

**AN INVESTIGATION OF CAUSES OF LAND MANAGEMENT
CHALLENGES IN SATELLITE TOWNS. A CASE STUDY OF
RUIRU MUNICIPALITY**

BY

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DECLARATION

This project is my original work and has not been presented for examination or degree award in any other University.

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DEDICATION

This project is dedicated to my husband, Solomon Ruga and son, Rocky Njoroge, for their unconditional love throughout this study and always.

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All said and done, I must sincerely absolve all those I have acknowledged from any errors, omissions or mistakes in this report.

ABSTRACT

This research project paper explores land management challenges in a peri-urban setting. The study has examined land use, tenure systems, and categories of land in Kenya in general and identifies the ones that are applicable to the study area. The research has further examined the existing land uses in relation to the factors that have contributed to land use conversion. Thorough analysis of the legal and institutional frameworks under which land is managed forms the core of this paper. The information has been collected through various primary and secondary data collection methods. Primary data collection methods included: House hold questionnaires, focused group discussions, participant observation and interview schedules. A sample size of 40 households was interviewed. Secondary data was gathered from literature review of journals, internet, and government publications.

The study has established that land management challenges are manifested in uncontrolled subdivisions, land use changes from agricultural to urban uses like residential, commercial, light industrial and educational among others. The factors that have contributed to the land conversion include economic considerations, institutional and legal weaknesses, population growth and land tenure systems. In the study area the tenure system was found to be freehold thus making controlling development difficult since there are no development conditions attached to the title documents of this kind of land.

The study concludes that the changing land uses brought about by various forces have led to unsustainable land utilization. The study recommends various strategies that will ensure sustainable land resource utilization. These include formulation of land use policy, harmonizing of the statutes under which land is managed and have a coordinated approach by the implementing agencies among others.

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CHAPTER ONE

INTRODUCTION

The introductory chapter provides a brief background to the study problem, statement of the research problem, objectives, justification of the study and closes with operational definitions and concepts.

1.0 BACKGROUND TO THE STUDY PROBLEM

Land is the platform of all human activities such as agriculture, water, energy, mining, human settlement, industries, tourism, wildlife, forestry, fishing and recreation. Land is core to human survival. Land not only contributes to wealth and economic development, but is also part of the social and political fabric that sustains all communities. Land is a source of government revenue in terms of taxes (rents and rates). The government also collects taxes in form of stamp duty charged during the sale of land and associated resources. Furthermore, land represents a fundamental component of ecosystems. Land supports both flora and fauna. These resources interact to provide essential services such as recycling of wastes and materials, formation of soils, moderation of climate and the water cycle, and the productive capacity of the ecosystems.

These notwithstanding, there are various challenges facing the management of land more so in peri- urban areas like Ruiru. These include degradation of land due to unsustainable land use practices; conflicting land uses; lack of planning and effective land management; lack of land for suitable urban development; uncontrolled land fragmentations; lack of security of tenure; inequitable access to land by marginalized groups; increasing vulnerability to disasters; destruction of biodiversity; conflict between environmental conservation and development

and impacts of market forces on traditional economies and tenures (Issues and recommendations report, 2005, unpublished).

The Government of Kenya has initiated a number of strategies to address the challenges. Some of these include: the poverty Reduction Strategy Paper (PRSP), Economic Recovery Strategy for Wealth and Employment creation (2003-2007) and more recently the vision 2030. More specifically different commissions have been set up to look into the issue of the land question namely, 'The report on the commission of inquiry into the land law system in Kenya (The Njonjo Commission)', 'The report on the commission of inquiry into the illegal/irregular allocation of public land (Ndung'u Commission)', National land Policy, and the new constitution.

1.1 STATEMENT OF THE RESEARCH PROBLEM

Given the importance of land in a country, the need for an effective land management systems and structures is vital. The legal and institutional frameworks that exist in Kenya are inadequate to cope with the land management challenges more so in satellite towns. The legal framework includes Acts of Parliament while the main Institutions that manage land in the country are Ministries of Lands, Housing and Urban Development, Agriculture, National Land Commission and Local Government (now County Governments).

Due to weak, inadequate capacity of the Ministries , lack of harmony and conflicts among the principal statutes that govern land use management, there has not been effective land management of satellite towns such as Ruiru.

The existing structures have performed poorly and have resulted in haphazard development and conflicting land uses. These are manifested in uncontrolled land subdivisions, including selling of plot to members of the public without

infrastructure provisions such as roads, water and open spaces. Lack of provision of piped water has led to resulted in uncontrolled sinking of boreholes.

The overall research problem addressed in this study is that despite the various initiatives by the Kenya Government on addressing the land management challenges in general, there has not been specific corresponding intervention mechanism in the satellite towns.

The present study will endeavor to take stock of land management challenges in Ruiru Municipality with a view to finding specific mitigation measures. The study will attempt to answer the following research questions:

- (1) What are the land management challenges in Ruiru Municipality?
- (2) What are the institutional structures and legal frameworks responsible for the management of Land in Ruiru Municipality?
- (3) What are the different competing land uses in the study area in relation to known planning standards?
- (4) What appropriate strategies would be necessary for sustainable land management?

1.2 RESEARCH OBJECTIVES

General objective

To investigate the causes of land management challenges and suggest mitigation measures in Ruiru Municipality.

Specific objectives

- (1) To study land management challenges in Ruiru municipality.
- (2) To identify and assess institutional and legal frameworks mandated to manage land, their weaknesses, gaps and overlaps.
- (3) To assess the competing land uses in relation to known planning standards in the study area.

(4) To suggest appropriate strategies that would reduce the land management challenges.

This study therefore seeks to examine the land management challenges in the town as occasioned by the legal and institutional frameworks, competing land uses and the land tenure system.

JUSTIFICATION OF THE STUDY

This study provides the researcher with an opportunity to examine the land management challenges in the town as occasioned by the institutional and legal frameworks mandated to manage land, competing land uses and land tenure system with a view to finding mitigation measures. This is necessitated more by lack of spatial framework to guide growth. Additionally the study findings will be useful to various stakeholders including but not limited to; Government departments, professional bodies like Institutions of Surveyors of Kenya, Kenya Institution of Planners, Law Society of Kenya among others, the Academia, the private sector, including community and Non-governments organizations, International Organisations and general members of the public.

Urbanization process will definitely require more efficient land use this is particularly the case in major cities, but also for growing small and medium sized towns and peri-urban areas (UN Habitat, 2008).

Kenya is in transition from predominantly rural society to one which a third of the population will live in towns by the year 2050 (Kenya Country Report, 2006). These immigrants into the towns brings challenges including provision of basic infrastructure like water, roads, public utility, inadequate water supply which must all take place on land among others.

Ruiru Municipality, the study area, is experiencing rapid commercial, industrial and residential development activities due to its location along Nairobi – Thika super highway. The new developments have been made possible by the relatively low land values. This has encouraged the subdivision and conversion of land use in the area for more intensive developments without complying with development requirements.

The immediate impact of the land development activities in the area is environmental degradation. The emerging developments in the area have resulted in serious community infrastructure deficiencies, expansion of squatter settlements, invasion of private land, less health and safety standards, environmental pollution and reduction in economic efficiency. This requires effective measures to be taken to regulate land use and development activities in the area to ensure sustainable development

On the other hand the institutions and the legal framework that are mandated to manage land in the area are many, varied and ineffective. The institutions include; Ruiru Land Control Board, Ruiru Municipal council, Departments of Lands, Physical Planning, Survey, Public Health ,National Land Commission and Agriculture. These institutions lack coordination, adequate equipments, manpower, financial resources for planning and control of land use and development activities in the area. The institutions also operate under complex legislative laws which govern their operations. Some of the legislative laws give conflicting powers to different agencies resulting in overlaps. For example, the Physical Planning Act Cap 286 empowers Local Authorities to control development activities in their areas of jurisdiction. However, under the Government Lands Act Cap 280 section 18(1) the Commissioner of Lands is assigned the same duties according to the restrictions given in the development leases. These two centres of power result in ineffective development control enforcement.

1.4 SCOPE OF THE STUDY

Ruiru Municipality is the general study area but due to limited financial resources and time to cover the whole of the municipality, the research was confined to Murera ward. The ward was found to be representative of the municipality owing to its location and general characteristics. It is partially rural and urban. The issues that were covered include state of competing land uses in relation to known planning standards like urban agriculture, residential, commercial, light industrial and educational users. Other aspects of the study covered include uncontrolled land subdivisions. The land under study was land which is alienated and registered.

1.5 OPERATIONAL DEFINITIONS AND CONCEPTS

Land

Land means the soil and everything above and below it. It includes any estate in the land plus all permanent fixtures and buildings together with all the paths, passages, ways, waters, watercourses, liberties, privileges, way leaves, easements, plantations and gardens thereon and there under (Issues and recommendations Report- IRR-Unpublished 2005).

Chapter 10 of Agenda 21 defines land as a physical entity in terms of its topography and spatial nature; a broader integrative view also includes natural resources, the soils, minerals, water and biota that the land comprises. These components are organized in ecosystems which provide a variety of services essential to the maintenance of the integrity of life support systems and the productive capacity of the environment.

Land is the Ultimate resource, for without it life on earth cannot be sustained. It is both a physical commodity and an abstract concept in that the rights to own it and use are as much part of the land as the objects rooted in its soil (Land administration guidelines –United nations Publication 1996).

Land management

Land management is the process by which the resources of land are put to good effect. It entails the decision making and implantation of decisions about land (Dale and McLaughlin, 1988). It covers all activities concerned with the management of land as a resource both from an environmental and from an economic perspective. It is about setting goals and methods that may be chosen to improve land use and ways of influencing them in the desired direction. It involves the application of one or a combination of principles, procedures and practices that relate to regulation of land uses, environmental assessments and audits(including ecosystems management), land use planning , conversion and protection (Issues and recommendations Report- IRR-Unpublished 2005).

Urban Area

An Urban area is any compact and gazetted town with a certain designated population. The designated population differs from country to country, but in Kenya, the accepted population size is two thousand (2,000) inhabitants or more. The Kenyan definition is the one recognized by the United Nations.

Satellite Towns

Satellite towns are smaller municipalities that are adjacent to a major city which is the core of a metropolitan area. They have a municipal government distinct from the core metropolis and employment basis sufficient to support their residential population. Conceptually, Satellite towns could be self sufficient communities outside their residential metropolitan area, but in reality they experience cross- commuting in and out of the town especially to the metropolis (www.en.wikipedia.org. 30th June 2007).

Environment

The environment may be defined as a set of interlocking systems which include the physical, biological and social systems. The circumstances or conditions that surround one's surroundings. The totality of circumstances surrounding an organism or group of organisms, especially: The combination of external physical conditions that affect and influence the growth, development, and survival of organisms: The complex of social and cultural conditions affecting the nature of an individual or community. The sum of all external factors, both biotic (living) and abiotic (nonliving), to which an organism is exposed. Biotic factors include influences by members of the same and other species on the development and survival of the individual.

Sustainable Development

Development refers to social and economic progress to satisfy human needs and improve the quality of life. It is achieved thorough modification of the biosphere. Sustainable Development then describes development without destruction of the environment. It is achieved through harmonizing developmental activities with proper management and conservation of natural resources. Development should be sustained both ecologically an economically and should be pursued without jeopardizing resources for future generations (Rego et al, 1998).

Sustainable Development is defined as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development - WCED, 1987).

Land Degradation

Land degradation is a process in which the value of the bio physical environment is affected by multiple forces acting upon the land, including extreme weather conditions particularly drought, and human induced activities that pollute or degrade the quality of soils and land utility negatively affecting food production,

livelihoods, and the production and provision of other ecosystem goods and services (Www. Int. /global change/ecosystem - 10th July, 2013).

Land Use

Land use is the way in which man manipulates the natural systems in order to produce materials useful to him (Mather, 1986).

CHAPTER TWO

LITERATURE REVIEW

The main objective of the review is to explore relevant information from past researches with a view to identifying gaps which this study attempts to fill.

The chapter presents past studies on land management challenges and highlights broad themes that include structure of land ownership, land in the peri – urban areas, institutional challenges in the management of land, land use and development in the peri- urban fringe, land degradation, categories of land, form of land tenure and total land mass in Kenya and past Kenya government initiatives on prudent land management. Thereafter identified gaps in the literature reviews are highlighted. The chapter ends with a conceptual framework on the relationships between the land management challenges, causes, effects, interventions leading to sustainable land resource utilization.

2.1 Structure of land ownership in the peri-urban areas

The patterns of land ownership are important but poorly understood aspects of urban development.

There are different systems of land tenure in peri-urban areas Agevi, (1981). These systems determine the availability of land for urban use. He further noted that the prevalent forms of land tenure in any given area have a profound effect on physical urban patterns and the flexibility of adapting to the pressure of rapid urban growth. The land tenure affects not only the land use or land acquisition but also the way the land uses respond to growing urban pressures created among different competing uses. Even more important is that various forms of tenure systems will determine the amount of control that municipal authorities can assert over a given piece of land.

In Kenya land ownership is individualized and exchange takes place within the framework of a formal market and comprehensive land title registration system.

In spite of this there is an informal land market and large squatter settlements illegally established on private and public land on the periphery of urban settlements due to mixed land tenure systems and weak development control by municipal authorities who lack requisite personnel to enforce land regulations.

