charge of planning. The Kenol zoning plan however does not clearly indicate specific zoning areas for certain land uses in the town instead gives a wider picture of the

town in relation to the whole district. The lack of such a plan therefore has created tremendous planning challenges in Kenol town especially on its building developments. There were no previous planning efforts in Kenol town prior to it being a district administrative town. This therefore has led to a mixed kind of development whereby developments which were not subjected to inspection/approval coexist alongside recent planned developments. In case of development, applications are made and submitted for approval by Makuyu Town Council. The development plans are passed through the District Physical Planning Department for recommendations then to Makuyu Town Council, the works office for further recommendations and finally the Town Clerk approves the building plans. The council does not have the proportional percentage of total land coverage of the various land uses in Kenol town. The land use regulation in Kenol town is done in a coordinated system between the Makuyu Town Council and the Physical Planning Department since their capacities in terms of professional and technical officers is still low. For instance, Makuyu town council does not have a physical planner and development control section. The physical planning department on the other hand has only one physical planner thus, the need for the coordination of regulation and planning of Kenol town. However, this does not give an adequate level of land use regulation as the planning institutions do not have the mechanisms to control development such as development policies, rules and by-laws, strategies and enforcement codes to achieve strict adherence to planning standards. Another major challenge in development regulation that was brought out through an interview with the district physical planner is the presence of quacks and brokers who do plans for buildings making it expensive for developers. There is also the existence of non standard structures due to low levels of incomes since Kenol town is still a rural town. This therefore provides a challenge in attaining good urban development that meets the required standards.

5.4 Land Use Analysis

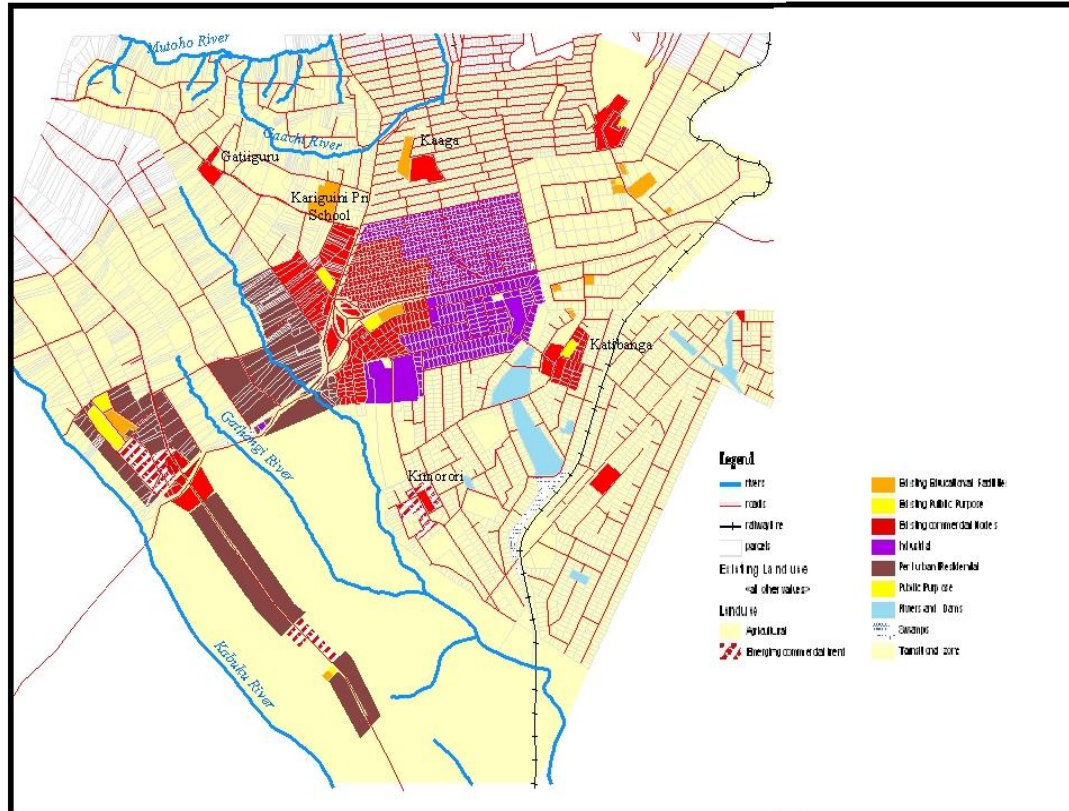
Land use analysis will include issues touching on the lack of spatial planning framework for the physical development of Kenol town. These problems cut across the various land uses in the urban centre and the overall physical morphology of Kenol town. Spatial components include the building developments, road networks, spatial structure of Kenol town, the relations of existing land uses within the town, land tenure systems and outlay of all developments in the study area. A general overview of land uses in Kenol town is first analyzed after which, the various categories of land uses will be analyzed independently to bring out the key problems in each land use of Kenol town.

The land uses in Kenol town can be grouped into residential, education, public purpose, commercial, public utilities, and transportation.

5.4.1 Overall Land Use Analysis

Land uses in Kenol town are not well articulated since the town has been developing without a guidance plan to dictate specific zones for different users. This has resulted to various land use conflicts and even lack of some of the essential land uses in an urban centre. Competing users of different land uses get into conflict with each other since their areas of operation are not specified. For instance, Kenol town lacks a formal market both open and closed and this has amounted to a lot of conflicts within the town. The traders occupy any open space available along the roads reserve together with other businesses such as bicycle repairs, carpentry, tailoring and retail shops. This in turn causes conflict among road users and vehicular movement because of road encroachments. The commercial zone is also a residential zone since private developers erect multistory buildings which serve the purpose of commercial cum residential exerting pressure on the available infrastructure such as public toilets. The lack of a land use plan has encouraged mixed land use which is not coordinated, regulated and planned. The land uses are also not compatible to each other especially the haphazard development of residential within areas of busy commercial activities with no adequate infrastructure services such as sewers and solid waste management systems. The proximity of different land uses could be of advantage if the developments were planned since accessibility is impaired by blocked service lanes and poor conditions of access route within the town.

Plate 5.0: Proposed Kenol Zoning Plan



Source: Physical Planning Department(2008), Draft Kenol Zoning Plan (2008-2035), Nairobi: Physical Planning Department.

Plate 6.0: Existing Land Uses in Kenol Town



Source: Author, 2009

5.5 Residential Land Use

The physical characteristic of the residential including roofing materials, type of floor materials, wall materials and its location have an important effect on the urban structure, aesthetics and urban character. The residential areas in Kenol town are located within the town's main commercial area as shown on plate 7.0 since there is no zone exclusively for residential land use. The buildings are mainly commercial cum residential whereby the ground floors are used mainly for commercial purposes while top floors act as residential. The buildings are mainly high-rise/flats to a building height of up to five floors. The residential premises are not sufficiently provided with community facilities and services such as water supply and sanitation facilities, and space for children playing ground. The source of water has a very significant impact on environmental exposure to diseases. Building developments that were put up before the inception of the Physical Planning Department do not meet the required planning standards and violate the building code and regulations. These building premises are served with pit latrines as the main means of sewer disposal. Borehole to supply water for domestic is also dug within the same plot. The buildings do not adhere to standards like adequate ventilation and leaving of building lines abutting streets. Plot coverage and plot ratios are not strictly followed since there is no standard specification for these by the Makuyu Town Council. Accessibility is also a major problem since the flats are served with one entrance which is narrow even for a service van to pass through. The Makuyu town council advises developers to provide adequate entrance for easy access of exhausters in case of emptying the sewers. Iron sheets are the main material used for putting up the roofs of the buildings while walls and floors are constructed using stones and cement respectively. Easy accesses to certain wall materials like the stones which are found locally from quarries within the district determine the dominant use of the same materials.

5.5.1 Emerging issues

The following are the emerging issues under the residential land use in Kenol town:

5.5.1.1 Inadequate Adherence to Building Codes and Regulations

Some of the buildings that were put up before the enforcement of building regulations do not adhere to building standards. For instance, the buildings are constructed on illegal subdivided plots which does not allow for adequate space especially for septic tanks, ventilation, accessibility and open spaces.

5.5.1.2 Inadequate Domestic Water Supply

Low access to piped water has resulted to consumption of water from open sources susceptible to water pollution. Households which are not supplied with piped water from boreholes are forced to buy water from water vendors for the domestic uses.

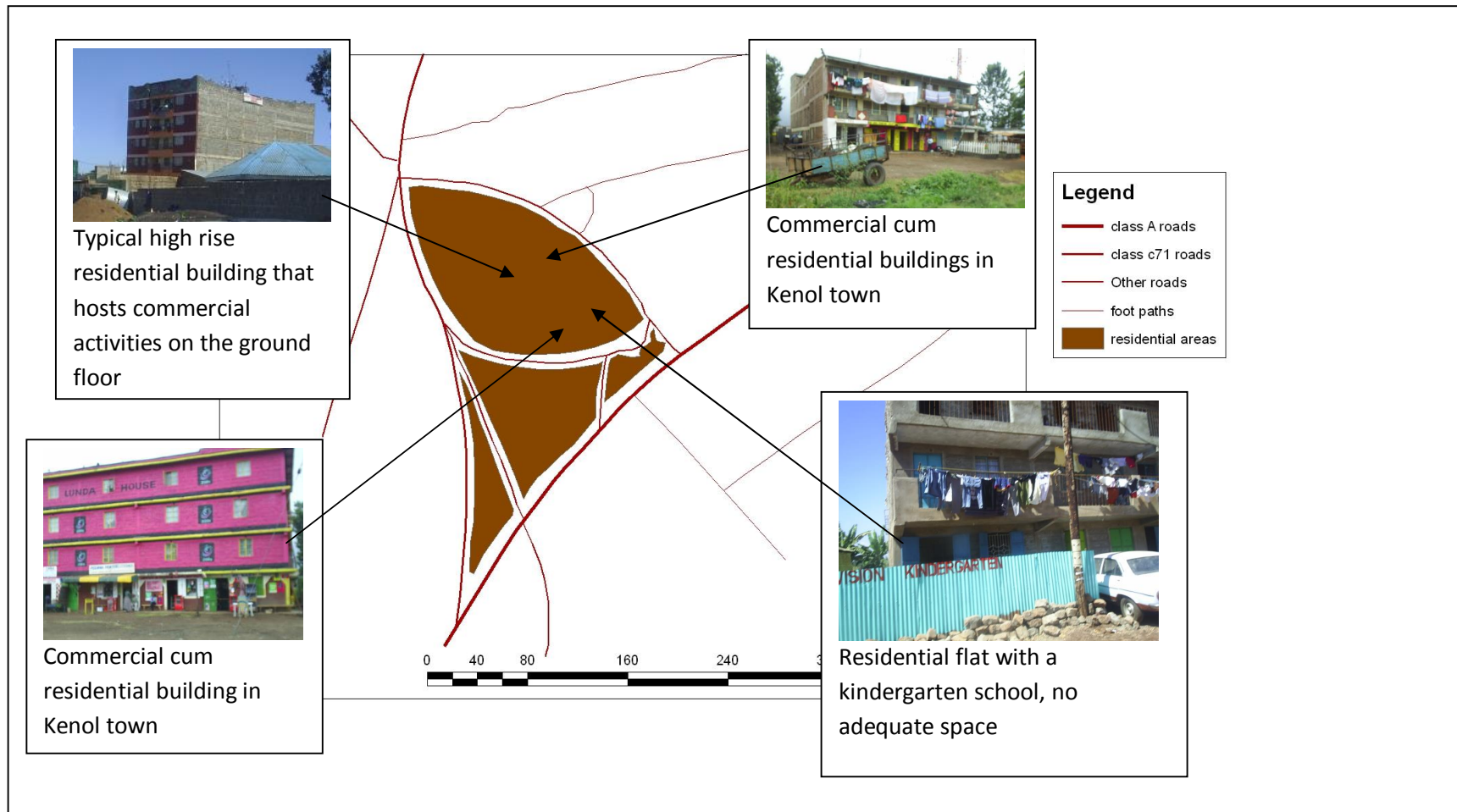
5.5.1.3 Lack of Urban Aesthetics within the Residential

This is as a result of lack of planning and mixed developments that lack coordination. There is no greenery to beautify the place of residence. Dumping of debris from construction works gives an unsightly residential.