According to Kemoni, (2007) he noted that the notion of land ownership has implications of great importance for urban development, which include:-The size and configuration of landholdings profoundly affects urban morphology. The layout and scale of urban development owes much to the nature of original land ownership, The timing of land sales affects the nature of urban development, Land ownership confers power to individuals in society e.g. in Kenya big land owners are the economic and political leaders of society, Land owners may exert considerable influence over urban planning policies especially if they act in concert. This comes about through their decisions on whether, or when, to sell land and participate in different kinds of development. In addition, land owners have influence over the preparation and execution of land use plans.

Land ownership is an integral part of both national and local economies and it can be seen as a part of the relationship between the production sector and the consumption sector. The former sector views land as a commodity and comprises developers, farmers and speculative owners whose main interest is to maximize the exchange value of land. The latter sector consists of those who occupy land for a specific purpose, e.g. industrialists, home-owners and farmers, whose main interest is to maximize the use value of the land.

Land ownership is important for what it reveals about the nature of society, given that ownership is a social construct. Across the spectrum from market economies such as those of Japan and U.S.A through the mixed economies of much of Western Europe to the centrally planned economies of former Eastern Block, it is the ownership and trading of land which is a key characteristic of differing societies.

In Kenya just like most countries, there exists a strong legal and social right for individuals, companies and other private sector bodies to own land. These rights are protected in the constitution, but they are rarely absolute, being constrained by a variety of state legislation. In general, private property rights may be limited by: The exclusion of certain social groups from ownership, Restrictions on the use and development of land according to planning or zoning laws, Taxation of land itself, its beneficial use or betterment, Compulsory acquisition of land by the state.

2.2 LAND IN THE PERI – URBAN AREAS.

Urban expansion into peri-urban areas is a common feature in many regions of the world. Peri- urban refers to a highly dynamic process where rural areas, both close to but also distance from the city centre becomes enveloped by the extended metropolitan regions. These changes are rather piecemeal and non-uniform, but involve a complex adjustment of social, ecological system as they become absorbed into the spheres of urban economy. Peri – urban areas are a key interface between urban and rural areas due to provision of essential services in both directions. They suffer the negative consequences of urban areas and have been neglected in most urban and environmental studies (William Mcconnel et al, 2005).

Kemoni, (2007) noted that peri-urban areas have a diversity of land uses that vary in relation with their urban and rural linkages. The peri-urban areas depict a transitional nature with a patterned sequence of uses that become progressively more agrarian in orientation as one recedes from the urban centers. Inversely agricultural land uses, employment and rural linkages give way to urban oriented activities as distance to the city centre diminishes. Thus peri-urban areas have heterogeneous land uses such as existing farmlands and villages, residential estates, sewerages disposal works, forestry and industries.

Land developments in the peri-urban areas is characterized by organized land invasion, unplanned expansion, land speculation, informal subdivisions of farmland near the city and settlement of squatters on public and private land within the urban fringe areas. Within the peri-urban areas also feature large tracts of undeveloped land attributed to the lack of infrastructure such as sewer drainage systems, security posts, water, electricity and roads in the areas.

According to Agevi, (1981), most of the land in the peri-urban areas is under private ownership. This system of land tenures hinders development control measures by the local authorities. Local authorities lack resources to deploy the required manpower for enforce development regulations in these areas. They also lack spatial plans to guide growth in the peri-urban areas.

This enables the private developers to utilize their land as they deem fit. Speculative development is rife where land transactions are based on informal land ownership documents.

Adell, (1999) as quoted by (kemoni, 2007) observed that overlapping land property ownership issues are normal in the peri-urban fringe, due to pressures from squatters, private developers, or speculators and large tenants. Different land market conditions feature dual systems (informal or formal) and various property and tenancy arrangements such as rental or customary right systems Due to lack of development control, the peripheral areas of the city or town grow in haphazard and undesirable manner. This leads to premature development of the peripheral areas where land which has no basic infrastructure developed through informal subdivision schemes without a Physical Development plan having been prepared first to guide and coordinate land use and development activities.

The urban authorities also ignore the problems of the fringe as it falls outside their jurisdiction. Even when the administrative limits of the city are outdated and anomalous, having been overtaken by sub-urban growth, the fringe may still be crossed by the boundaries of several rural local

authorities. Irregularity of urban development in the fringe is mainly attributed in part to differences in the planning policies of local authorities whose boundaries meet in this zone due to jurisdictional conflicts. Thus the city and the fringe, although administratively fall in different areas for the residents of the fringe there is hardly any difference between the two and their movement is unrestricted and they use the municipal services without paying for it.

Peri-urban land covers municipal and rural administrative boundaries. Narrow development may extend areas of rural and urban activities and land uses several kilometers into the surrounding countryside. Due to this, land and land use are a major source of local authority conflicts in the peri-urban areas. The fundamental principle underlying this is the continuity of land extending across and beyond jurisdictional boundaries.

Peri-urban areas are characterized by substantial discontinuous areas of urban development mixed with stretches of more extensive and traditionally rural uses like agriculture and forestry (Njoroge, 2005). Other assortment of urban uses which require a location near the populations they serve peri-urban are hospitals, prisons, sewerage disposal works, slaughter houses, sports ground and leisure sports etc.

Therefore the peri-urban fringe is characterized by a mixture of rural and urban land uses. Unlike in the countryside where farming is the major source of livelihood, the urban fringe is characterized by land speculations and subdivisions that have major impacts on the productivity of the land. Large farm units declines and are severed by various developments and reduced to scattered holdings

Faced with inadequacies of a dissimilar administrative structure, he suggests the following as some of mitigation measures: - Coordination among land management institutions is vital to ensure that the fringe do not suffer neglect

or unbalanced treatment, creation of strong executive regional planning authorities with environmental planning and management powers.

2.3 Institutional Challenges in the management of Peri-urban land

Various scholars have examined the institutional challenges which affect the capacity of land use planning and management agencies from effectively discharging their responsibilities in land management of towns.

In Kenya, the local Government which is one of the key institutions involved in land management has been a subject of research for a long time.

Manasseh, (1975) in her study of planning and management problems within the Nairobi City Council, observed that shortage of skilled man power, limited financial resources, lack of a land data bank, poor departmental coordination between functional departments and lack of public participation were the main sources of haphazard development activities within the city. She concluded that for effective planning of the city there was need for integration and coordination between different sections of the council and other central Government agencies like the Physical Planning Department. This was to enable the City Council of Nairobi to utilize skilled personnel from the Director of Physical Planning's office to undertake its planning functions together with its staff.

In the study area, the same situation prevails where by Ruiru Municipality does not have skilled manpower to effectively manage the land resource in its jurisdiction.

In his study of Nairobi's peripheral areas Yahya, (1976) observed that land use is different in the form of intermixture of agricultural, industrial, recreational and commercial uses in these satellite towns. This intermixture of private land and public land made development control difficult for the local authorities. This phenomenon of mixed land uses is also found in the study area where there are

freehold ownership systems, making development control difficult. The land is privately owned where by the titles do not have development conditions but can be controlled by planning policies of the area but are never enforced.

Further Yahya in his study of urban land policy in Kenya he noted that several policy measures or instruments are used to regulate the use and the development of urban land. These includes instruments such as land banking, rating, development levy, land use zoning, density zoning, building control, development control, subdivision control and physical planning. These instruments provide a wide spectrum or measures taken to rectify urban land problems in Kenya.

He went to further note that irrespective of good and complex administrative and legal machinery, the intricacies of the urban land management are such that corruption plays an important part as councillors instigate private land invasion, low morals and lack of motivation in the central government leads to ineffective land management. Thus land management in the satellite towns will entail an institutional setup that is capable of coordinating and guiding activities of all management agencies to implement the existing various land policy provisions in order to regulate and control land use.

In his study of land constraints in Nyeri town Chege, (1977) observed that there was land shortage for urban development in urban centres. He noted that boundary extensions had been used to avail land for urban development without planning first. The boundary extensions were undertaken mainly due to political reasons other than economic. He concludes that by noting that mere boundary extension makes development control difficult due to the mixed land tenure system in these areas.

Shibira, (1978) in his study of land use planning policies for the Physical Development of Peri-urban areas in Shirere – Kakamega observed that peri-urban areas had shown considerable inconsistency with the orderly planned

development of the town in which they are found. He attributed their haphazard developments to poor land management, ineffective development control, the mixed land tenure system in the areas and lack of resources to deploy the needed manpower for policing of these areas by local authorities.

He further observed that although land control legislations existed in the form of Local Authority Regulations, Town Planning Act and Land Planning Act (1968), there was overwhelming evidence that there was no execution of the appropriate provisions to ensure coordinated development.

In his study of the problems facing Machakos Township in the preparation and implementation of physical development plans Kanthukya, (1979) observed that land use development posed a challenge to local authorities which were inadequately equipped politically, financially, administratively and technically to perform their planning obligations efficiently and effectively. The root causes of the land management inefficiency were due to lack of skilled manpower, equipments, resources, low academic standard of councilors and lack of coordination between the various institutions involved in land use planning, control and management. In the study area, the multiple institutions i.e. the Local Authority and Central Government involved in land use management have led to ineffective land management.

In his study of uncontrolled development in Siaya Town Khan, (1981) observed that development control by the local authority was hindered by the existing land tenure system, lack of qualified manpower and lack of a comprehensive physical development plan for the whole town and shortage of finance. This confirms the institutional incapacity experienced by local authorities in enforcing development control without adequate institutional resources. He concluded that lack of qualified manpower, and ineffectiveness in the application of planning regulations was more pronounced in the recently designated urban centers.

Agevi, (1981) in his study of problems of urban boundary extension in Kitale municipality he observed that mere extension, which was not followed by proper

policy machinery created a conducive environment for speculative developments that would outstrip the ill equipped development control machinery of municipal councils. He summarized by noting that planning institutions did not have adequate resources; finances, technical manpower and managerial ability to tackle effectively the colossal problems of development control in the satellite areas covered by the boundary extensions.

As such there was need to implore upon the authorities concerned with urban development that the express objective of meeting demands for urban land was not just a matter of getting raw land in the required quantities but of developing and servicing the land so as to render it fit for the desired urban uses.

He concluded that given the poor financial base, inefficient urban management practices, and lack of innovative zest on the part of most local authorities, the quality of urban services had declined drastically and would continue to do so unless effective land urban management mitigation measures were adopted immediately.

According to Mureithi, (1990) as quoted by Mbogua, 1993 in his study of Ongata Rongai he attributed the development control problems to the relatively lower position which Olkejuado County Council occupies in the organizational hierarchy of urban authorities in Kenya. Thus it is accorded minimal political, administrative and planning powers and functions. It also had limited access to financial and legal resources necessary for planning and implementing plans. He concluded that the existence of much formal legislation did not result in coordinated development unless supported by effective development control enforcement by Local Authorities. However lack of enough manpower, resources and equipments prevents the local authorities from effectively enforcing development control and implementing development plans.

Bubba and Lamba, (1991) as quoted by Ngeti, (1997), they examined the role and responsibility of local Government authorities and assessed the extent to

which their responsibilities are fulfilled. Their view was that most of the local authorities have been unable to perform their responsibilities due to financial and personnel incapacities.

Mbogua, (1993) noted that most central Governments in the region tended to control and direct local authorities to a point where they were hardly able to effect major development initiatives. To further illustrate this, he observed that Kenya's Local Government Act of 1965 had 186 clauses which conferred on the minister for local government powers to control and direct various activities of the local authorities. The minister's approval is required for decisions ranging from the making of by-laws, planning and budgeting, to educational tours of councilors or officers outside their area of jurisdiction.

According to Ngeti, (1997) in his study of An Assessment of the impact of land use Regulations and Policies on land utilization in Mombasa municipality he observed that land use regulations in developing countries, often fail to achieve greater efficiency and equity in the use of urban land and this was evident in many Kenyan towns. He attributed this to the use of Physical Planners by Local Authorities and the Central Government as rubber stamps to development proposals, lack of effective link between planning and implementing agencies, multiple land planning laws and deficiencies of skilled personnel in principal development control agencies such as Physical Planning Department, the local authority and the land control boards resulting in misinterpretation and misapplication of the laws concerned with land use control issues. He concluded that there was need to amend the existing regulatory policies and planning legislation for effective land use control.

According to Kemoni, (2007) he observed that local authorities in developing countries are the land use plans implementers but have been traditionally organized along sectoral lines, with limited fiscal base, limited autonomy and no corporate policy making capacity. They have concentrated on service delivery

and regulatory functions and have been unable to make effective decision capable of dealing with requirements of rapid urban growth. For example, on the basis of fiscal base, their autonomy have been eroded, they have been reduced to crisis management and reactive decision making. This has contributed to their unreliable capacity of monitoring development and lack of adequate capacity for enforcement of development control.

In her study of the effects of urbanization on the use and control of land within Ngong fringe area, Simiyu (2002) noted that the multiplicity of planning institutions coupled with their institutional inadequacies made it impossible to control expansion of urban settlements within peri-urban areas without strict development control enforcement.

She concluded that there were many planning bodies involved in the use and control of land without an overall coordinating authority making them non answerable to anyone.

2.4 Land use and development in the Peri-urban areas

As urban areas grow a lot of land use change takes place. Bourne (1976) as quoted by Kivell (1993) identified four main processes controlling urban land use change which include: extension of the urban edge, or sub urbanization, the renewal of the central area, the expansion of the infrastructure, especially transport and the growth and decline of nuclear such as the removal of industrial areas from the inner city and the growth of institutional and recreational centers in the suburbs.

The process of land use change starts when urban growth stimulates the need to develop land to a more intensive use. This leads to the expression of interest by developers, the preparation of proposals and plans and possible changes in the ownership of land. The duration of the development process may vary from a few months to decades depending on the existing ruling land policy. The main participants are the original land owners, developers, professionals such as

planners, surveyors and architects, builders, financiers, central and local government officials and the eventual occupier of the development.

Most owners of undeveloped land are not professionals. They are not concerned with efficient development of land. The result of this is that a wide variety of unpredictable, sometimes irrational, even perverse behavior takes place such as irregular subdivision and conversion of agricultural land into urban use without provision of basic facilities such as water and sewerage disposal systems. Thus land use planning and management institutions are created to regulate the activities of land owners and developers to ensure orderly urban growth.

In Kenya, without a clear land use policy, developers and speculative brokers may begin to show interest in land on the urban fringe before it is actually needed for development. This may lead to land subdivisions, change of user and illegal invasion of private or public land leading to incompatible land uses.

Kivell, (1993) observed that in developed countries with strong tradition of public ownership of urban land, for example Sweden and the Netherlands, such behavior by private owners may not hold ground because municipalities have effective pre-emption rights. In Britain there is a compromise between the two positions. Speculative behavior on the fringe is minimized by planning guidelines which provides for two separate land markets for agricultural and urban land which entails development permission and development control compliance for developments which may be incompatible with existing developments.

Within the fringe areas, pressures for land for development are great but the pattern of development is a fragmented one without a clear sense of urban expansion from a central point. Most of the land use decisions are essentially local resulting in haphazard land use changes and development activities. There is thus little evidence that there exist effective institutions to deal with the larger land use planning and management needs of peri-urban areas.

In Britain, much reliance has been placed upon the green belt to regulate land within such cases, but even this can be claimed to be an anachronism because it is drawn too close to major cities to have any real affect upon growth in the outer fringes.

Allen, (2006) as quoted by kemoni (2007) a distinctive characteristic of the peri-urban fringe is that land is often under intensive pressure due to different processes of use, conversion and increased commercialization. This is as a result of rural – urban migration, the urban poor moving toward the outskirts where rents and land prices are lower and the rich building new houses in the less congested areas of the urban fringe. This results in the loss of agricultural land due to the physical expansion of the city, speculative land subdivisions and land use changes prompted by development of industries and large scale infrastructures such as roads, airports, sewerage disposal works in the peri-urban areas.

Thus, peri-urban fringe land use changes respond to the relatively 'spontaneous' strategies of the poor (both from rural and urban areas) to access land in proximity to diversified livelihood opportunities, to market forces, or to public policies aimed at restraining urban sprawl, dispersing industrial development or locating special physical infrastructure with high potential environmental impacts away from densely populated areas. As a result, the peri-urban fringe areas are often characterized by a 'patch work' of different developments, including residential settlements interspersed with vacant land (often held for speculative purposes) and agricultural land shifting from subsistence to commercial uses.

Peri-urban fringe areas suffer from uncontrolled urban expansion characterized by low-density development and vacant land which imposes several disadvantages such as higher infrastructure costs, a wasteful use of land resources and environmental pollution (Mcgregor et al 2006).

According to kemoni, (2007) the development of peri-urban areas is characterized by urban sprawl which has been associated with rapid geographical expansion of urban areas, low density pattern, segregation of distinct land uses, heavy dependence on automobile travel with extensive construction from the centre to the periphery and relatively weak regional planning. Peri-urban urban sprawl has been attributed to urban population growth, public investment in infrastructure such as roads, public buildings, water, sewer etc. This is common in developed countries whereas development in developing countries occurs in the periphery without provision of infrastructure. One of the major impacts of peri-urban sprawl

is the decline in land sizes resulting from subdivisions of agricultural land which makes it agriculturally uneconomic and result to change in land use and increase in land values. The other outcomes of peri-urban sprawl is that sound planning of the areas is lacking resulting in insufficient public services such as schools, water and roads provision. Peri-urban sprawl is also associated with environmental degradation due to the unplanned developments that leads to clearance of vegetation as well as agricultural land within the peri-urban fringe.

In summary it can be said that peri-urban land use and development is characterized by the following processes:- Rapid land use changes ,Land loss to housing, Economic transformation away from agriculture, Environmental degradation, Illegal invasion of private and public land Speculative land subdivisions.

All these activities have serious implications on land management and are well manifested in Ruiru Municipality.

2.5 Land Degradation

History is littered with examples of cultures that have prospered as a result of sustainable land management for example Sumerians, Babylonians in Mesopotamia, Greek and Romans in the Mediterranean among others (UNEP, 2002). Good stewardship of the land is essential for the present and future generations.

In Kenya land is seen as critical to the economic growth, poverty reduction and gender equity. Its importance has been recognized by various government initiatives including, Poverty Reduction Strategy Paper (PRSP), Economic Recovery Strategy for Wealth and Employment Creation (2003-2007) and the current constitution (2010). Historically Land was central to the struggle of our independence.

On the international arena, the Rio Declaration on Sustainable Development and the Millennium Development Goals call for sustainable use of resources including land.

Land degradation among other land management challenges is a major threat to sustainable use. It is a world wide problem in geographic extent and has global environmental, social and economical impacts (UNEP, 2006).

One third of the world's land is dry land. In these dry lands alone over 110 countries including more than 80 of them in developing countries are affected by land degradation. More than 1000 million people live in these areas and are at risk from effects of this loss of productivity of the livelihoods. In Africa alone, 36 countries are affected by either dry land degradation or desertification (UNEP, 2006).

The United Nations millennium declaration states that nearly 2 billion Hectares of land is affected by human-induced degradation of soils, putting the livelihood of nearly 1 billion people at risk (UNEP, 2006). In Africa and Asia about 60% of the area is affected by land degradation while in Europe it is about 11% and North America approximately 8% of the total area considered degraded. The need to address this global problem of land degradation is becoming increasingly urgent. This is because it is a major cause and mechanism of global loss of productive land resource (UNEP, 2000).

The impacts of land degradation are severe and not necessarily restricted to local conditions. Upstream land management practices affects down stream land users. Land degradation can also be seen as cause and effects of poverty and it bears long term environmental externalities (UNEP, 2000). Land degradation leads to food, water and energy shortages. Restoration is expensive and thus the need for prudent management of the land resource by first and foremost understanding the causes of land management problems and finding mitigation measures.

According to the Rio declaration, Agenda 21 'land resource is the basis for human and other living system and provide soil, energy, water and opportunity for human activity'.

In rapidly growing urban areas access to land is rendered increasingly difficult by complex land tenure structure, conflicting demand for industry, residential, agricultural, and the need for open spaces. Inappropriate and uncontrolled land uses cause degradation of land resources. Present land uses often disregard the actual potentials, carrying capacities and limitations of land resources, as well as diversity in space. In rural areas unsustainable practices such as over exploitation of marginal land and the encroachment on forests and ecologically fragile areas by commercial interests and landless rural population, result in environmental degradation (Earth summit, UN).

Urban areas reflect man's greatest impact on the environment. Man's activities create new issues that require new strategies to solve. On land, its scarcity poses problems as most is taken by competing uses. Unequal distribution of land is mostly pronounced in urban centres where people with weak purchasing power live in unplanned settlement while huge chunks of land remain idle as it is privately owned. Land degradation can result from pollution by for example domestic wastes, paper, peelings food remains tins, bottles, glass, plastics, wood remains among others. There is also evident ugly heaps of garbage and bad odour from decomposing organic waste, habitat of pests and also encouraging scavenging animals (Rego et al, 2003).

Land degradation leads to a significant reduction of the productive capacity of land. Human activities contribute to land degradation including, poor soils and water management practices, unsustainable agricultural, deforestation, Removal of natural vegetation, Frequent use of heavy machinery, overgrazing Improper crop rotation and poor irrigation practices Natural disasters including drought, floods and landslides (UNEP/ GEF -2005).

It has been estimated that 23% of all usable land excluding mountains and deserts has been affected by degradation to a degree sufficient to reduce its productivity (UNEP/ GEF 2005).

According to Gustafson, 2003 throughout the world, land degradation is internationally recognized as a threat in the global environment commons. It is associated with desertification, deforestation, loss and biodiversity, climate change, sedimentation and pollution of international waters. People around the world see these results of land degradation in their communities and live with its impacts, everyday, whether it is desertification in sahelian countries in Africa, Soil erosion in the Caribbean, Uncontrolled burning of forest in the Amazon.

Forest conversion for commercial cattle grazing or intensive agriculture, land degradation makes it harder for people to earn a living and can lead to health and nutritional problems, contributing to poverty, causing migration of people and upset long standing social and economic systems that people depend on. It also has a negative impact on the ability of ecosystem to sustainably provide goods and services for the people residing thereon.

Gustafson, (2003) also links land degradation with unsustainable agricultural practices leading to decrease in soil fertility. These practices are characterized by: inefficient and wasteful use of land and water, inappropriate crop intensification especially under mono cropping system, expansion in agriculture into marginal areas, use of farm machinery, farming practices that are not suitable for local soils and water conditions. Overgrazing leads to loss of vegetation cover and soil compaction due to trampling both of which make land more vulnerable to wind and water erosion. Overgrazing is characterized by: the breakdown of traditional land management protocols that regulate grazing, weak policy and institutional capacity to manage rangelands sustainably, increase demand for other land uses for example agriculture, industry and infrastructure development. Deforestation and forest degradation resulting in forest cover loss. The major causes of deforestation are: over harvesting fuel wood, conversion of

woodland for large scale crop and livestock production, illegal logging and Fires set to clear land.

The world Summit on sustainable development (WSSD2002) reaffirmed land degradation as one of the major environmental and sustainable development challenges of the 21st century, calling for action to address causes of desertification and land degradation in order to restore land and address poverty resulting from land degradation. Addressing land degradation would contribute significantly to the Millennium Development goals by reducing by half the proportion of people in poverty by the year 2015 and ensure environmental sustainability.

On conventions there are three post Rio global environmental ones that relate to the issue of conservation of land and its related resources; United Nations Convention to Combat desertification and mitigate the effects of drought, the United Nations on biological biodiversity, recognizing the need of addressing land degradation in an effort to control biodiversity loss, The United Nations Framework on climate change, recognizing the relationship between climate and land degradation.

The main causes of land degradation is large scale alteration of the natural landscape for example, extensive modification of deltas into rice producing areas, urbanization that usually spreads into agriculture lands, further marginalizing poor people to steep slopes, road and river reserves. Rising population and land scarcity also impact on land degradation (Avijit, et al, 1998).

This urban phenomenon is also underscored by Conachen (1998) who observed that alteration in land forms for example mining, quarrying and industry also cause land degradation. The urban areas also produce enormous amount of solid waste which is dumped on the land further degrading it.

Another study on urbanization and its effects on land degradation can be seen in the uneconomical land fragmentation to facilitate different land uses like industries residential public utilities among others (Lash, et al 1986).

The conversion of land through clearing topsoil, grading, construction and waste disposal causes land degradation. Poorly constructed works result in land instability which activates degeneration processes and result heaps of soil being transported by runoff. The population pressure, land tenure system all in one way or another impact on land degradation (sustainable cities-1998).

According to the World Bank, the immediate and most crucial environment problem among others is degraded environments, which the poor people pay by poor health, low production and reduced incomes and qualities of life. The loss of land resource poses a problem arising from disposal of hazardous industrial waste, inadequate land use control is also seen as a cause of land degradation.

Land conversion of arable land to urban centers is a major threat to food security. Urban development can push agriculture to less suitable land, with unintended results. For example in Canada replacing 1 hectare of prime Ontario farmland to urban growth requires about 3 hectares of prairie land, thus increasing the rate of land conversion overall. A greater long term threat than the loss of agricultural land may be urban encroachment onto fragile ecosystems as a result of intense land use pressures and poor land use planning, Squatter settlements are commonly found on steep hillsides vulnerable to land slides and soil erosion, on water catchment's areas, on protected lands and in land subject flooding. Urban agriculture has resulted to some great extent into environmental degradation. Cultivation along riparian reserves gives rise to serious soil erosion and siltation of rivers. Livestock keeping causes loss of biodiversity as well as air, water, and noise pollution. Ecologically sensitive areas are impossible to protect from urban encroachment if people and industries are not given alternative land options (The urban Environment-UN, 2002).

A study conducted in Machakos, Kenya, found that when there are many people there is less erosion, (Tiffen, et al 1994).

2.6 Categories of land, forms of land tenure and total land mass in Kenya.

Categories of land

In Kenya there are three categories of land namely: Government land- this is land owned by the government for and includes unutilized or unalienated land reserved for future use. The second category of land is Trust land - this is land held under trusteeship by various County Councils on behalf of the residents of the area. The third category is Private land-this is land owned privately in freehold or leasehold tenure after registration and issuance of titles. For the purpose of this study, this is the category of land that will be dealt with.