5.5.1.4 Poor Sanitation and Health Standards within the Residential

Poor sanitation is largely related to inadequate water supply and poor drainage in the town. Poor waste management of both solid and liquid waste is a major challenge to the state of health. The use of pit latrines and septic tanks poses healthy risks especially during the rainy season when combined sewers flood into peoples homes due to poor drainage.

Plate 7.0: Residential Land Use



Source: Author, 2009

5.6 Educational Land Use

It is necessary that planning application for education institutions should include details of all relevant information to facilitate the determination of amount of acreage they require. It also requires that after land for educational facilities has been allocated, drawings of site layout plans be submitted to relevant authorities for approval to avoid haphazard development. In all cases of education institution, it should be integrated with major open spaces whenever possible so as to encourage the sharing of open spaces and playgrounds with members of public. Education facilities in Kenol town include that of pre-primary and primary schools. Secondary schools and tertiary institutions are sought from outside the town within accessible distance.

Table 6.0: Schools in the Division within Kenol Township

| Name | No. Of Students | Location |
|------------------------|-----------------|------------|
| Faithful hearts | 59 | Kenol town |
| Makuyu by-grace | 208 | Kenol town |
| Bishop J. Mahiani | 20 | Kenol town |
| Shama Ebenezer academy | 92 | Kenol town |

Source: Murang'a South District Education Office 2005

The above are primary schools and are mainly privately owned. There exist a number of nursery schools within the town with some operating from residential building for example Vision Kindergarten. The only public primary school located within the town is Kimorori Primary School (refer to plate 8.0) that is to be relocated to pave way for the construction of the district headquarters offices such as the Ministry of Lands and, police station and courts. Secondary schools that serve the town are located outside Kenol town and are distributed as below.

Table 7.0: Public Secondary Schools by Location

| Name | No. of Students | Location |
|----------------------|-----------------|---------------------|
| Mwangaza mixed | 247 | Makuyu town |
| Makuyu girls. | 340 | Murang'a T. College |
| Kariani sec. (undue) | | |
| Kambiti sec. (mixed) | | Kambiti |
| Gathungururu | 176 | Gathungururu |
| Makuyu boys | 359 | Murang'a T. college |

Source: Murang'a South District Education Office 2005

The zone has Makuyu Youth Polytechnic with 53 students which offers vocational training education and has accessible to one college, which is Murang'a Teachers College with 720 students.

5.6.1 Emerging Issues

The following are the critical emerging issues under the education land use;

5.6.1.1 Inadequate Land in Some Schools

Land is a critical factor within Kenol town since most of it is held under freehold. This makes expansion of schools difficult yet the number of pupils is increasing. The locational requirements demands that a nursery school should be within and integral to residential areas to allow for easy walking distance of (250-300m) and located on major pedestrians routes to avoid crossing of major roads. A pre-primary may be attached to a primary school on a minimum size of land of 0.25 Ha. This is however contravened in some of the schools in Kenol town like the Vision Kindergarten which is located on a residential plot without even a small children playing ground indicating inadequate land space (reference to plate 8.0).

5.6.1.2 Long Walking Distances to Educational Facilities

There is only one public primary school in Kenol town and this makes the accessibility of the facility hard for those who come from interior parts of the rural. On the other hand, parents resort to taking their children to private schools which is not near thus long distance from home.

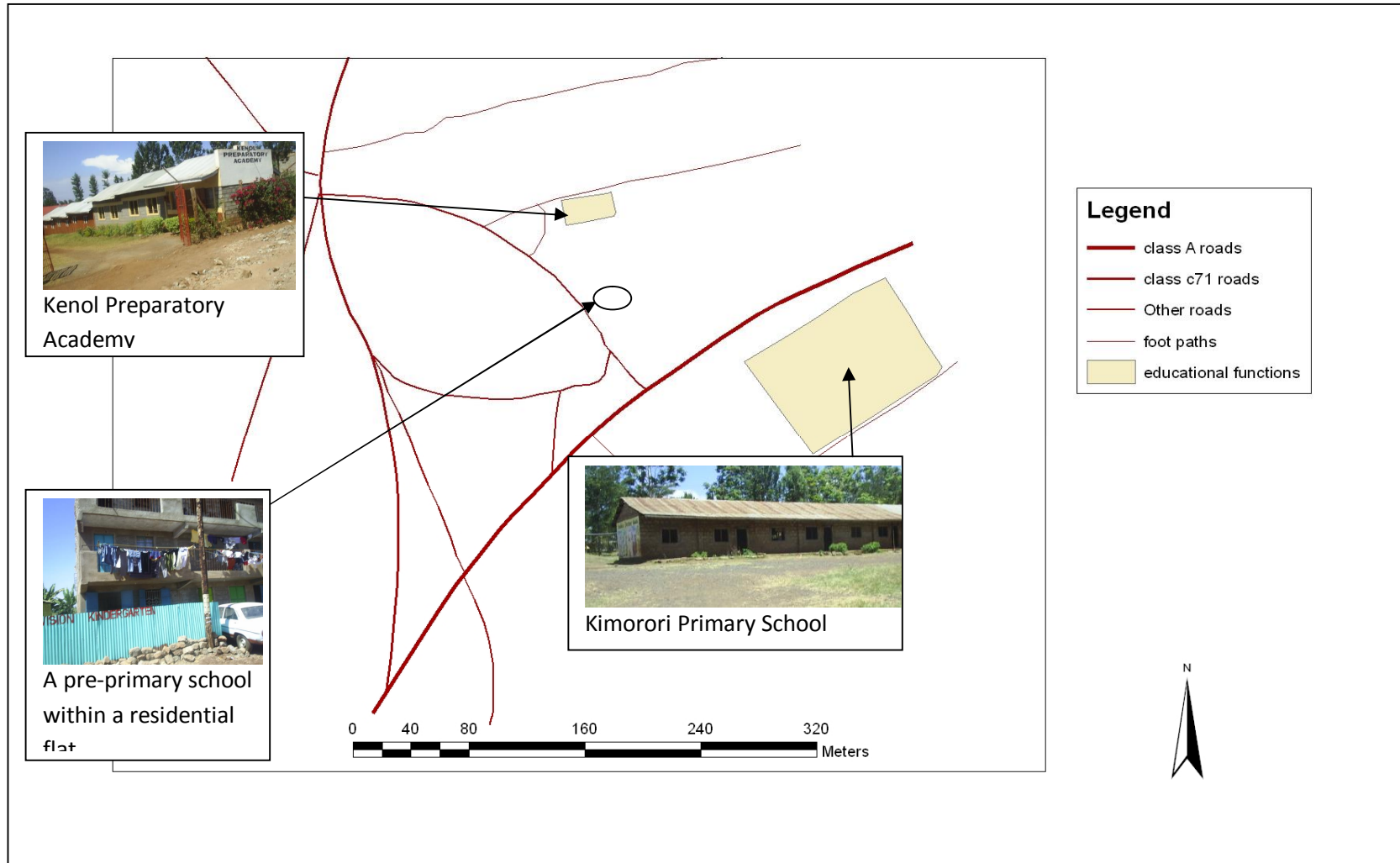
5.6.1.3 Inadequate Physical Facilities like Desks, Classrooms, and Workshops

This is mainly at the public school where there they reported of poor maintenance of the physical facilities such as the building structures and desks. Some of the desks are virtually broken and are not replaced. For example, Kimorori classrooms do not have windows. The building structures like the walls and roofs need renovation.

5.6.1.4 Theft/School Breakages.

There reports of insecurity resulting to school breakages and theft cases.

Plate 8.0: Education Land Use in Kenol Town



Source: Author, 2009

5.7 Public Purpose Land Use

This includes public services that are meant to serve the citizens and provided by the government. Some of the essential public purpose services and utilities lack in Kenol town because of inadequate public land to develop. Below is an analysis of the available public purpose land use in Kenol town;

5.7.1 Health Facilities

Urban centres are very important in providing services to the rural population and should therefore be the location for a fully equipped hospital. However, Kenol residents seek for health services away from the town since there is no district hospital which could serve them better. Health facilities found within the town include Kenol hospital (private) see plate 9.0, Garden Breeze Hospital (private), Roadside Medical Clinic (private), and other small medical clinics and laboratory services which are located within the commercial buildings and operated privately. Most of the residents prefer seeking for medical and health services in government hospitals and thus travel to Makuyu Health Centre and Thika District Hospital for better facilities and relative cost since majority cannot afford private clinic charges.

5.7.2 District Headquarters Office

This is the District Commissioner's Office for Murang'a South District located at the town along the Nairobi-Nyeri (A2 class) road. Other government ministry departments are also placed here (refer to plate 9.0) for example the Ministry of Livestock and Production, the education ministry e.t.c. There is also administration police at the District Commissioner's office. The location of the above offices had proved difficult as a result of lack of public/government land. A primary school called Kimorori was relocated to adjacent site to pave space for the construction of the district headquarters offices. This will also lead to a further relocation of the school to give room to construction of more offices which are not available at the district offices. Of the main importance is the ministry of lands, police station and the district courts.

As in most newly created district in the Republic, establishment of government institutions is problematic in terms of locations (distributions), capacities and therefore efficiency in service delivery. Table 5.4 shows that essential government departments are scattered in terms of locations. Ideally, all heads of departments should be located at the district headquarters or nearby. The situation in Murang'a South District is that majorities are in Kenol, some in Makuyu, Sabasaba and Kigumo while a few operate from outside the district. Although the above is a function of inadequacy of resources, the

protracted unresolved issue of the headquarter may have contributed to this to some extent thus, the research will undertake a re-examination on the suitability of Kenol town as a district headquarters. There is also need to ensure that departments decentralize their services further to the divisional and locational levels.

Table 8.0: Existing Government Ministries/Departments Offices and their location

| Institution Name | Office(S) Location |
|--|----------------------------------|
| District Development Office (DDO) | Kenol ó Murangá South District |
| Ministry of Education (DEO) | Kenol ó Murangá South District |
| Ministry of Water Development | Sabasaba- Murangá South district |
| Ministry of Health (MOH) | Sabasaba- Murangá South District |
| Department of Lands | Murangá ó Murangá District |
| Department of Physical Planning | Kenol ó Murangá South District |
| Department of Survey of Kenya | Kenol ó Murangá South District |
| Ministry of Public Works | Kenol ó Murangá South District |
| District Agriculture Office | Kenol ó Murangá South District |
| District Livestock Production Office | Kenol ó Murangá South District |
| District statistics Office | Kenol ó Murangá South District |
| District Cooperative Office | Kenol ó Murangá South District |
| District Social Development Office | Kenol ó Murangá South District |
| District Roads Office | Kigumo ó Murangá South District |
| District Industrial Development Office | Kigumo ó Murangá South District |
| Environment Office (NEMA) | Kenol ó Murangá South District |
| District Labour Office | Kenol ó Murangá South District |
| Office of Police (OCPD) | Makuyu ó Murangá South District |

Source field survey, 2009

5.7.3 Local Authorities Offices

The local authority affecting the study area is Makuyu Town Council. Maragua County Council is also mentioned since it shares part of Kenol town and has locational needs.

5.7.3.1 Makuyu Town Council

The precursor to Makuyu Town Council was Makuyu Urban Council formed in 1988 under Maragua County Council. It was elevated to a Town Council in 1997. The elevation comprised boundaries adjustment to include two wards from Thika District and four from Murangá South District. The council covers approximately 288 Sq. Km. From the onset, it is apparent that the local authority

transcends two administrative boundaries. This is on aspects that pose development co-ordination problems and conflicts. It covers Makuyu division and part of Kakuzi division, the later being partly in Murang'a South and Thika districts. The organization structure of this again is of relatively new institutions, and can be described as still in formative stage. The council operates in two organs: the legislative (councillors) and the executive headed by the town clerk. It has four elected councillors and one nominated. It operates through the committees system in accordance with the provisions of the Local Government Act Cap, 265. A review of its capacity indicated that it has a total work force of approximately 24 personnel. According to the permitted/possible staff establishment the council has a deficit of 5 personnel. Crucial in this category is the development control enforcement staffs. The council has only two viable markets that is Mithiini, (dealing with domestic animals, clothes and grains) and Makuyu. There is no designated space for market in Kenol town under the Makuyu Town Council although wares are displayed on road reserve. The latter notwithstanding, the council collects market and parking charges.

Table 9.0 Makuyu Town Council Revenue Collection Levels

| Source | Collection Level (%) |
|----------------------|----------------------|
| Permit Fees | 90 |
| Sand/Quarry Cess | 70 |
| Coffee Cess | 20 |
| Markets/Parking Fees | 20 |

There is, however, over dependence on external sources (LAFT) while from local sources, the council depends heavily on cess fees (sand/quarry and coffee). There is need for the council to broaden its revenue base and minimize dependence on external sources. But the question of viability of the councils vis-as-vis their area of jurisdiction and the population expectations should be addressed.

The Councils other development challenges can be summarized as follows:

1. Lack of valuation roll; the council therefore is not a rating authority. Moreover, the council is yet to have legal basis to collect rates from large plantations e.g. Kakuzi.
2. Some allocated plots are idle and undeveloped and therefore owners default rates payments.
3. Haphazard/unplanned market centres often affected by double allocations.
4. Ghost market centres. This has been aggravated by high crime rate and security issues.
5. Quarries are on private land and therefore uncontrollable.

6. Makuyu Town Council has no office at the district headquarters (Kenol). The council offices are located 11 kilometres from Kenol town
7. The existence of two local authorities managing Kenol town.

The above analysis of the local authority as significant institution with regard to development of the area under research is important. One, it has portrayed that Kenol township and its environs like other small towns in Kenya has no local authority with capacity to prepare and implement physical development plan(s). Thus whilst large tracts of rural land has been brought under local authorities or urban jurisdiction, there will be no scope for urban planning in these towns for years to come. Hence, the intention by Physical Planning Department to do a zoning plan for Kenol is timely and warranted.

5.7.3.2 Maragua County Council

Maragua County Council was established in November 1997. It was carved out of the former greater Murang'a County Council with an area approximately 1,036 sq Km. It comprise four administrative divisions and three parliamentary constituencies. According to the Council's strategic plan (year 2005 to 2010), its mandate range from the provision of clean water, conservation of environment, provision of social welfare facilities, develop road networks to improve rural accessibility, promote industrial and economic development, and finally ensure planned urban and rural development. To achieve the above, the council ought to be properly equipped and organized into a good managerial structure. Its service area has an estimated population slightly above half a million people. The council offices are located within Kenol town.

5.7.4 The District Physical Planning Department

The Murang'a South District Physical Planning Department is situated within the commercial centre fronting A104 Nairobi-Nyeri road. This office is supposed to be within the district headquarters offices but due to inadequate space for public office facilities, it is forced to operate from a rental commercial building. The Ministry of Lands through Physical Planning Department also has spearheaded spatial (physical) planning for various urban centers in the district. Makuyu town, Kenol, Gathunguru, Gatiguru, and Kabati are examples of centers that have physical development plans either in form of local physical development plan, part development plan or spatial layout plans. However, most of these are either outdated, incomplete or in preparation process. The department has one physical

planner who may not handle all the planning issues of the district thus, need for more professional and technical staff in the planning field.

5.7.5 Religious Facilities

Kenol town is well served with churches which cater for the Christians living there. Examples of churches include Makutano Catholic Church, Full Gospel Churches of Kenya, and P.C.E.A, A.I.P.C.A and P.E.F.A. However there is no religious facility catering for the Muslims and other religion like the Hindus which are normally provided at the commercial zone of urban centres.

5.7.6 Emerging issues

Some of the key emerging issues in public purpose land use in Kenol town are highlighted as follows:

5.7.6.1 There Is Shortage of Land for Public Purpose Facilities and Services

Inadequate public land has hindered the development and provision of public purpose. Some of these public purposes are very essential and include the police station which is critical in protecting and guarding against any form of insecurity, the courts which are essential in hearing and determining of cases and the ministry of lands which helps in land matters. There is need for a district hospital to provide wide range of health services to Kenol residents. The nature of land ownership which is mainly private has therefore led to inaccessibility of land for public purpose. This has also resulted to inadequate working space especially for the department of physical planning which has rented room space within the commercial area. Inadequate funding for buying land from private owners by the central government and Makuyu town council inhibits development of public purpose service provision.

5.7.6.2 Some of the Necessary Public Purpose Facilities are not provided in Kenol Town.

This includes, major hospital, social halls, open parks and recreational places, homes for people with special needs. There is still more need to provide these facilities since the locals either seek for these facilities in the neighbouring towns or feel unsatisfied with the level of services at Kenol town.

5.7.6.3 Inadequate Transport Means to Access Most Rural Population.

Poor road conditions that inhibit accessibility of services and facilities also contribute. This is because the rural hinterland is not served with good road networks. The roads are earthen and become

impassible during the rainy season hindering accessibility and transport movement. This also discourages vehicles from using the routes.

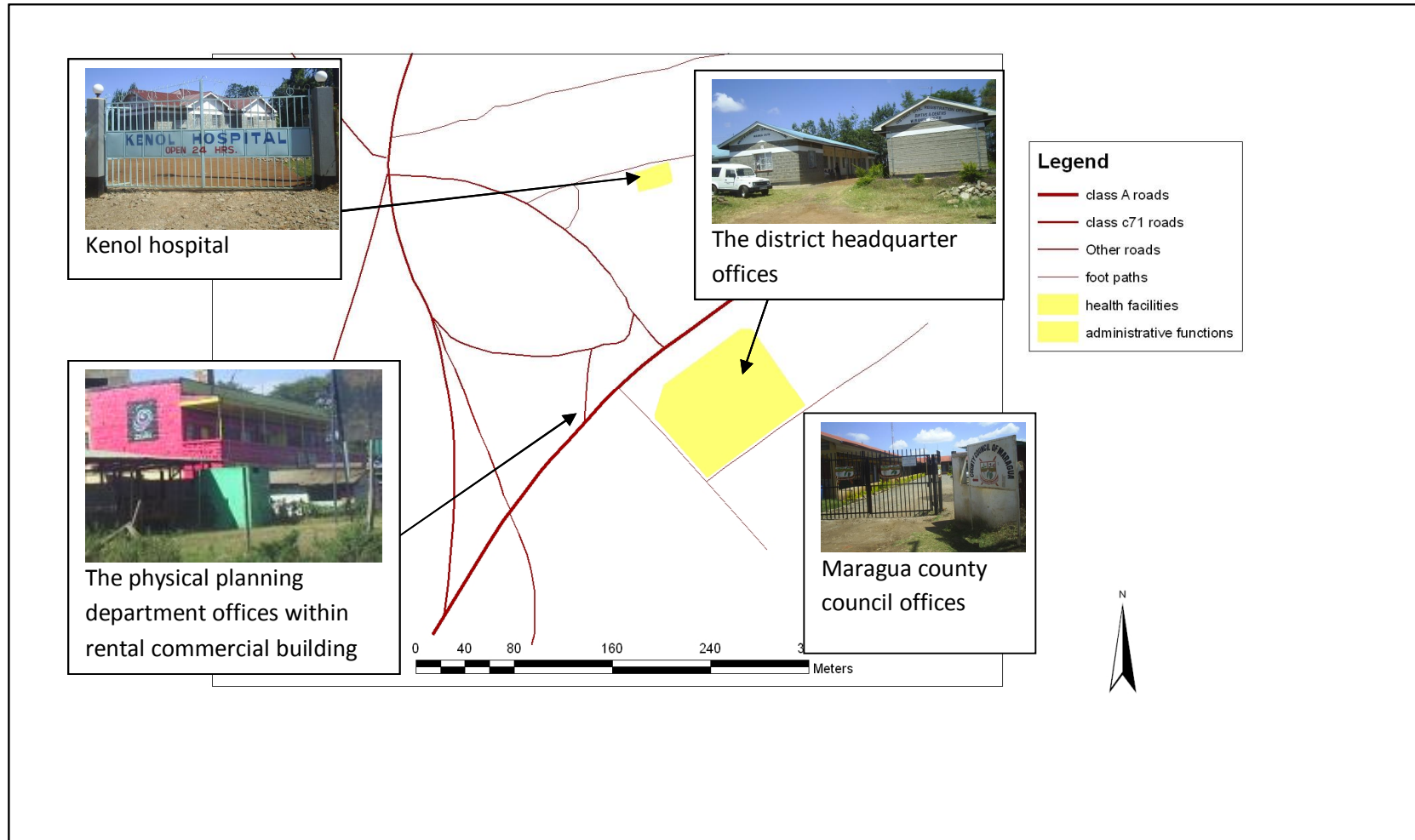
5.7.6.4 Inadequate Health Facilities and Services

The available health services are inadequate to serve the population of Kenol town and its surrounding. The medical clinics face occasional drug shortages and have inadequate medical skilled personnel. The lack of a major hospital has resulted to establishment of private clinics within the town who charge unaffordable fee to patients thus urgent need for government facilities and services.