The new constitution categorizes land in Kenya as follows: All land in Kenya is designated as public, community or private. Public land which at the effective date was unalienated government land as defined by an Act of Parliament in force at the effective date, Land lawfully held, used or occupied by any state organ, except where such land is occupied under a private lease, Land transferred to the state by way of reversion or surrender, land in respect of which no individual or community ownership can by any legal process be established, land in respect of which no heir can by ordinary legal process be identified, all mineral and mineral oils as defined by law, Government forests, game reserves, water catchment areas, national parks, animal sanctuaries, all roads, all rivers, lakes, territorial sea and its sea bed. The second category is the Community land and shall vest in and be held by communities identified on basis of ethnicity, culture or community interest. All land lawfully held as trust land by the county governments, land lawfully registered in the name of group representatives under the provisions of any law for the time being in force.

Land lawfully held, managed or used by specific communities as community forests, grazing areas or shrines, land lawfully transferred to a specific community by any process of law, ancestral lands and lands traditionally occupied by hunter gatherers. The third category is Private land and it is the registered land held by any person under freehold or leasehold tenure and any other land declared private by or under an Act of Parliament.

Forms of land tenure

Land tenure refers to the rules and social contracts whereby individuals and groups acquire, hold and transfer, or transmit interests and rights in land. There are three form of land tenure in Kenya namely: Freehold tenure- It confers the greatest interest in land, called absolute rights of ownership or possession of land for an indefinite period of time. In practice, however the use and development of this type of land is subject to land management control measures (Agriculture Act, Physical Planning Act, Land control Act). For the purpose of this study this is the tenure form that applies to the area. The second form is Leasehold tenure- It confers possession or interest for a definite period of time which is subject to payment of fees (rent and rates) and has explicit terms and conditions, which must be observed. The third form is communal tenure - It refers to unwritten land ownership practices by certain communities under customary law. Land is owned or controlled by family, clan or appointed community leader. Every member of the family or clan is entitled to use the land while ownership is linked to the socio –cultural life of the entire community. It also includes a system of unlimited open access to land, rights are left unassigned, there are no duties or obligations, but the benefits are available to all.

Total land mass

Kenya has a total land mass of 582,646 square kilometers (sq. km) comprising land surface (98.11%) and water surface (1. 89%). Of the total land area, 77,792 sq.km (13.34 %) is under Government ownership, 107,973 sq.km (18.5%) is under private ownership and 396,315 sq.km (68%) is under commercial ownership.

The proportions of public and community lands are expected to reduce as more and more government land gets alienated to individuals or institutions under leasehold terms, and more community land gets registered through setting apart or land adjudication and registration procedures. The proportion of private land will continue to increase as more community land gets registered and more

public land gets alienated. (Draft concept paper on National Land use policy pp5).

The table below shows the distribution of land composition in Kenya.

Table 1 – Land composition in Kenya (surface area)

Surface area	Area in Sq. km	Percentage (%)
Rural land	517,467	87.28
National Parks	40,907	6.90
Forests and game reserves	18,662	3.15
Urban land	4,643	0.78
Sub-total land surface	581,679	98.11
Water surface	11,230	1.89
Total	592,909	100.00

Source: National Atlas of Kenya 5th Edition (2004)

For purposes of this study the land which will be of concern is urban land. This category though a small percentage as compared to the rest, it is the category of land that is likely to have very serious effects on human life due to the current urbanization.

Table 2: Ownership categories

Ownership categories	Area in sq km	percentage
Public	76,953	12.99
Trust land	396,323	66.84
Private land	108,403	18.26
Total	581,697	100.00

Source: National Atlas of Kenya 5th Edition (2004)

For purposes of this study the ownership category of land that will be dealt with is Private land. This is the category of land where land, management challenges are mostly pronounced.

Table 3: Land Registration Status

Land registration Status	Source	Area in As. km	Percentage(%)
Registered land	Private	108,403	18.64
Un-alienated land	Public	33,241	5.71
Unregistered land	Trust	380,484	65.41
Parks and reserves	Public	59,569	10.24
Total		851,697	100.00

Source: National Atlas of Kenya 5th Edition (2004)

For purposes of this study the category of land will be the registered private land.

2.7 Past Kenya Government Initiatives on prudent land management

In Kenya, several efforts towards sound land use have been undertaken by the government since independence, as stipulated by various documents:

Sessional paper No. 10 of 1965 on African socialism and its application to planning in Kenya

The first effort was the development of Sessional paper No. 10 of 1965 on African socialism and its application to planning in Kenya. The paper ensured that the country's wealth would remain in the productive areas, which include the former white highlands and those covered by early registration under the swynnerton plan. It asserted that to make the economy grow as fast as possible, development funds would be invested where it would yield the largest increase in net output. This approach clearly favoured the development of areas endowed with natural resources, good land and rainfall, transport and power facilities while areas without such facilities continued to lag behind.

Sessional paper No. 1 of 1986 on Economic management for renewed growth

The second government effort was the development of the Sessional paper No. 1 of 1986 on Economic management for renewed growth, which re-emphasized that agriculture remains the leading sector in stimulating growth and job creation. In terms of land tenure, the policy paper observed that there had been no major policy review since independence. The government was therefore to appoint a commission in early 1986 to review the land tenure laws and practices in the country and to recommend legislation that would bring the law into conformity with Kenya's independence needs.

Economic Recovery Strategy for Wealth and Employment creation, 2003-2007

This was the third government initiative that saw the development of the Poverty Reduction Strategy paper (PRSP) 2001-2004, which formed the basis of the Economic Recovery Strategy for Wealth and Employment creation, 2003-2007. This paper identified landlessness as a major underlying cause of poverty. Other causes included high population growth, poor land tenure systems, poor utilization of land resources, customary laws of inheritance and land fragmentation.

Sessional paper No. 3 of 2009, on the National land policy

The Sessional paper No. 3 of 2009, on the National land policy ushered in a new dispensation in land administration and management. The paper provides broad principles and guidelines on land use management issues. The paper was specifically formulated to provide an overall framework and define key measures required to address the critical issues of land administration, access to land, land use planning, restitution of historical injustices, environmental degradation, conflicts, unplanned proliferation of informal urban settlement, outdated legal framework, institutional framework and information management,. It also addresses constitutional issues, such as compulsory acquisition and development control. It recognizes the need for security of tenure for all Kenyans.

The Kenya Vision 2030

The Kenya Vision 2030 is a development master plan with a goal of making the Country globally competitive and prosperous. The vision recognizes land as the foundation for all other economic activities such as agriculture, settlement, tourism among others. It also identified challenges facing optimal and sustainable use of land as insecure land ownership, unsustainable land use, poor land administration and inappropriate land information management system and

recommend that a national land use master plan be put in place to direct various land uses

The constitution of Kenya, 2010 under article 61(1) the constitution calls for the use and management of land in equitable, efficient, productive and sustainable manner, guided by broad principles that include: Sustainable and productive management of land resources and sound conservation and protection of ecologically sensitive areas, among others.

2.8 Gaps in reviewed literature

Most studies are on land in the peri-urban areas, institutional challenges in the management of urban land, structure of land ownership in the peri-urban areas, land use and development in the peri-urban areas and past Kenya Government initiatives in an attempt to improve of quality land management.

There has not been any study on the details of conversion of former agricultural land into incompatible different land uses which do not adhere to planning and building regulations.

On institutional challenges in the management of urban land, there has not been documentation of the actual institutions, their individual mandates and where there is overlap, how that can be harmonized for effective land management. Another area that has not received much attention in past studies is the legal framework under which land is managed and also an assessment of impact of Government initiatives in terms of policies.

This study will attempt to bridge the gaps as observed from the past studies.

2.9 Conceptual Framework

The above literature that has been reviewed shows that the peri-urban areas are characterized by a mixture of rural and urban land uses. The dominant use being

the urban developments namely: residential, light industrial, commercial and urban agricultural. The traditional agricultural system is slowly being edged out.

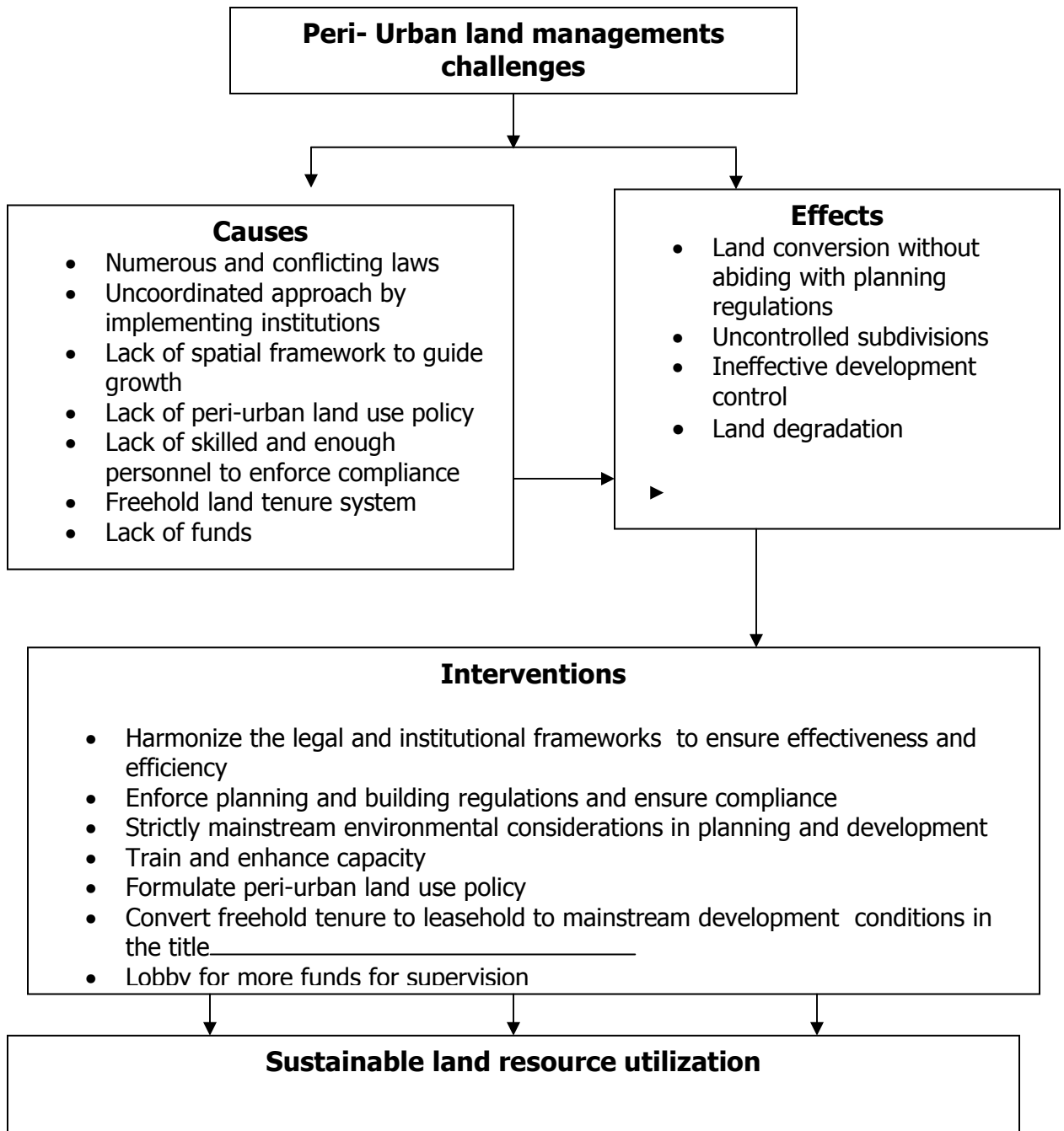
The main causes of the peri-urban areas' land management challenges are numerous and conflicting laws, uncoordinated approach by implementing institutions, lack of spatial framework to guide growth, lack of peri-urban land use policy, lack of skilled and enough personnel, lack of funds and freehold land tenure thus making development control very difficult.

The effect of this is uncontrolled subdivisions, informal land conversion of agricultural land into incompatible urban land uses without abiding by the planning regulations, ineffective development control and land degradation.

In order to sustainably manage the land resource the following key interventions are required: Harmonize the legal and institutional frameworks to ensure efficiency and effectiveness, enhance capacity to enforce planning and building regulations, strictly mainstream environmental considerations in planning and development and ensure compliance (Environmental Impact Assessments EIA), formulate a peri-urban land use policy and finally lobby for more funds to carry out the above.

The following figure represents the conceptual framework of the research study.