5.7.6.5 Weak Institutional Support in Planning and Implementation:

This is manifested by the following; lack of site for offices for Makuyu Town Council within Kenol town, inadequate partnership in urban management between local authorities, central government community, CBOs and other Development partners, lack of a valuation roll for property rating and collection of revenue, inadequate financial and managerial capacity in local authorities, inadequate community participation in decision making, overlapping and conflict of interest between Maragua and Makuyu Councils in management of town affairs and scattered government offices in Murang'a Kigumo, Makuyu, Maragua, Kenol

Plate 9.0: Public Purpose Land Use in Kenol Town

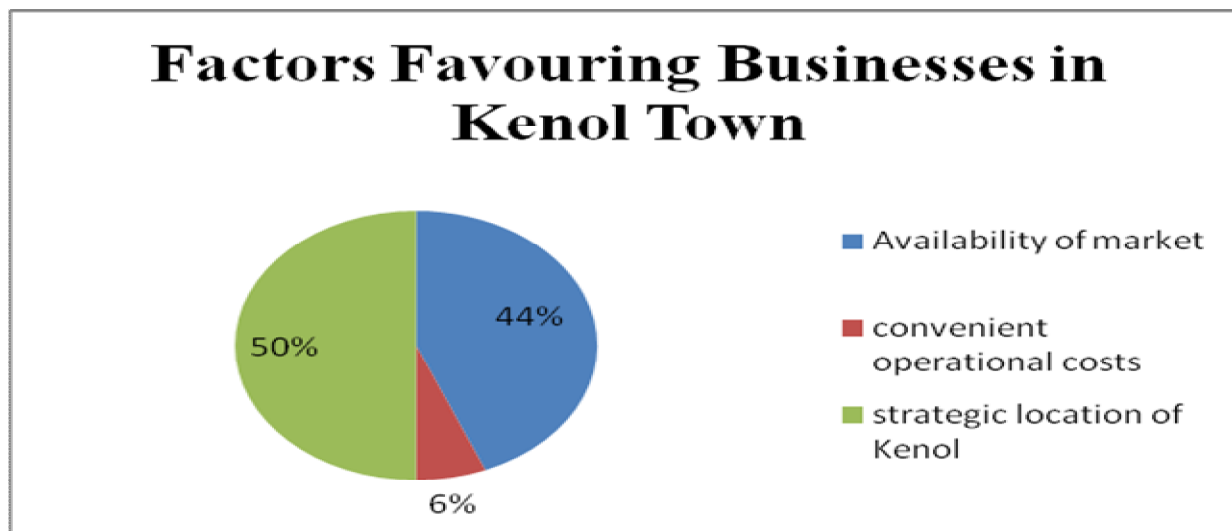


Source;
Author,
2009

5.8 Commercial Land Use

Urban centres are designed to be the focal points of commercial services. The commercial land use in Kenol town include the service industry with power saw milling, retail shops, banking institutions, drapers and hair saloon. Other commercial activities are bicycle repair, video library; animal feed distribution, pool table, car wash, shoe and radio repairers. The strategic location of Kenol town acts as the main pool for most businesses (50%) followed by availability of market (44%) and the least factor is convenient operational cost which accounts for only 6% as shown in the chart below.

Figure 6.0: Factors Favouring Business in Kenol Town



Source; Field Survey, 2009

There exist both formal and informal commercial enterprises in Kenol town. Formal commercial activities are housed in permanent building structures. This include; the Kenya Commercial Bank, Equity Bank, Barclays Bank and other financial institutions like the Kenya Women Finance Trust Limited, retail shops like mini supermarkets, hardware shops, petrol stations, restaurants, printing and photocopying place and communication centres mainly Safaricom and Zain company. Informal commercial activities are characterized by poor building structures which infringe on the urban aesthetics of Kenol town. Informal commercial activities include carpentry which is done on road reserves, food cafes and kiosks, second hand clothes business, household items and wares such as plastic basins, and grocery stalls. The Makuyu town council does not have a formal open or closed

market thus, traders lay their good on the ground along the road reserves. This is due to lack of land to provide for a market within the town. The European Union has funded a proposed site for putting up a market (refer to plate 10 below) but it is not a favourable location since

Plate 10.0: Proposed Site for Kenol Market



Source; Field Survey, 2009

it is far from the main commercial centre of Kenol town (approximately 800metres). The Makuyu Town Council was faced with the challenge of acquiring this land the fastest possible with the funds donated thus, did not have enough time to acquire land within the town. This was also compounded by the fact that the land value at the CBD is very high and unavailable because of private owners. A plot measuring 40 by 80 goes for 1.5 million shillings and above. The site acquired measures half an acre and was bought at 1.2 million shillings yet it is distanced from the town. The motive behind the market by the European Union is to provide the local community with a central place that they can shop for daily goods. The move was welcomed but the choice of site is likely to affect its effectiveness since the market will be isolated from other businesses in the commercial district.

5.8.1 Emerging Issues

Critical emerging issues under commercial land use include the following;

5.8.1.1 There is no Formal Market in Kenol Town.

Road reserves are used as open air market where traders display their goods on rafters and on bare ground. This problem transcends from inadequate public land within the town. See plate 11.0. Traders lay their good on bare poorly drained surface that is available along the roads where buyers have quick access.

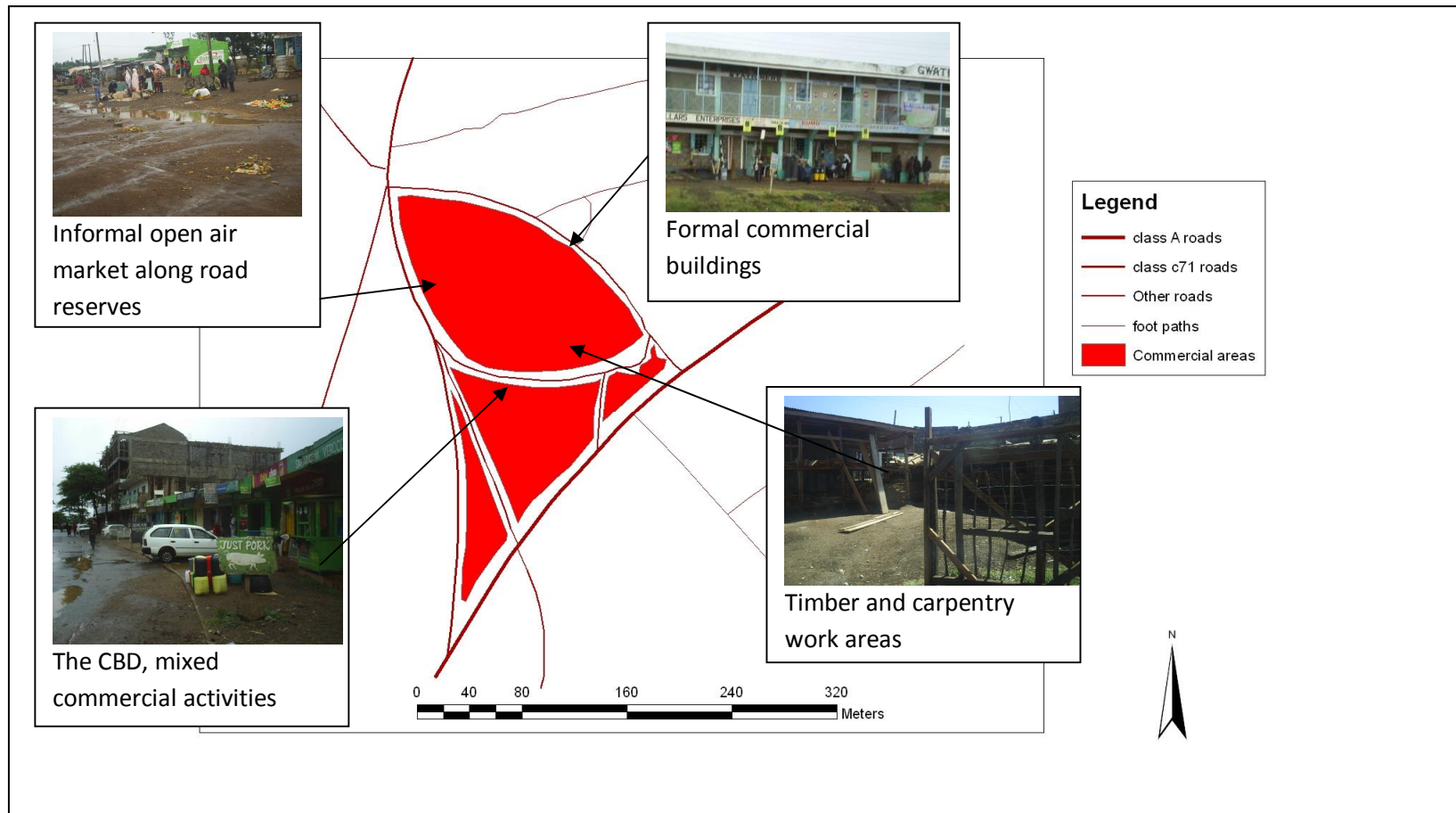
5.8.1.2 Mixed Commercial Developments

Informal commercial buildings coexist with formal commercial building structures. This is the case where wooden structures front the permanent buildings giving a bad image of the town. This manifests lack of adherence to planning standards in building development of urban centres. The local authority and the physical planning department have not strictly enforced the building regulations. See plate 11.0 on commercial land use.

5.8.1.3 Poor Road Connectivity within the Central Business District

Commercial areas are not connected well to the road networks. They are served by poor earth roads which are poorly drained. There is no parking zone for vehicles bringing in goods whereas the service lanes are also blocked by private developers thus, hindering accessibility to commercial premises.

Plate 11.0: Commercial Land Use in Kenol Town



Source; Field Survey 2009, Author Generated.

5.9 Public Utilities Land Use

The effectiveness and efficiency of any human settlement is determined by the level and standard of infrastructure utilities and services accompanying the general built environment. Rapid urbanization and population growth demands for a proportional expansion and improvement of the existing infrastructure. The utilities in Kenol town include power supply which is mainly electricity, postal services, telecommunication services, water and sanitation facilities, and security. These are discussed below;

5.9.1 Power /Electricity Supply

The Kenya Power and Lighting Company (KPLC) have supplied Kenol Township with electricity. The electricity power however does not cover the surrounding areas of Kenol town. It is thus limited to people within the town only. The power lines are erected along the A104 Nairobi-Nyeri road at power way leave.

5.9.2 Postal Services

The study area is well served by postal system network. The postal Kenya Limited branch is at Kenol town. The branch which was opened in May 2005 serves approximately 200 ó 300 customers per day. The services rendered include;

1. Rental boxes ó the facility has 600 boxes with only 400 contracted. The demand is high but the annual rent is way out of reach to the locals.
2. Savings bank ó facility is under utilized.
3. Postal services ó the branch serves an average of 150 customers per day. The sale of stamps is a major activity.
4. Express Mail Service (E.M.S) courier services ó it is popular with government departments. It has no competitor.
5. Internet services ó very popular with the youth and the educated/working class.
6. Money order services ó major income earner especially at the beginning of school terms.

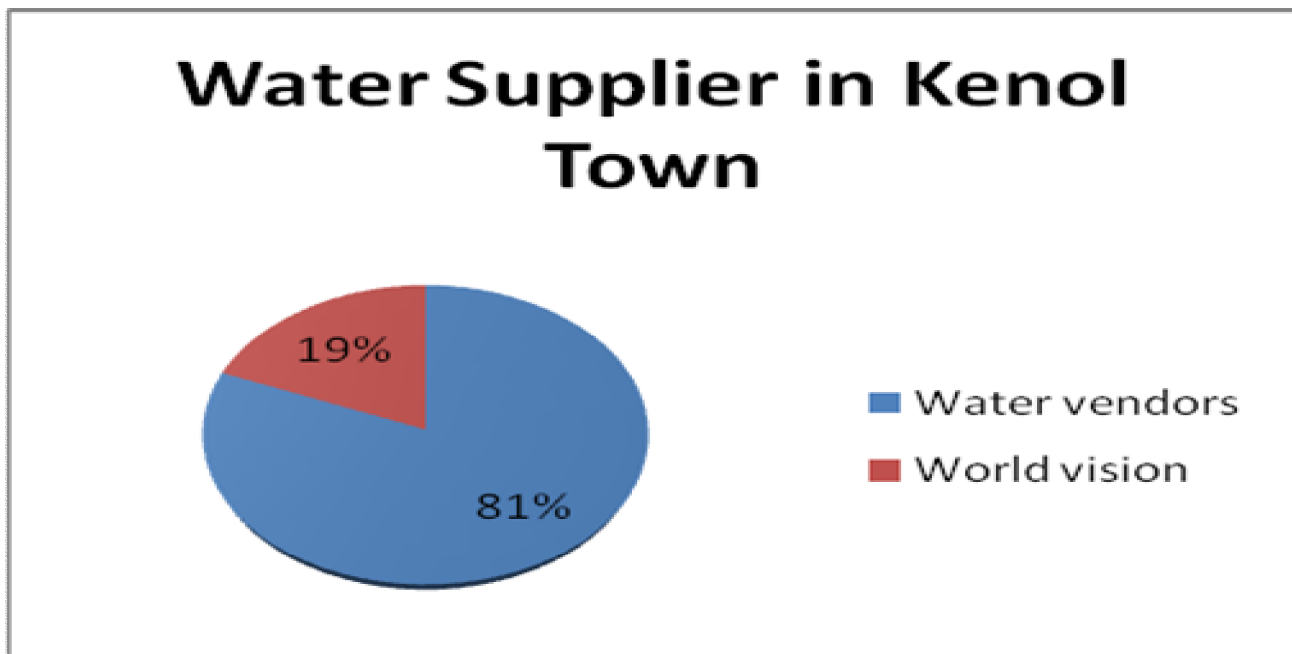
5.9.3 Telecommunication Facilities

The facility is located at Kabati shopping center on land allocated by local authority. It covers an area of 10Km. The exchange has a capacity of 600 lines but only 156 are connected. A lot of customers withdrew their contracts due to; introduction of cellular phone services, interruptions of services due to cable theft, and frequent disconnection due to non payment/inflated bills. Kenol town has three booths.

5.9.4 Water and Sanitation Facilities

As a designated urban centre, Kenol town is supposed to have a full range of services including a treated piped water supply and a piped sewage system and disposal plant. These services and facilities are not provided in the town.

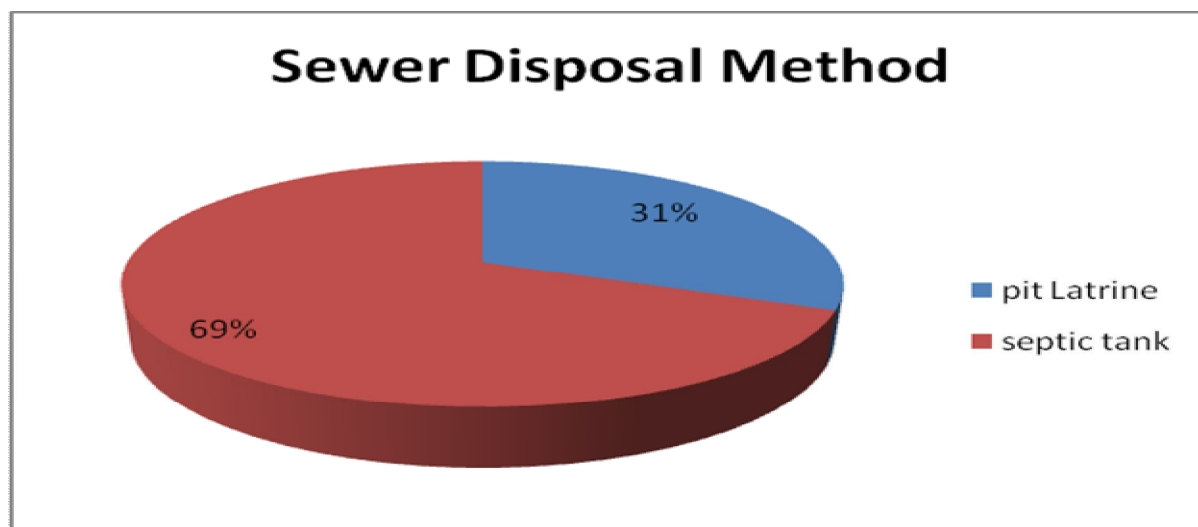
Figure 7.0: Water Supply in Kenol Town



There lacks a sewer system in a town that is experiencing growth and demand pressure from the increasing population. Building premises within the town were served with pit latrines before the physical planning department became operational. The upcoming building developments are installed with a septic tank as the means of sewer disposal. This is not a favourable condition since the sewers flood into people's home during the rainy seasons due to poor drainage.

Kenol town depends on borehole water dug by the world vision. Water from the borehole is pumped and distributed through pipes to some part of the town. The storage tank is placed at the D.Cs place and does not adequately serve the resident populations who buy water from the water vendors and dig their own boreholes. The open storm water drains are not provided along the roads within the town. The existing ones are clogged with solid wastes and cannot hold the

Figure 8.0: Sewer Disposal in Kenol Town



capacity of flooded dirty water (see plate 12). Lack of a waste management and disposal is the main cause for blockage of drainage channels since there is no collection and dumping site for solid waste disposal. Residents dump their wastes near the open drains alongside roads.

5.9.5 Security

Adequate security is an incentive to development as it encourages private investment and reduces the cost of doing business. Insecurity leads to loss and destruction of material property such as shelter, clothing and livestock. Kenol town has one police station at the D.Cs place and seeks enforcement from the Makuyu divisional headquarters. There are 360 police officers in the district, including Administration police Officers, giving a ratio of one policeman for every 2000 people.

Table 10.0: Crime Rate 2002-2004

| Type of Crime/Year | No. of incidents | | |
|---------------------------|-------------------------|-------------|-------------|
| | 2002 | 2003 | 2004 |
| Murder | 23 | 20 | 17 |
| Theft | 72 | 98 | 109 |
| Robbery with violence | 84 | 126 | 124 |
| Rape | 20 | 50 | 89 |
| Total | 199 | 294 | 339 |

Source: Officer Commanding Police Division records 2005.

5.9.6 Emerging Issues

These are the emerging issues in public utilities land use in Kenol town;

5.9.6.1 Poor Drainage

Use of septic tanks and pit latrine is likely to pollute underground water threatening the safety of borehole water which is the main source of water

5.9.6.2 Lack of Major Facilities

Some of the facilities lack in Kenol town. These include; cemetery, sewer system, storm water drainage, and dumping site. These public utilities are absent in Kenol town since their provision is constrained by inadequate public land and also financial resources.

5.9.6.3 Inadequate Security

Inadequate security is as a result of inadequate police officers to man the town. The dark streets at night also contribute to the level of insecurity in Kenol town.

5.9.6.4 Environmental Pollution

This results from heaps of uncollected garbage and burning of solid waste in Kenol town. The littered wastes pollute the environment, attracts flies, animals and vectors which spread diseases.