Figure 1: Conceptual Framework



Key: Directional flow of concepts Source: Author (2007)

CHAPTER THREE

THE STUDY AREA

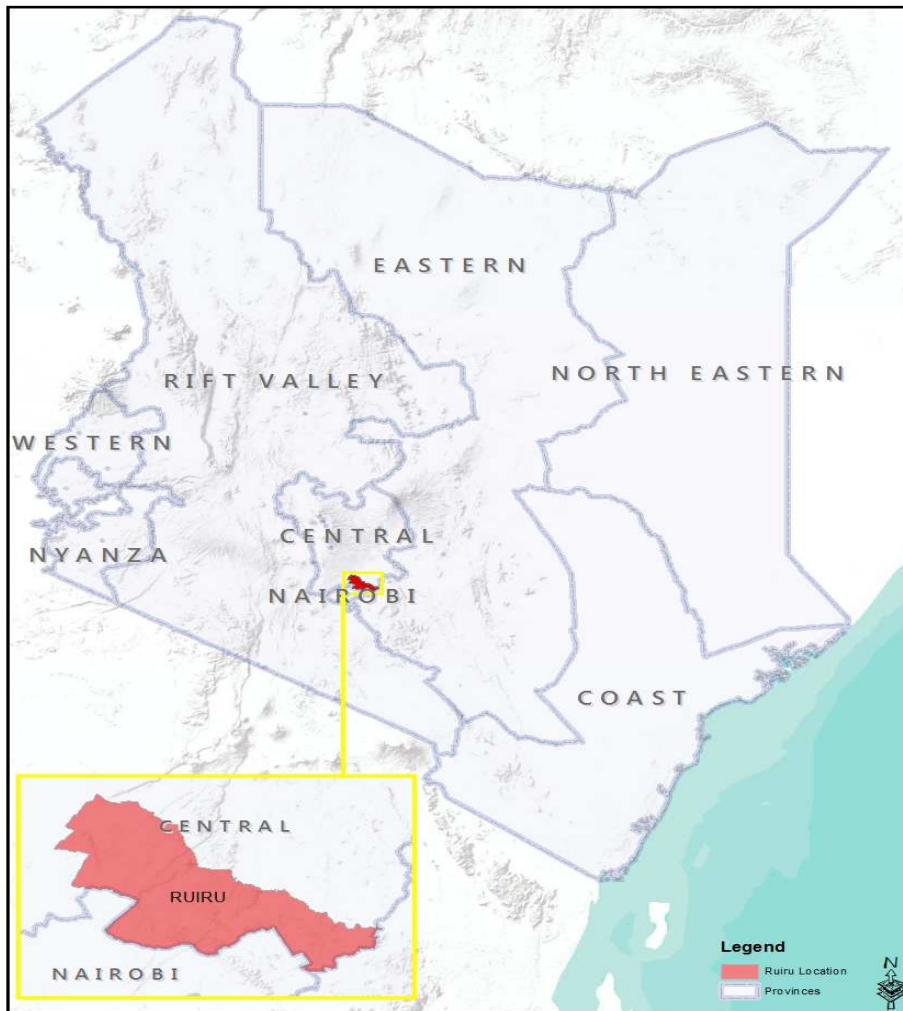
This chapter presents the background of the study area. It highlights location and size, geographical characteristics including, administrative sub locations and wards, physical environment and natural resources, population size, growth and closes with the historical developments of Ruiru town

3.0 Location and Size

Ruiru Municipal Council is located on the 0.5° c latitude and 37°E longitude lines. It is located about 200 km south of the Equator. It is in Central Province of Kenya. The town stands on the Nairobi – Thika highway. It is situated 16 km North East of Nairobi city and is hardly 3km from the city boundary. It lies 18 km from Thika town. It is accessible by both railway and national trunk road and has a fertile hinterland. Locally it borders Juja sub location to the North, Machakos District to the East, Nairobi city to the south and Kiambu to the west.

Ruiru Municipality in its national context

Figure 2



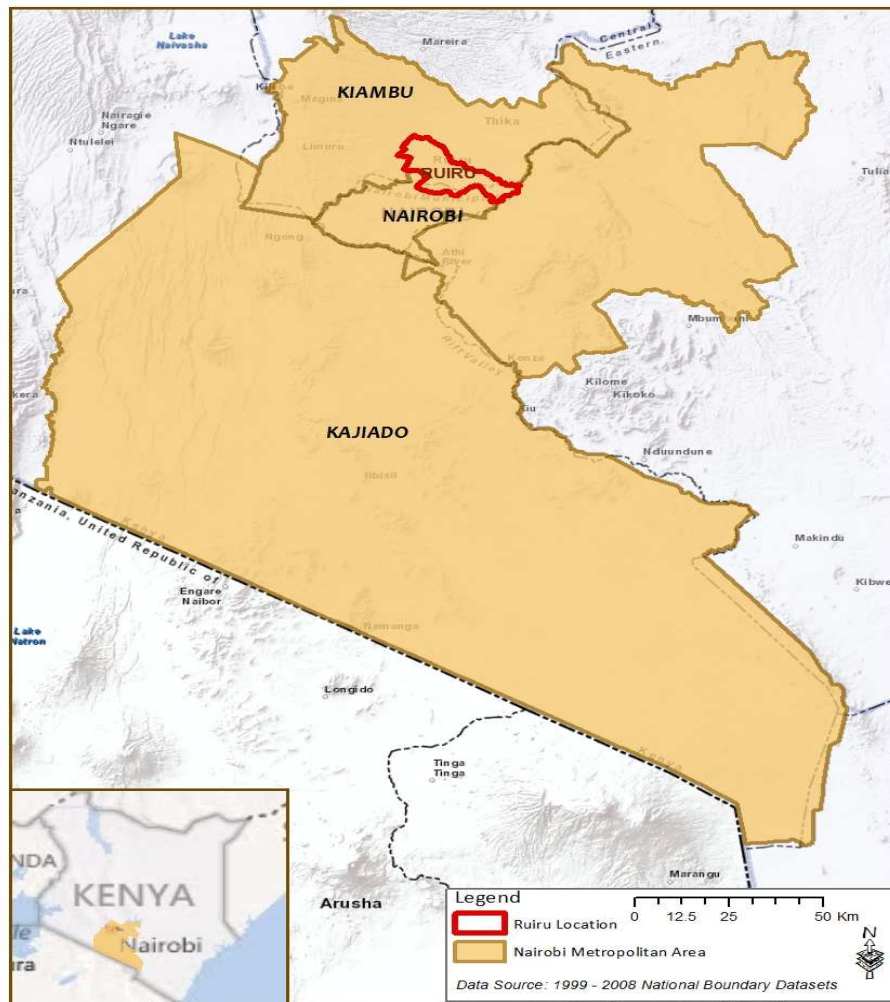
Source – National Boundary Data sets (2008).

3.1 Ruiru as part of the wider Nairobi metropolitan

The present day Ruiru forms part of the larger Nairobi metropolitan region. It is located on the Northern side of the Central Business District of Nairobi. During the drawing, of the plan in 1973, the town was zoned mainly for housing and

industry. The pressure exerted upon Ruiru in terms of rapid growth and subsequent uncontrolled development can be characterized under the general categorization of the town as a satellite town. It is an interface between both rural, agricultural functions and urban, industrial functions. The persistent uncontrolled and informal developments of Nairobi, as well as complicated land market have produced a condition of real or perceive built up area thus pushing development into the formerly rural areas of current satellite cities such as Ruiru.

Figure 3- Ruiru Municipality in the Metropolitan context

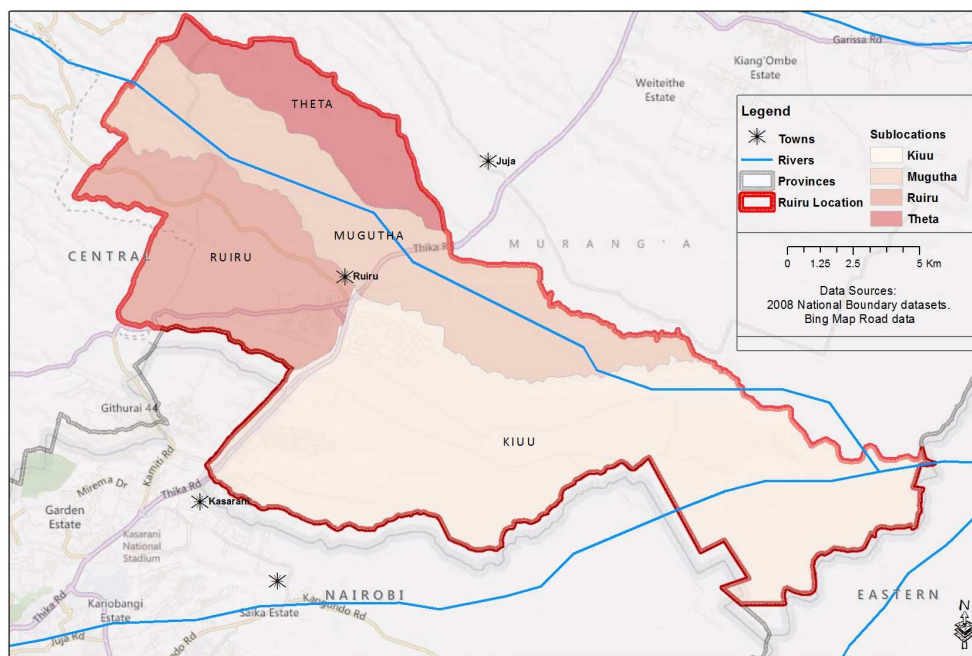


Source: National Boundary Datasets (1999 -2008).

3.2 Administrative sub locations

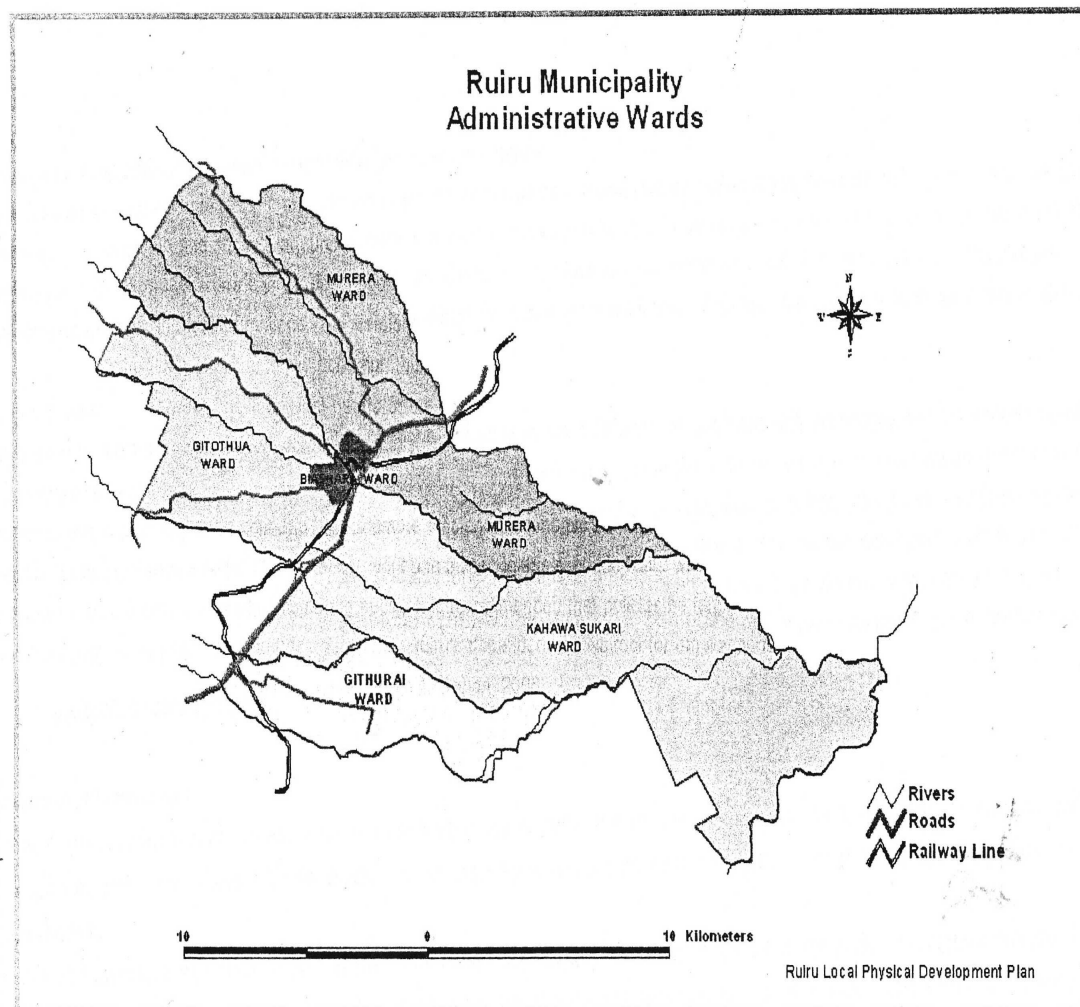
The municipal council of Ruiru is administratively divided into four main sub locations (Kiuu, Theta, Mugutha and Ruiru) and further into five wards namely Githurai, Kahawa sukari, Gitothua, Murera and Biashara. For the purpose of this study, Murera ward will be taken as the case study

Figure 4 – Ruiru Municipality in its regional context and its sub locations



Source: National Boundary Datasets (2008).

Figure 5 – Ruiru Municipality administrative wards

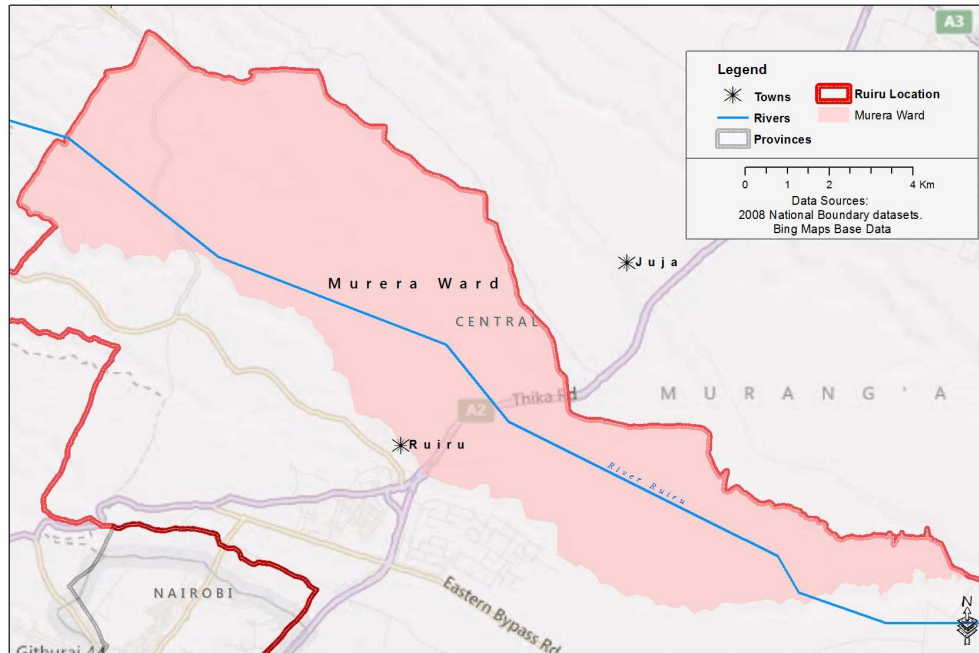


Source – Ruiru Physical Development Plan – unpublished (2007).