Plate 12.0: Public Utilities Land Use in Kenol Town



Source: Field Survey, 2009. Author Generated

5.10 Transportation Land Use

Transportation is a very crucial service which serves the function of linking different land uses/places and allows for movement of people, goods and services from one place to another place. In the urban set up, transport service will facilitate the linking of the town centre to its surrounding land uses like to residential area, industrial zones, education area, commercial areas, health facilities and to recreational places within the location. Accessibility is an important aspect in any urban form. The transport land use in Kenol town consists of;

5.10.1 Roads

The total kilometers of roads within the entire district are about 830 Km as per the current district development plan. The study area which covers part of Kandara and Makuyu divisions has 3 classes of roads that is, tarmac, graveled and earth roads. Nairobi-Nyeri dual carriage road, Class A2 acts as the major transport system and main economic attraction for investors to Kenol. Other road networks include:

Table 11.0: Road Classification and Surface Type

| Class | Description | Surface Type | Average Distance |
|-------|--------------------------------|--------------|------------------|
| A2 | Old Kabati-Thika Road | | 4Km |
| | Kabati-Gakungu highway | | 17Km |
| C71 | Kenol-Kariguini | Bitumen | 7.5Km |
| D424 | Gakungu- Makuyu | Bitumen | 4Km |
| D416 | Kabati-Flyover-Mitumbiri | Gravel | 5Km |
| E533 | Highway- Kakuzi- Makuyu | Gravel | 8Km |
| E1577 | Highway- Kabati- Murang'a road | Gravel | 4Km |

Source: District Works Office, Maragua (2005)

The earth roads cover about 92.percent of the Kenol area. All other roads within Kenol area are unclassified rural roads whose length/ mileage are not documented. All weather roads are in poor conditions while the C71 class can be rated as good. Road Construction and Repair is funded by the Kenya Roads Board through the District Roads Committee and Constituency Development Fund. However the funds from the above agencies are far below the estimate budgets on cost of repair and maintenance required by the roads sector. The prioritization of the road project is done by the District Roads Committee in conjunction with the ministry. The prioritization criteria depends on road condition, traffic load, area productivity, population, expenditure ceiling/ amount available

5.10.2 Emerging Issues

Key emerging issues in transportation land use are;

5.10.2.1 Poor Road Conditions

The roads within Kenol commercial centre are in poor state. These networks are not tarmac and being earthen, they flood during the rainy seasons making accessibility difficult. See plate 13.0. The roads get dusty on sunny seasons and cause air pollution by omitting dust. This has serious effect on people's health because of respiratory infections from breathing of the dust.

5.10.2.2 Encroachment of the Road Reserve by Human Activities

This is an indication of non observant of the building lines and lack of space. Traders occupy the road reserves since they do not have a market creating conflicts with other road users.

5.10.2.3 Uncoordinated Road Network within Central Business District

This has resulted to poor connectivity especially in the interior of the town.

5.10.2.4 Blocked Roads and Service Lanes within the Central Business District

Private developers use the service lanes for emptying construction materials like sand and concrete thus blocking the passage (see plate 13.0). The developers do not leave building lines for service lanes.

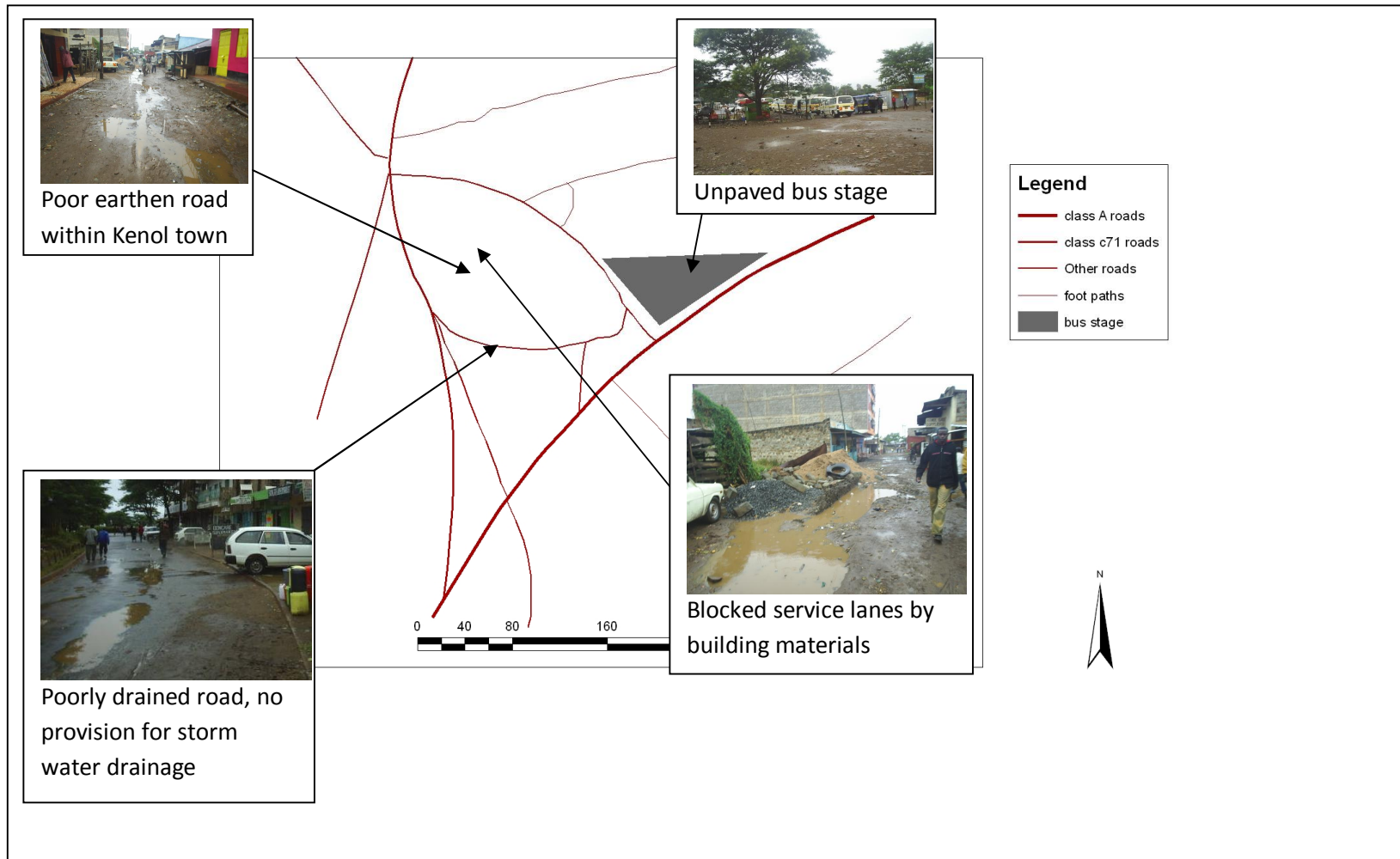
5.10.2.5 Inadequate Funding For Projected Workload

This has been compounded by the long bureaucracy process that delays disbursement of roads fund and implementation of road projects.

5.10.2.6 Inadequate Parking Space and Bus Stage

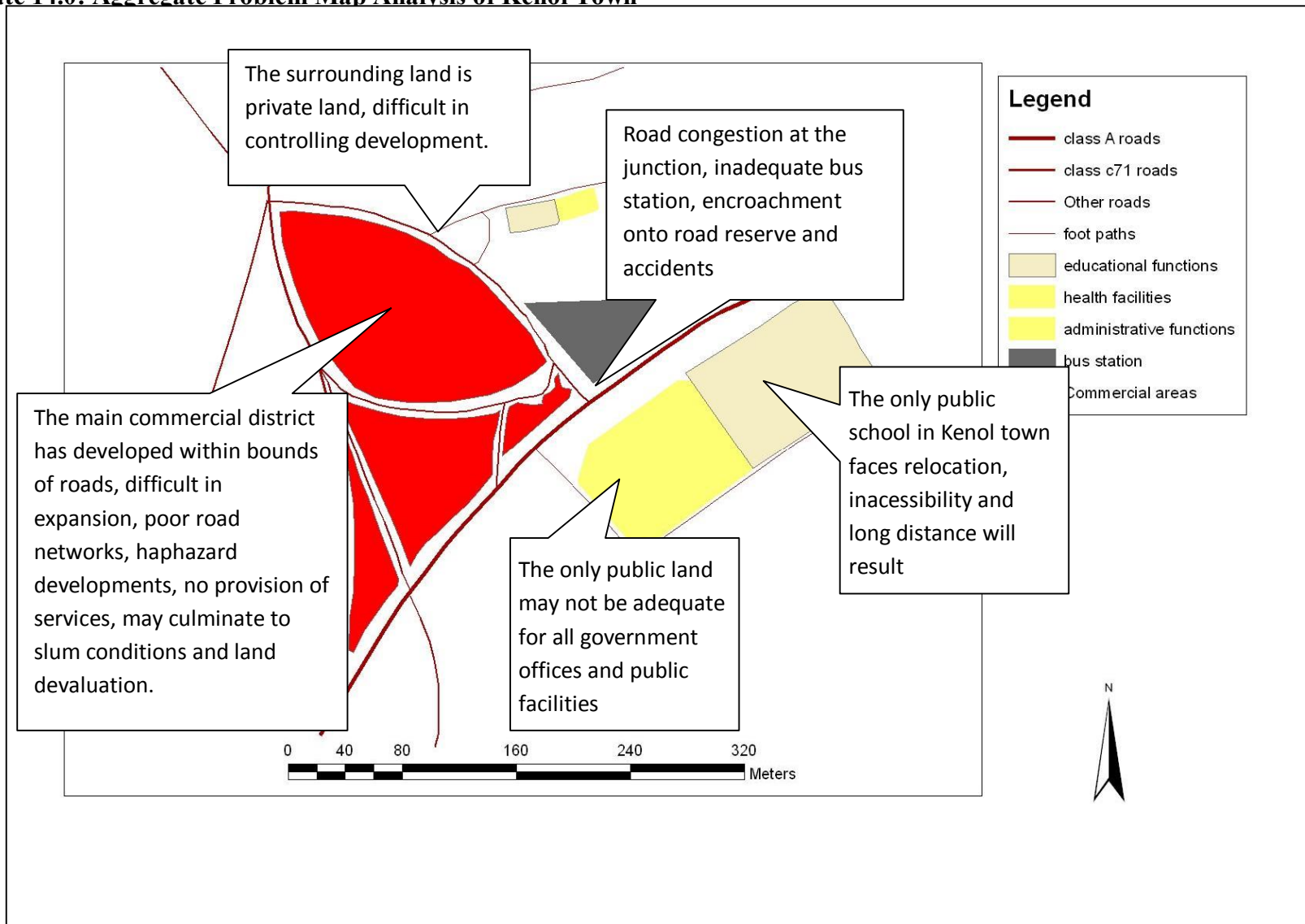
Kenol town lacks adequate parking space which has resulted to road narrowing and congestion since cars are parked along the roads. The land under bus stage is leased due to unavailability of public land to provide adequate bus station in the town.

Plate 13.0: Transportation Land Use in Kenol Town



Source: Field Survey, 2009, Author Generated

Plate 14.0: Aggregate Problem Map Analysis of Kenol Town



CHAPTER SIX: SUMMARY AND RECOMMENDATIONS

6.1 Summary of Emerging Issues

The field survey revealed that the major developmental challenges facing Kenol administrative town results from the lack of a spatial framework for guiding development. The growth of the town is not supported with commensurate infrastructural facilities and services to serve the growing demand from increasing population. As a result of the inadequacy in the planning of the town, the following urban problems were identified:

6.1.1 The Lack of an Approved Local Physical Development Plan

The development of Kenol town has not been guided by any development plan. The lack of a spatial framework to guide development is manifested through the following: Haphazard and illegal building development; Poor urban design; Lack of urban aesthetics; Undefined central business district without clear boundaries; No delineation of different land uses zone; and Inadequate enforcement of building regulations.

6.1.2 Lack of Public Land for Development of Public Purpose and Utilities

This is as a result of most land being held under freehold system. Provision of these public facilities and services has been made difficult in Kenol town. The public facilities which lack include; Sewerage system; Solid waste disposal site; Health facilities; Government offices; Cemetery; Open and closed market; Recreational facilities; Law courts; Fire station; Police station; Social hall; and Showground\ open spaces.

6.1.3 Weak Institutional Framework to Support Planning and Implementation

This is due to overlapping and conflict of interest between Makuyu Town Council and Maragua County Council in management of town affairs. There is also inadequate partnership in urban management between Local Authorities, Physical Planning Department, Central Government, community and other development partners.

6.1.4 Poor and Lack of Municipal public Services

Kenol town lack essential services and facilities such as security, health facilities, fire fighting facilities, insufficient water supply for domestic use, designated sites for solid waste collection points

and dumping sites, drainage and sanitation facilities, markets (both open and covered), recreational areas, town halls and social halls, and bus parks.

6.1.5 Poor Road Conditions and Connectivity in Kenol Town

Roads within Kenol town are earthen and lack storm water drains. There is also encroachment of road reserves by informal businesses who have also occupied the available service lanes. Private developers maximize on the plot coverage leaving no space for accessibility.

6.1.6 Insecurity in Kenol Town.

This is because Kenol town does not have a police station or a police post to provide enough security. The only police in Kenol town are the administration police who Mann the D.Cs place. Kenol town seek for reinforcement of security from Kabati and Makuyu police station. There is need for putting up of a police station within the town. However this has been hampered by inadequate public land. Another cause for insecurity is the unlit and dark streets in the town which encourages thugs at night.

6.1.7 Lack of Recreational Facilities in the Town.

This has made the town to be unattractive and people seek for these services in other towns like in Thika and Nairobi. The scarcity of public land may also be attributed to this.

6.2 Projected Impacts of Growth of Kenol Town

A number of impacts are likely to arise due to development of Kenol town. The key of these impacts are discussed below;

6.2.1 Lack of Land for Public Purposes

This is likely to impact on the provision of public utilities which is currently missing in the town.

6.2.2 Haphazard and Illegal Building Developments

Haphazard siting of residential and commercial areas, residential, jua kali, schools, and churches in the town shows uncoordinated development. The building developments are not strictly inspected due to low capacity of the local authority. As a result, there emerge slum conditions, building lack aesthetics and finally a devaluation of land in Kenol town.

6.2.3 Haphazard Road Network and Connectivity

This is already manifested with the poor conditions of road especially within the commercial centre. The roads are narrow due to lack of adherence to building lines by private developers.

6.2.4 Uncoordinated Subdivisions

Kenol town has impacted the surrounding rural and agriculture land causing individuals to subdivide their land into plots for sale and for urban development. The rising land value has also attracted speculation and selling of land. This will result to unproductive size of land and decline in agricultural practices.

6.2.5 Environmental Degradation

This is mainly through dust, water pollution, uncollected wastes and garbage. This is compounded by poor drainage system and improper way of sewer disposal. Break and spread of diseases as a result of poor sanitation standards leading to poor health and loss of life.

6.3 Recommendations

From the above findings, the following proposals are made towards land use planning in Kenol town;

6.3.1 Preparation of a Local Physical Development Plan for Kenol Town

This should be a mandatory requirement for any urban centre. Other development plans such as Physical Development Strategies, Kenol Zoning Plan, development policies and regulations should also be encouraged. The above should be guided by the preparation of a District Development Plan to harmonize the district's goals and objectives. The planning opportunities identified include: the Physical Planning Act which provides for preparation of Physical Development Plans for all urban areas, Preparation of Kenol Zoning Plan which is already underway and the Willingness by the Local Community to have orderly developments.

6.3.2 Identify, Designate and Acquire Land for Public Purposes and Utilities

The land will be important in providing the following public purposes/utilities; Sewerage system and treatment works; Solid waste disposal site; Health facilities including a mortuary; Government offices; Cemetery; Fire station; Police Station; Social Hall; Law Court; Stadium; Showground; Open and closed markets; Recreational facilities; Public toilets; Bus parks and Educational facilities. Opportunities include; Open spaces; unbuilt land for urban expansion; Compulsory acquisition of land

is backed by law; and Local authorities are allowed to plan for private land under their jurisdiction as per the Physical Planning Act.

6.3.3 Coordination of Development Activities between Development Agencies

There is need for coordination among different stakeholders and these are; Building partnership between government departments, local authorities and the local community in development activities; Building partnership between local authorities, government, Community Based Organizations and Non-Governmental Organizations. In relation to this there is need to diversify sources of funding such as SACCOs, and Group savings), Involve local community in development process (community driven development) approach, and consultation and consensus with a view of forming a single management unit for Kenol town. Existence of development supporting institutions within Kenol town serves as the opportunity. That is, the local authorities, government department, Community Based Organizations, Non-Governmental Organizations and the local community.

6.3.4 Provision of Municipal Public Services

The local authority should designate and establish collection and disposal sites, sorting out of solid waste into biodegradable and non-degradable waste should be encouraged, recycle and re-use through public sensitization on waste management as the way forward for solid waste management. Presence of unrehabilitated quarry pits which can be used as a waste dump site/pit acts as an opportunity.

Construction of a sewerage treatment works and installation of a sewer line is recommended for liquid waste disposal and management.

The council should develop a piped water system from available boreholes and rivers, rehabilitate existing boreholes, identify and designate water reservoirs and should take charge of all water supplies. This is possible since there is readily available surface and underground water.

Identify and designate land for open air markets and closed market for Kenol town. Proximity to Nairobi, Thika and Murang'a, existence of transportation corridors (national trunk road, railway) and rich agricultural hinterland provide a market potential.

6.3.5 Improvement of Road Conditions

This is by tarmac or upgrading to all weather roads. For example, Kenol-Murang'a road and Kenol-Kimorori road need to be tarmacked. Building of bridges for connectivity especially at Kenol-Kimorori-Mitumbiri road (1 Bridge) and Construction of a footbridge at Kenol along Nairobi-Nyeri

highway is also recommended. Other proposals on road conditions are road expansions, opening of new access roads and enforcement of building standards and by laws to open blocked service lanes. Employment in the commercial nodes already calls for need of good road connectivity.

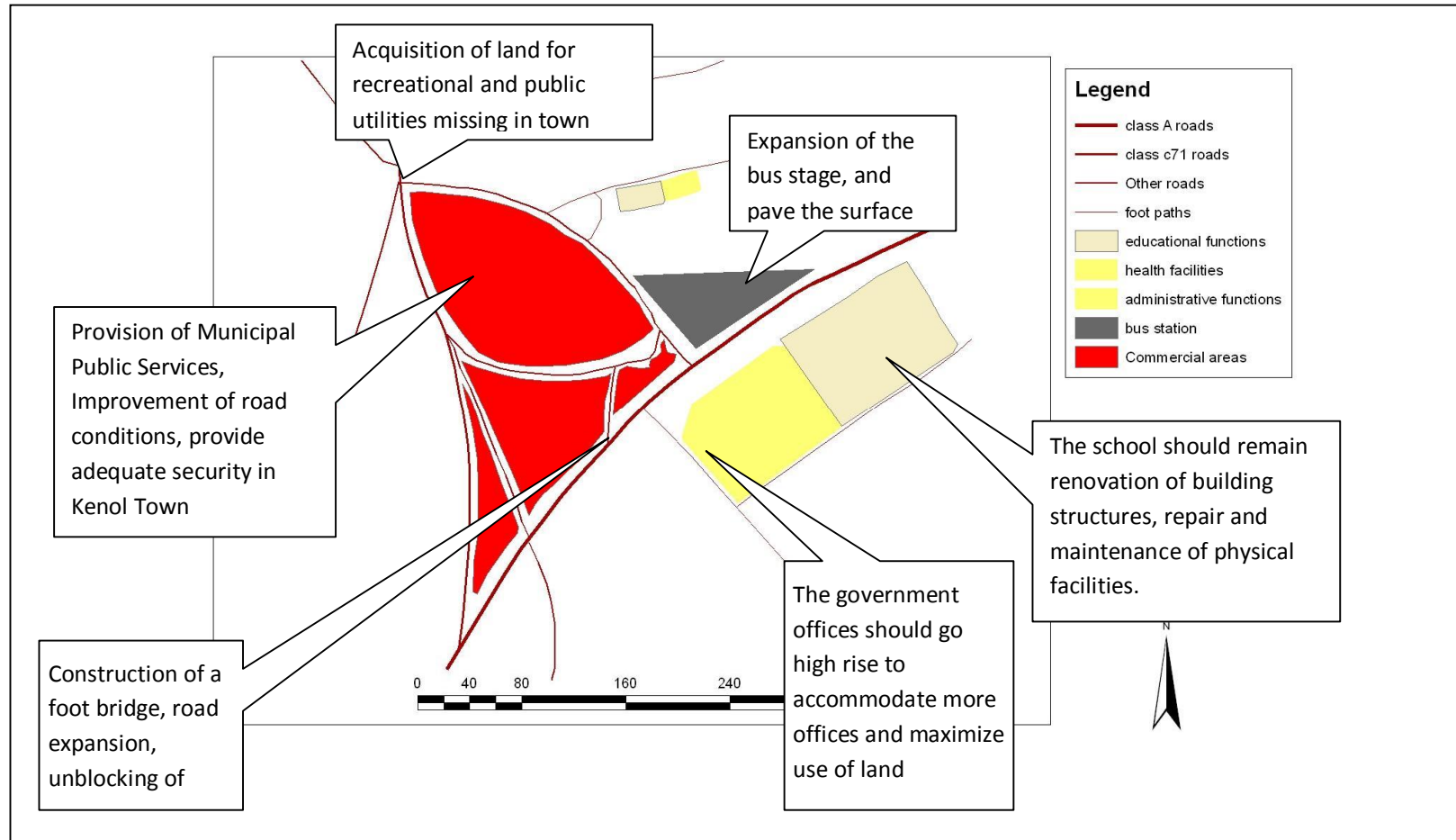
6.3.5 Provide Adequate Security in Kenol Town

This should be achieved through; provision of street lighting, setting up of a divisional police station and police posts at Kenol town. Enforcement of development control to leave clear service lane is also a necessary measure in ensuring security. Availability of electricity acts as an opportunity in improving the security level in Kenol town.