3.2.1 Murera Ward

It is the Northern ward bordering Juja location to the North. It is located between river Ruiru and Theta. Thika road divides it into two equal parts. River Ruiru marks the Southern boundary while river Theta marks the northern boundary. Gatundu constituency forms parts if it's northwestern boundary.

Figure 6 - Murera Ward



Source: National Boundary Datasets (2008).

3.3 Physical Environment and Natural Resources

Topography and Slope analysis

Ruiru town is located on the transitional Zone of the upper Athi basin and the Kikuyu dissected plateau. The land is generally undulating with a general drainage pattern towards the Athi River basin. Ruiru River divides the town in two parts. The town lies about 1550 meters above sea level. The area generally slopes from the northwest to southeast.

To the North- West the town's topography is generally steep and dissected by Makuyu and Ruiru River. The areas south of Nairobi- Thika road are generally flat.

Geology

According to the National Atlas, the geology of Ruiru comprises of tertiary volcanic rocks. These make up the soils on the hilly areas. Soils resulting from these rocks are dark reddish brown and well drained. The industries and coffee farms in Ruiru are located on the hilly areas of the town, which have the dark reddish soils.

Soils

The soils in the study area are derived from volcanic rocks that gradually occur between 1200 to 2000 meters above sea level. The general nature of the soil ranges from shallow yellow/brown to red clays. In geological term they are youthful soils formed after removal of black clays by erosion process. However there are patches of black cotton soils. In addition, there are areas which have soils that can support foundations even at shallow depths.

3.4 Hydrology and Drainage systems

Ruiru forms part of the broader eastern slopes of the Aberdares. It lies approximately 1500 meters above sea level. The area rises from the northwestern end of the municipality to the southwestern end. The slopes of the Aberdares are characterized by long elongated parallel ridges and valleys which have extended to Ruiru. Though the area is generally undulating, these characteristics are seen in the main drainage channels in the municipality, i.e. Ruiru, Theta, Gatharaini and Kamiti Rivers which drain into the Athi basin. These channels have been used to delineate administrative boundaries for example, Theta and Ruiru River form the boundaries of Murera Ward, Ruiru and Kamiti form the boundary of Kahawa Sukari and Gatharaini and Kamiti form the boundaries of Githurai Kimbo. However, some areas are poorly drained for example parts of the Central Business District like the Municipal Stadium, Murera Ward and the lower part of Kahawa.

3.5 Climate

Wind

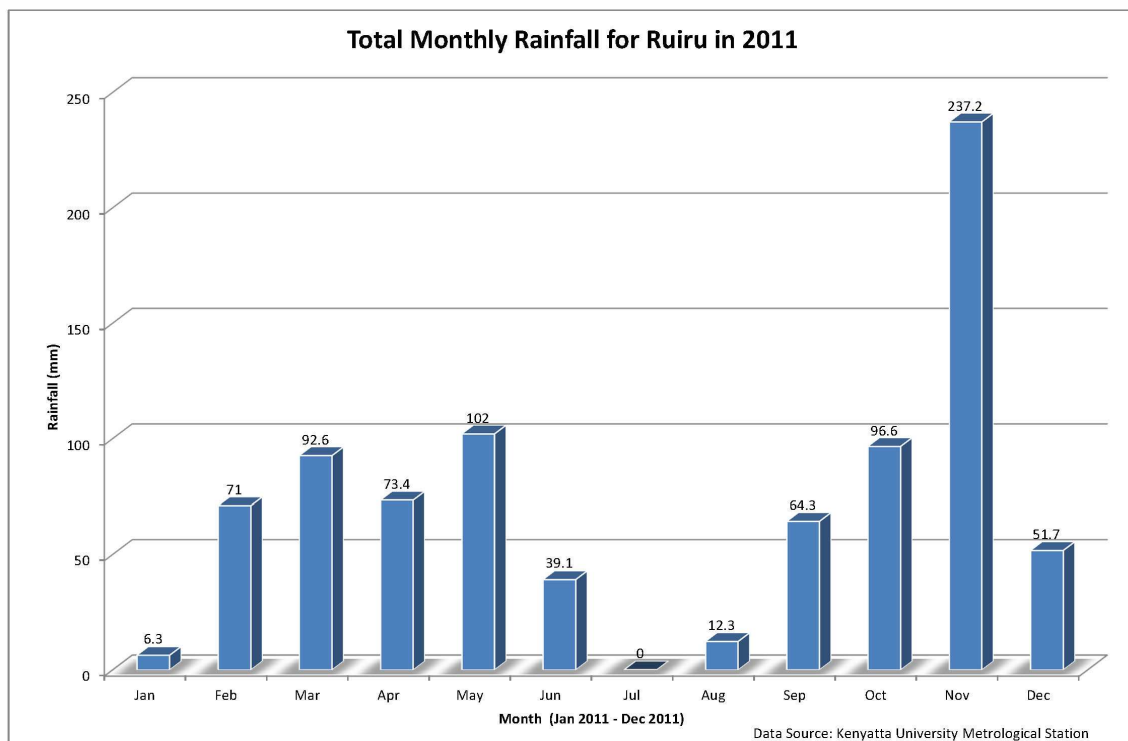
At micro level, the wind blows from North towards the Southern direction. Their strength and speed differ at different times of the day with afternoon experiencing the strongest winds with whirls blowing out dust especially during the dry season and in bare ground. The sun path is the normal east west movement with minimal variations. **Rainfall**

The type of rainfall found in Ruiru town is generally characteristic of the climate of Nairobi – Thika region Rainfall mainly occurs in the afternoons.

Rainfall averages between 850mm – 1000mm per annum and falls in two months i.e. short rains from October to December and long rains form March to May.

Annual Rainfall Distribution in Ruiru Division

Figure 7



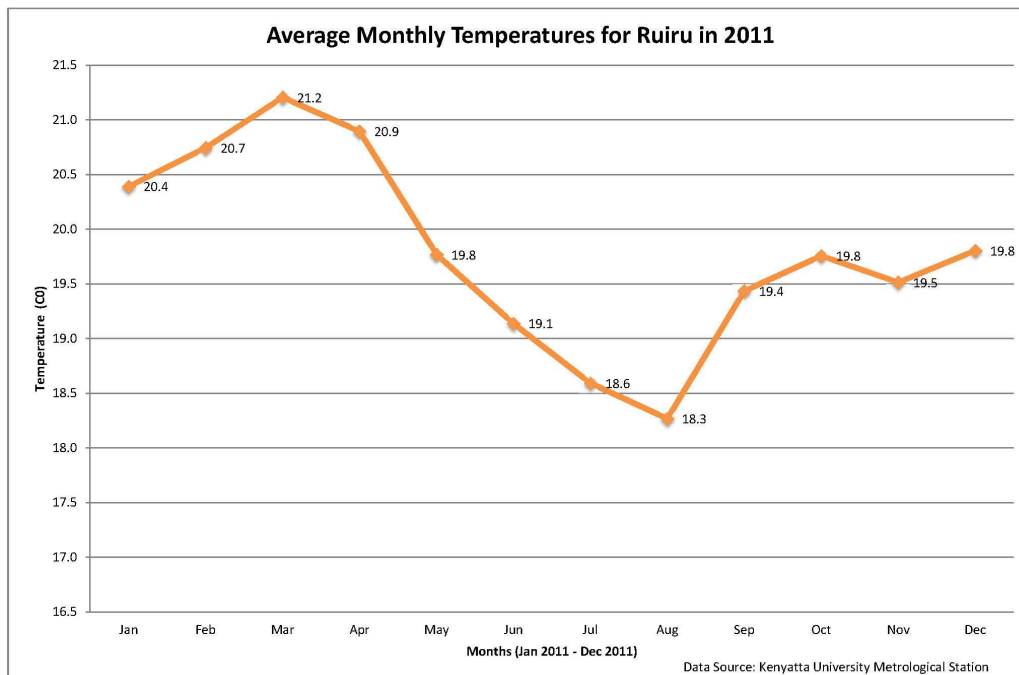
Source: Kenyatta University Metrological station (2012)

Temperature

The temperature is generally high, the mean maximum temperature being 26 degrees Celsius while the mean minimum temperature being around 14 degrees Celsius. The average annual temperature is about 21 degrees Celsius.

Annual Temperature Variation

Figure 8



Source: Kenyatta University Metrological station (2012).

Humidity

The annual relative humidity for the area is about 51 according to the meteorological department. May, June, July are the most humid months while February and March are the least humid.

3.6 Vegetation

The vegetation of Ruiru is greatly affected by the agro-ecological setting, physical developments, human activities and settlements. The distribution of vegetation types in the municipality therefore varies greatly. For example Githurai Kimbo hardly has any vegetation cover due to physical developments. However some scattered trees are evident and patches of grass. There has been new vegetation species introduced within newly developed areas like kahawa sukari and Githurai. Murera ward which is the study area had more vegetation cover, a variety of indigenous trees and scanty grass, which covers larger areas. Gitothua ward has the largest vegetation cover with coffee estates and variety of other trees and grass cover. The vegetation cover of Bishara ward had also been destroyed by physical developments.

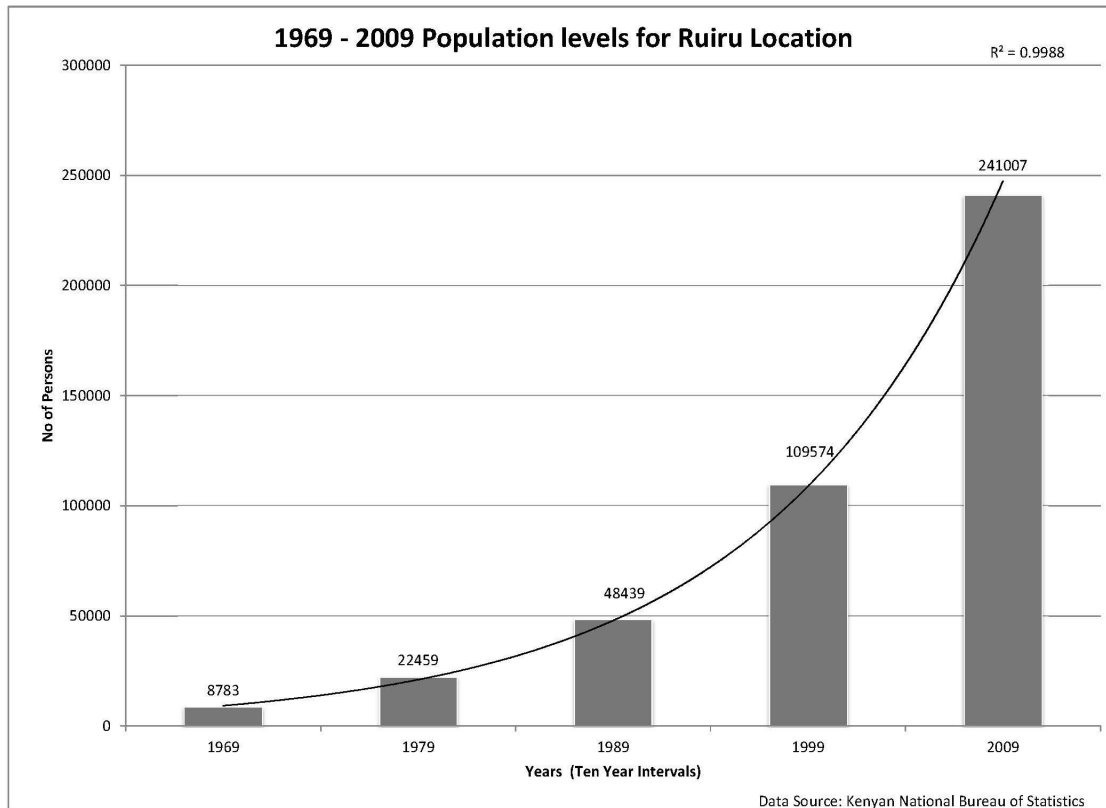
3.7 Population size and Growth

Ruiru town has experienced a tremendous population growth rate since the development of the urban centre in 1913. It's role, location and functions as a service centre and recently as satellite town of Nairobi has had significant influence in the growth if the population.

In pre-colonial period the area was inhabited by the maasai due to its availability of adequate water resources and long savannah grass. The land was then used as a grazing area and it was not until the early 20th century when the railway and Thika Road brought with them new land uses for the area when European settlers started settling there.