6.3.6 Provision of Recreational Areas and Facilities

These essential facilities and services within the district headquarter town lack in Kenol town. Land uses like public parks, stadiums, play field and open gardens need to be provided to serve the recreational needs of the people. Designation of Kenol town as the District Headquarter acts as the potential in providing the above facilities.

Plate 15.0: Aggregate Intervention Map



Source: Author Generated, 2009

6.5 Conclusion

The central government of Kenya should consider planning of its urban centres and provision of infrastructural services to keep up with the urbanization trend in our towns. A land use plan and physical development strategies are important tools in guiding the physical development of any urban centre. Other tools for development control include zoning plan, by-laws, and regulations. Every urban centre should have a Local Physical Development Plan which can be prepared for short term, middle term or long-term. Such a plan should provide some guiding principles for Kenol town's development. There is also need to reinforce the capacity of planning institutions such as the Makuyu town council and the district physical planning. The weak institution has compromised with the political ideologies which have resulted to serious land use conflicts and negative physical developments in the town. The central government should come in handy in financing to help in development implementation and provision of public facilities as learnt from the case of Kenol town.

6.4 Areas for Further Research

Over the years, the planning institutional framework in the country has been underperforming and has not been effective in their duties and roles of ensuring orderly, planned and developed urban centres. This therefore is an area where further research could be done in evaluating the role played by the physical planning departments and local authorities in ensuring development control and enforcement of planning standards in the towns. The role of politics in influencing planning decisions of these institutions should be critically studied.

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7. Which year did you establish this business?
8. What is the size of the land on which the premise stands?
9. Do you own the land on which the premise stands?
10. What is the type of tenure of the land?
 1. Freehold.
 2. Leasehold
 3. Trust land
 4. Government land
 5. Other (specify
11. What is the nature of ownership of the business premise?
 1. Owner occupied
 2. Rental
 3. Sub rental
 4. Other (specify)
12. If rental/sub rental how much do you pay per month?
13. What factors favour the location of the business?
 1. Availability of market
 2. Availability of ancillary services
 3. Convenient operational costs
 4. Strategic location of Kenol town
 5. Favourable governmental policies
 6. Others (specify)

C. Goods and products

14. Where do you obtain your supplies from?
15. Which mode of transport do you use?
16. Where do most of your customers come from?

D. Infrastructure services

Please provide information on the following services

| Service | Type | Source/Provider/Supplier | Cost | Associated Problems |
|----------|------|--------------------------|------|---------------------|
| Water | | | | |
| Energy | | | | |
| Sewerage | | | | |
| Garbage | | | | |

THANK YOU

APPENDIX II: HOUSEHOLD QUESTIONNAIRE

UNIVERSITY OF NAIROBI SCHOOL OF THE BUILT ENVIRONMENT DEPARTMENT OF URBAN AND REGIONAL PLANNING B.A. 4 (PLANNING) 2008/2009

Declaration: This information is confidential and will be used purely for academic purposes only.

TOPIC: Urban Land Use Planning In New District Administrative Towns in Kenya, Case of Kenol Town, Muran'ga South District.

Date of Interview.....

Questionnaire number.....

Name of interviewer...Wamuchiru K. Elizabeth.....

House Hold Questionnaire

A. Respondent Information

1. Name of respondent í í í í í í í í í í í í í í í í .
2. Age (1) 18-25í (2) 26-30í í í (3) 31-35í í í
 (4) 36-40í í .(5) 41-45í í (6) 46-50í í í .. (7) Over 50 yearsí ..
 í í í í í í í í í í í í .
3. Educational background
 1. Primary () 2. Secondary () 3. Tertiary () 4. Informal () 5. No education () 6. Other (specify) ()
4. Marital status
 1. Married 2. Single () 3. Widowed () 4. Divorced ()
 5. Single parent () 6. Other (specify) ()
5. Religion
 1. Catholic () 2. Protestant () 3. Islam () 4. Other (specify) ()
6. What is your average monthly income?
 - (1) Less than 5,000í í . (2) 5,001-10,000í í .
 - (3) 10,001-15,000í í (4) 15,001-20,000í í í (5) 20001-25,000í í (6) Over 25,000í .

B. Population and Demography

Household Information

7. How many people are you in your household?

(a) Under 18 years

(b) Over 18 years

Migration Trends

8.a) Have you always lived in Kenol? Yes () No ()

b) If not, where did you come from? í í í í í í í í í í í í í í í í í í .

c) Which year did you move into Kenol? í í í í í í í í í í í í í í í í ..

d) What were your reasons for coming to Kenol?

1. Employment () 2. Business () 3. Acquire land ()
4. Affordable housing () 5. Marriage. () 6. Others (specify) ()

(e) Emigration

| HH MEMBER | YEAR OF EMIGRATION | REASONS | GENDER | DESTINATION |
|-----------|--------------------|---------|--------|-------------|
| | | | | |

(f) Temporary migration

a) Does any member of your household migrate temporarily out of Kenol town?

1. Yes
2. No

b) If yes, where do they migrate to?

| Reason | Destination | Duration | Gender of migrant |
|--------|-------------|----------|-------------------|
| | | | |

C. Housing

9 a) Do you own the house you live in?

1. Yes
2. No

b) If yes, what is the size of the land where your house is located?

10. Under what tenure is your land?

1. Freehold ()
2. Leasehold ()
3. Trust land ()
4. Other (specify) ()

11. Under what tenure is your house?

1. Owner occupier ()
2. Renting room () a. Council houses b. Private developer
3. Company house ()
4. Private individual ()
5. Squatter settlement ()
6. Other (specify) ()

12. Materials for Construction

| FLOOR | WALL | ROOF |
|-------|------|------|
| | | |

III) Energy Sources

20. What are the main sources of energy for your household?

| ENRGY SOURCE | COOKING | LIGHTING | COST (Kshs/month) |
|------------------|---------|----------|-------------------|
| Electricity | | | |
| Paraffin | | | |
| Gas | | | |
| Solar | | | |
| Charcoal | | | |
| Firewood | | | |
| Others (specify) | | | |

21. Where do you obtain firewood or charcoal?

1. Forest (specify) 2. Buying

22. What are the major problems associated with access and use of energy supply in this area

IV) Communication and Information

23. Which of the following do you use for communication and information?

| MEANS OF COMMUNICATION | COST (Kshs/month) | CHALLENGES |
|------------------------|-------------------|------------|
| Cell phone | | |
| Landline | | |
| Television | | |
| Newspaper/magazines | | |
| Radio | | |
| Postal service | | |
| Internet | | |

V) Transportation

24. What mode of transport do you use?

- (1) Private (2) Public (3) Animals (4) Walk (5) Others

25. What are the major problems associated with transportation in this area?

1. Traffic congestion () 2. Poor road congestion ()
 3. Unregulated bus fare () 4. Inadequate means of public transport ()
 5. Lack of pedestrian access () 6. Others (specify) ()

E Health Facilities

26. What health facilities do you have access to?

| Facility | Number | Distance | Service provider |
|---------------|--------|----------|------------------|
| DISPENSARY | | | |
| MATERNITY | | | |
| HEALTH CENTRE | | | |
| MORTUARY | | | |
| HOSPITAL | | | |

27. What are the common prevalent diseases in your household?

28. What problems do you experience in accessing the health facilities? í í í í í í í ..

29. In your opinion, are you satisfied with services provided at Kenol town? í í í í í í

30. What is your take on Kenol town as the district headquarters for Murang'a south district?

THANK YOU

APPENDIX III: INTERVIEW SCHEDULE; MAKUYU TOWN COUNCIL

**UNIVERSITY OF NAIROBI
SCHOOL OF THE BUILT ENVIRONMENT
DEPARTMENT OF URBAN AND REGIONAL PLANNING
B.A. 4 (PLANNING) 2008/2009**

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TOPIC: Urban Land Use Planning In New District Administrative Towns in Kenya, Case of Kenol Town, Muran'ga South District.

INTERVIEW SCHEDULE: MAKUYU TOWN COUNCIL

Date of Interview.....

Name of interviewer...Wamuchiru K. Elizabeth.....

1. What were the criteria behind the location of the district headquarter at Kenol town?
2. How has been the general trend in land use changes in Kenol over the last ten years?
- 3.(i) Is there a development strategy or a land use plan prepared to guide and regulate the physical development of Kenol town?
- (ii) If yes, when was it prepared? (1) Before Kenol became a district headquarter (2) afterwards
- (iii) What are the key provisions in the plans if any?
- 4.(i)What type of facilities/services do you provide to the Kenol residents?
- (ii) What are the challenges associated with provision of these services?
5. How do you regulate development applications?
6. What is the level/rate of development applications in Kenol?
7. What are the main challenges in regard to land use changes in Kenol?
8. What developmental opportunities are you likely to benefit from after the elevation of Kenol to a district headquarter?
9. How do you coordinate development of Kenol town since it falls within two council's jurisdiction?
10. What do you project as the likely impacts of development of Kenol as an administrative town to the
- 11.(i) surrounding land area?
- (ii)Which are the areas of growth in Kenol town?
- (iii)What triggers development in Kenol town?
- (iv)Is there any emerging development pattern in Kenol?
11. Which policy guidelines are you employing in directing the growth of Kenol town?
12. What are the general challenges and opportunities in Kenol?

THANK YOU

**APPENDIX IV: INTERVIEW SCHEDULE; THE DISTRICT PHYSICAL PLANNING OFFICE,
MURAN'GA SOUTH DISTRICT**

**UNIVERSITY OF NAIROBI
SCHOOL OF THE BUILT ENVIRONMENT
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TOPIC: Urban Land Use Planning In New District Administrative Towns in Kenya, Case of Kenol Town, Muran'ga South District.

**INTERVIEW SCHEDULE: THE DISTRICT PHYSICAL PLANNING OFFICE, MURAN'GA
SOUTH DISTRICT**

Date of Interview.....

Name of interviewer...Wamuchiru K. Elizabeth.....

1. What was the criterion that used in locating the district headquarter here at Kenol town?
2. What are your roles towards the development of Kenol town as an administrative town?
3. Was there any previous effort of planning Kenol town as the district administrative town?
4. What are the current planning efforts for Kenol?
5. What challenges do you face in administering services to the residents of the district?
6. Are the residents satisfied with the location of your administrative offices here at Kenol?
7. Are all district departments accommodated at Kenol town?
8. What plans do you have for the future growth of Kenol town?
9. How can you rate the level of accessibility of your services to the whole resident population of Muranøga district?
10. What is your general view of choosing Kenol as the district headquarters?
11. Are you satisfied with the level of infrastructure and services within the town?
12. What future plans do you have for Kenol?

THANK YOU