Population Growth 1969 - 99

Figure 9



Source: National Bureau of Statistics – Kenya (2012)

3.8 Historical Development

The origins – 1908- 1913

The Development of Ruiru town just like many other towns owes much to the building of the railway. It also owes much to the construction of Nairobi – Nyeri road. The road was constructed in 1908 in form of track linking capital city with the administrative centers of Thika, Murang'a and Nyeri respectively. The railway lone was opened up in 1913 and subsequently a sub-station was opened up in Ruiru.

Service centre – 1920s -1950s

With the building of the railway and construction of the road, the area became open for European settlement. Thus coffee, sisal and ranching types of farming were started on the leased large chunks of land. Therefore from a substation town, Ruiru grew to a service centre providing services to the settler population as well as the hinterland areas. With the improvement of Nairobi – Nyeri road the town became an important service center. During this time prior to independence, Ruiru was administered by Nairobi County Council and was called the western District.

Post independence urban centre

After independence, Nairobi County Council was dissolved. The town came under county Council of Kiambu. In the 1974 -1978 National development plan, Ruiru became a designated urban centre. The town was upgraded to a town council in 1986 when it was split from the Kiambu county council. In 1997, it was made a full municipal council.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.0 Introduction

Research methodology is a way to systematically solve the research problem. It is the various steps that are generally adopted by the researcher in studying the research problem along with the logic behind them (Kothari, 2004).

This chapter presents the research methodology used in this study, from the research design, sampling techniques and sample size, data collections instruments, sources of data and data analysis.

4.1 Research design

A research design can be described as the structure of the research. It is a scheme, an outline or plan that is used to generate answers to research problems. A research design can be regarded as an arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance with research purpose. It is the conceptual structure within which research is conducted. It constitute the blue print for collection, measurement and analysis of data (Kothari, 2004)

The scheme or plan used in this study is descriptive survey. The major purpose being description of the state of affairs as they exist. The information was collected by interviewing and administering a questionnaire to a sample of land owners, Municipal Council personnel, Secretary Land Control Board and Land Ministry management officials. The questions were constructed in such a way that they solicited the desired information. The data collected was summarized in a way that it provided the designed descriptive information.

The use of case study was also used for this study since the objectives and the hypothesis needed a detailed and intensive analysis of the land management challenges in the satellite towns. The research focused on one town i.e. Ruiru

rather than on all the satellite towns, as postulated by Denscombe (1998, p. 30) who points out that "*the aim is to illuminate the general by looking at the particular*" the logic of such an approach being to enable insights to be gained from looking at the individual case that can have wider implications and importantly that would not have come to light through the use of a research strategy that tried to cover a large number of instances in a survey approach.

4.2 Sampling techniques and sample size

Sampling is the procedure a researcher uses to gather people, places or things to study. It is a process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of the characteristics found in the entire group. When dealing with people it can further be defined as a set of respondents selected from a larger population for the purpose of the study (Kombo, 2002).

For the purpose of the study the target population was 1000 landowners in Murera Ward of Ruiru Municipality. Murera ward was purposively selected since it was found to have the required information with respect to the objectives of the study. It represents both urban and rural land uses.

The study area was stratified in such a way that the land use within a stratum was homogenous.

Kothari, (2004) quoting from Lipschutz and Schiller (1998) states that as rule of the thumb, the choice of the sample size $n \geq 30$ satisfy the requirements for most practical purposes even when the population is finite. The same idea is echoed by Mugenda (2003) that at least 30 cases or more are required for descriptive and correlational studies.

By accepting the above proposition random stratified sampling was also used to pick 40 respondents from land records then locate them on their land using available

registry index maps and general knowledge of the area provided by research assistants. The 40 respondents were randomly distributed in each stratum. The area was stratified according to known land uses namely; residential, light industrial, agricultural, commercial and educational (both private and public educational institutions).

Use of simple random sampling to get a representative sample was used. The rest of the research comprised targeting specific informants for interview. These comprised the Secretary, Land Control Board and Government officials involved in land management issues both at the Local authority and Ministry of lands.

4.3 Data collection instruments.

For this study the following instrument were used questionnaires, observations forms, topographical base maps, focused group discussions, informal discussions, key informants and photography.

Questionnaires

Use of semi-structured or closed ended questions (questions which are accompanied by a list of all possible alternatives from which respondents select the answer that best describes their situation) and unstructured or open ended questions (questions which give the respondents complete freedom of response) were employed. Questionnaires to Government, Local Authority officials and the Secretary of the Land control Board were administered by the researcher.

Observation forms

This is a tool that provided information about the actual happenings on the ground. It involved a deliberate view of the interests, circumstances and activities taking place in the study area. Land uses, Plot sizes and environmental effects occasioned by uncontrolled land conversions were observed as they exists on the ground. The researcher by virtue of the fact that she lives in the study area became an active functioning member of the culture under study.

Focused group discussions

The focused group discussion is a process which encourages exchange of views and it facilitates the identification of vested interests and perceptions in the use of land resource. This method was used to come up with strategies that would facilitate sustainable land use.

Photography

The observation method was supplemented by photography. Thematic photos were taken during the field work to illustrate the land use activities.

4.4 Sources of data

Data was sourced both from primary sources and secondary sources. The primary data was obtained from the field visits using questionnaire, observations forms, topographical base maps, focused group discussions, informal discussions, key informants and photography.

The secondary data was obtained from the Ruiru Municipal Council offices, Ministry of Lands, District Development plans of Thika and Kiambu from the University of Nairobi Library, Ruiru Development plan (Unpublished) , other existing literature on Ruiru town, Websites and Acts of parliament.

4.5 Data analysis

On data analysis both quantitative and qualitative methods was applied.

The nature of the raw data determined the kind of methods used. Where the data captured was found to be inadequate or unsuitable for a statistical test the data was presented in the form of tables, line graphs, bar graphs and pie charts.

4.6 Research variables

The dependent variable in this study as is land management challenge while the independent variables are uncontrolled Land sub divisions, Land conversion (different users) and Institutional and Legal Frameworks that are mandated to manage land.

CHAPTER FIVE

RESULTS AND DISCUSSION

This chapter presents research findings and discussions. The chapter starts with a detailed analysis of land management challenges in the study area. These include incompatible different land uses in relation to the planning standards that are required to benchmark such uses and uncontrolled developments. The causes of the challenges are summarized thereafter. This is followed by an overview of the subdivisions challenge and the causes in the study area. The assessment of the legal and institutional frameworks, weaknesses, gaps and overlaps follows thereafter. The chapter ends with an assessment of use and accessibility of services offered by the land management institutions.

5.0 A presentation of land management challenges and the causes in the study area.

The main land management challenges identified in the study area were incompatible different land uses in relation to known planning standards caused by lack of spatial framework to guide growth and uncontrolled developments and subdivisions into uneconomical plot sizes caused by lack of adherence to planning regulations as provided for in the Physical planning Act. These are outlined as follows:

5.0.1 Background information on incompatible different land uses.

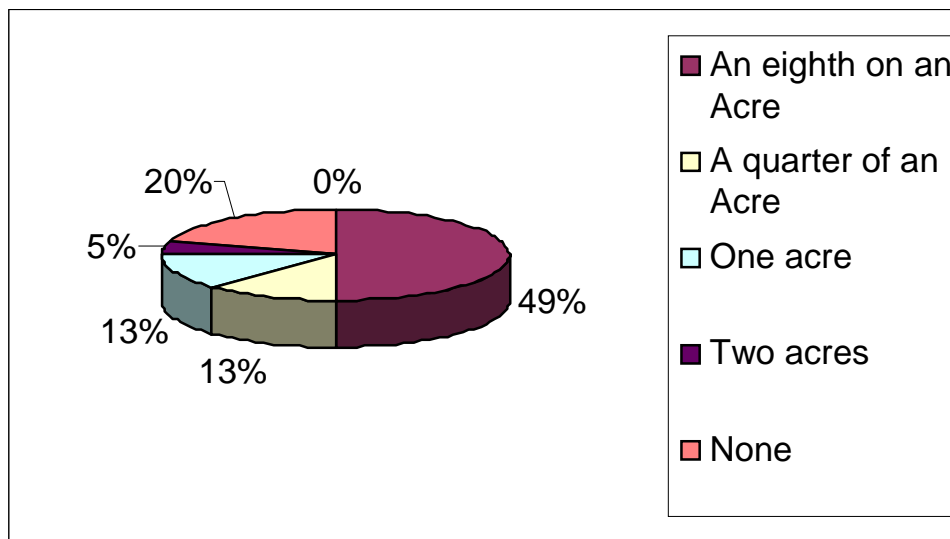
In order to appreciate the challenge of incompatible different land uses, it is important to highlight the land tenure and ownership status since these forms the basis of land use. On land tenure, in the study area, the land is owned privately under freehold basis. Most of the land was bought from the white

settlers by 'Nyakinyua' land buying company. This company continues to subdivide land even today for sale.

On land ownership, according to the field survey about 80% of the respondent own land. Originally the plots were surveyed as one acre plots. These have since been subdivided into smaller plots. The sizes of the plots range from an eighth of an acre to two acres. The majority, about 49% own small plots of about an eighth of an acre. It is clear that land has been subdivided to sizes which are uneconomical for agricultural activities.

The pie chart below illustrates this phenomenon.

Figure 10-Respondents' Sizes of Land in Murera ward



Source – field survey (2008)

It is clear from the pie chart that those who do not own any land form the next majority at 20%. Those with one acre and a quarter of an acre stood at 13%, the least were those with bigger plots of two acres at 5%.

5.0.2 Incompatible different land uses in the study area

There are various incompatible different land uses in the study area as highlighted here below:

Residential user

Residential areas are the main places of habitation for the residents. This is the highest land use in the study area. There are various types of residential houses in found in the area. Residents on bigger plots mostly have a mixture of maisonnettes and bungalows. Residents on an eighth and quarter of an acre have bungalows. Those renting stay in single rooms. The current trend for building rental houses is high-rise apartments. This has been necessitated by the high demand for houses and the small sizes of the plots. Another recent phenomenon on the character of residential houses is the rapid construction of hostels. This demand has been fuelled by two institutions of higher learning in the area namely: Ruiru Campus of Kenyatta University and Ruiru Campus of Nairobi Institute of Business studies. The sheer numbers of students that these two colleges enroll, ensure that there is ready market for the hostels. However there are no guidelines in terms of spatial plans to guide this growth.

The plates below illustrate the different types of residential houses in the study area

Plate 1 – A maisonnette house type on a two acre plot



Source – field survey (2008). A well maintained residential house. This is a typical house on the big plots of one or two acres.

Plate 2 – A single storey residential building for rental purposes



Source – field Survey (2008)

Please note the garbage site on undeveloped plot. On the horizon are other rental houses and on the opposite side are hostels. Note the un-coordinated and uncontrolled developments with each developer building a different type of house to serve his or her specific needs.

Plate 3 – A Hostel on top of a commercial building



Source – Field survey (2008)

Note that the Hostel is situated on the first floor of a commercial building. On the ground floor are shops. The building is next to a road.

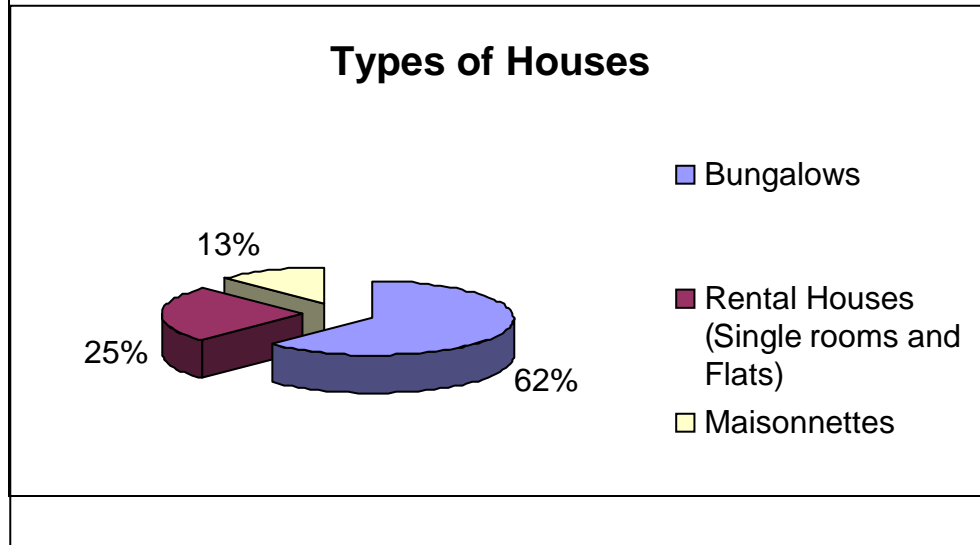
Plate 4 – A hostel in an incomplete building



Source – field Survey (2008)

Note the Hostel is on an incomplete building. See the building materials at the fore front making access to the building difficult and also a dump site. The building is built haphazardly.

Figure 11 – Types of Houses in the study area



Source – Author (2008)

From the bar chart it is clear that bungalows dominate the house types at 62 %, followed by rental houses at 25% which include single rooms, flats which are used as hostels. Maisonnettes are few at 13%. This can be explained by the fact that only a few residents have big plots to accommodate big houses. On the other hand the rental market is growing rapidly. And with the potential growth which the residents anticipate to be brought about by the completion of Nairobi – Thika Super highway, the demand can only go up.

PLANNING STANDARDS FOR RESIDENTIAL USER

Development Density

Categorization of residential land use should be based on development density and level of services.

The table below shows the various categories of residential densities as per planning standards.

Table 4 – Various categories of residential densities

Centre	Low Density	Medium density	High Density
Urban	½ acres (0.2 ha)	1/8 acre (0.045 ha)	Below 1/8 acre (0.03 ha)

Source – Physical Planning Hand Book pp 57 (2008)

The low residential density as per the planning standards should be on half an acre, medium density on an eighth on an acre while high density should be on plots which are below an eighth of an acre.

In the study area, the planning standards are not followed and residential houses are built in a haphazard manner. As seen earlier at table 1 most of the plots measure an eighth of an acre. It is on these plots that one finds a bungalow or flats. The development density is not considered and what exists is a mixture of all the densities irrespective of the sizes of the plots.

Factors such as level of services available, social economic status, prevailing land tenure are not considered. In the study area there are no sewer services available.

Plot coverage

Plot coverage as applied to a building means the portion of horizontal area of the building permitted to be built. This is to ensure a healthy environment and allow for expansion and improvement of infrastructural and social amenities. The following table shows the planning standards of plot coverage:

Table 5 – Plot coverage

House Type/ Density	Minimum plot Size (Ha)	Maximum plot coverage %
Low Density Bungalow Maissonnette	0.2	50 50
Medium Density Bungalow Maissonnette flats	0.045	65 65 65
High Density Single rooms	0.03	70

Source – modified from the Physical planning hand book pp 65 (2008)

In the study area this planning requirement is not followed. The observation made of the plot coverage was dependent on the use of the residential building. Rental houses are built on the whole plots as seen on Plate 2. Similarly Plate 3 showing a hostel on top of a commercial building and Plate 4 showing a hostel on an incomplete building cover the whole plots.

In the cases where the owner occupies the house, at least some space is left but not the required standard. Plate 1 illustrates this phenomenon.

URBAN AGRICULTURE

This is the agricultural practices within urban areas, other market centres and peri- urban areas. It includes crop cultivation, horticulture, livestock rearing and poultry keeping. The characteristics include the following: It is small scale and practises on plots less than two acres, is intensive, is primarily for domestic consumption, but surplus may be sold to supplement the household income and mainly practiced in or near residential areas.

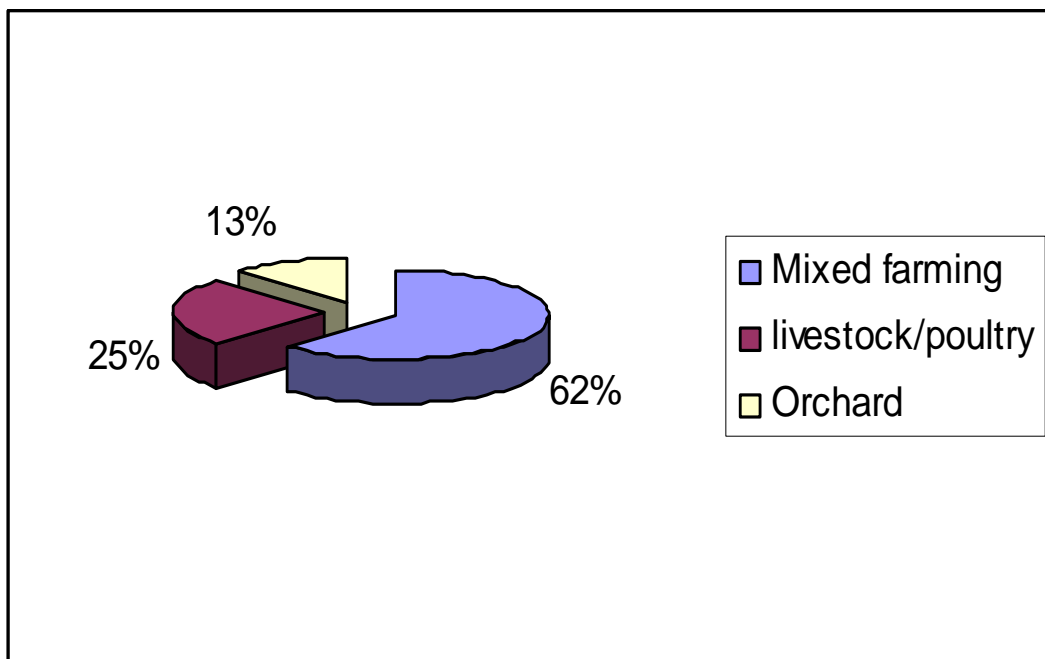
Urban farming is undertaken by two groups, traditional farmers, who have been engulfed by urban development, and recent migrants. During the last 20 or 30 years, relatively large areas of peri-urban land have been annexed from basically rural communities and incorporated into urban municipalities. To a large extent,

this has been necessitated by land-use changes in the urban fringe. (Lee-Smith et al. 1987) This is replicated in the study area.

In the study area the agriculture is made up of the following, Livestock and poultry raised in backyard, orchards, mixed farming (Maize, beans and vegetable farming)

The following figure illustrates the percentage of residents undertaking various form of urban agriculture.

Figure 12 – Forms of urban agriculture



Source – Author (2008)

It is clear from the pie chart above that majority 62% of the residents practice mixed farming. This type of farming is also practiced on the power way leave which cut across the ward and on many other vacant plots where the owners have not taken possession. 25% keep livestock/ poultry while only a partly 13% have orchards. This can be explained by the size of the plots. Those with smaller plots (a quarter and eighth of an acre) practice mixed farming. Those with slightly bigger plots keep livestock/poultry. Residents on one to two acre plots have the luxury of having orchards.

The following plates further illustrated this phenomenon:

Plate 5: Crop/fodder farming under the power way leave that cuts across the ward.



Source: field Survey (2008)

From the plate it is evident that the farming is done haphazardly, maize intercropped with nappier grass. Planning standards that stipulates short crops for urban agriculture is not followed.

Plate 6: crop farming on riparian reserve



Source: field survey (2008)

From the plate, it is clear that the farming is done on riparian reserves next to Ruiru River and as such the fragile ecosystem is not protected. Note the soil erosion in the fore ground of the plate. This is also contrary to the planning regulations where by urban agriculture should not be practiced on the riparian reserves.

Plate 7: Maize farming on medium size plot



Source – field survey (2008)

The maize farming is being carried out on a vacant plot. The planning standards are not being met as the farm is not within enclosed boundaries.

Plate 8 - An orchard on one acre plot



Source – field survey (2008)

Please note the piping system for irrigation purposes and the fruit trees at the horizon near the homestead. This is one of the well managed one acre plots.

PLANNING STANDARDS FOR URBAN AGRICULTURE

In order to promote urban agriculture in a regulated manner the following guidelines should be followed. In a residential area, 5% should be covered by agriculture, buffer zones should be used as greening zones, only short crops should be grown, agriculture be practiced in the backyard of the plot, Practiced on minimum land sizes of not less than an 1/8 of an acre, should establish an adequate waste management system, should be restricted within the enclosed boundaries, restricted number of species of animal per land holding, crops should not be above one meter in height, should not be practiced in ecologically

fragile areas like riparian reserves, there should a continuous environmental audit by government agencies like National Environmental Management Authority (NEMA).

In the study area these regulations are not followed. The crops grown include maize as seen on plate 5, fruit trees as illustrated on plate 6 and are basically more than the recommended one meter in height. The issue of short crops in the study area does not apply. Farming is not restricted to enclosed boundaries as residents also farm on the power way leave that cut across the ward and also on vacant plots. There are no buffer zones which can be used as greening zones. The waste management system is non existent and there is no restricted number of species of animal per land holding.

COMMERCIAL USER

There are various types of commercial enterprises in the study area but the dominant ones are general shops , butcheries, vegetable shops, Tailor's shops, Stationary, Bars, petrol filling station among others. Most of these are situated along the major roads across the ward. There is also an upcoming market centre which is housing all types of commercial enterprises. It is christened 'Ha-Kairu' and is next to the Nairobi – Thika Superhighway and Ruiru Campus of Kenyatta University. The centre is not planned and buildings are coming up in a haphazard manner. The plate below shows the up coming centre.

Plate 9 - 'Ha- Kairu' Market centre



Source – field Survey (2008)

Please note the poor planning of the market centre. Note the dusty paths and building materials at middle of the market centre.

PLANNING STANDARDS FOR COMMERCIAL USER

Local centres should be designed in such a way as to serve the residents efficiently. Parking spaces, street lighting should be provided. About 10 – 12 parking spaces for about 3500 – 5000 catchments population should be provided. (Physical planning hand book pp 70, 2008). This, in the study area has not been provided. There are no parking spaces and street lighting as seen in plate 7

On the aspect of commercial developments along major highways, there should be no direct access. Acceleration and deceleration lanes should be provided as a 100 meters stretch. Again in the study area this is not the situation on the ground. Shops are built next to the Nairobi – Thika super highway and other smaller roads without any regard of access. Plate 3 shows a commercial building next to the road. Note that there is no road of access. Vehicles access the highway/roads direct.

LIGHT INDUSTRIAL USER

Light industrial areas cater for types of industries that are compatible with residential areas. They provide favourable locations for labour intensive outfits. In the study area are light assembly furniture workshops and metal welding workshops. They exist in a relatively uncontrolled way. They are found along the major roads in the ward and also at the upcoming “Ha – Kairu’ market centre. The following plate further illustrated this.

Plate 10– A metal welding workshop in the study area



Source – field survey (2008). Please note that the workshop is next to a road and residential houses in the background.

PLANNING STANDARDS FOR LIGHT INDUSTRIAL USER

Light industrial areas cater for types of industries that are compatible with residential areas. Strong controls must be exercised if surrounding areas are not to suffer or deteriorate. It is desirable for the head title to be retained by a public authority which in turn leases the land for light industrial use. This is to ensure stricter controls. A buffer zone should also be created between the residential areas and the light industrial areas. A minimum size of the plot should not be less than half an acre. The site coverage should not exceed 75%. This is to prevent overcrowding, to ensure adequate light and ventilation and to facilitate easy movement of people, vehicles and goods.

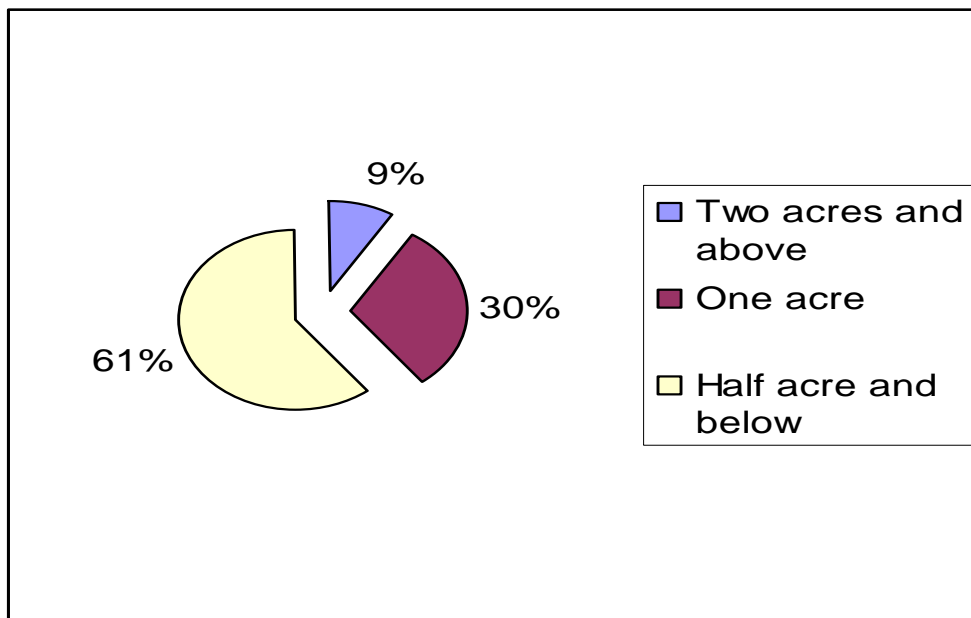
All these planning standards have not been enforced in the location of the light industries in the study area. There are no head titles to be retained by a public authority as the land is privately owned and as such no leases can be given leading to non existent controls. There are no buffer zones created between the light industry and the residential areas. The plot sizes are basically less than the recommended half an acre and the site coverage exceeds the 75% standard.

EDUCATIONAL USER

There are various types of educational facilities in the study area. There are two institution of higher learning, Secondary schools (both Public and Private), primary schools (both Public and private) and nursery schools. The institutions of higher learning and the public schools, both primary and secondary are on very spacious grounds of at least five acres. For purposes of this study concentration will be more on the private schools. This is where the manifestation of land management challenge is heavily pronounced.

The mushrooming of private schools is not controlled and are mostly built on very small plots (a quarter of an acre). Only about three well performing private schools are on relatively big plots. The schools are Bethlehem, Wankan and Spirit of faith Academies. The figure below illustrates this.

Figure 13 – Private schools in relation to the plot sizes they are built on.



Source – field survey (2008)

It is clear from the pie chart about 61% of the private schools are built on less than an acre. 30% are the schools built on one acre while a paltry 9% are the schools built on two acres and above. The plate below shows a good school built on more than two acres of land

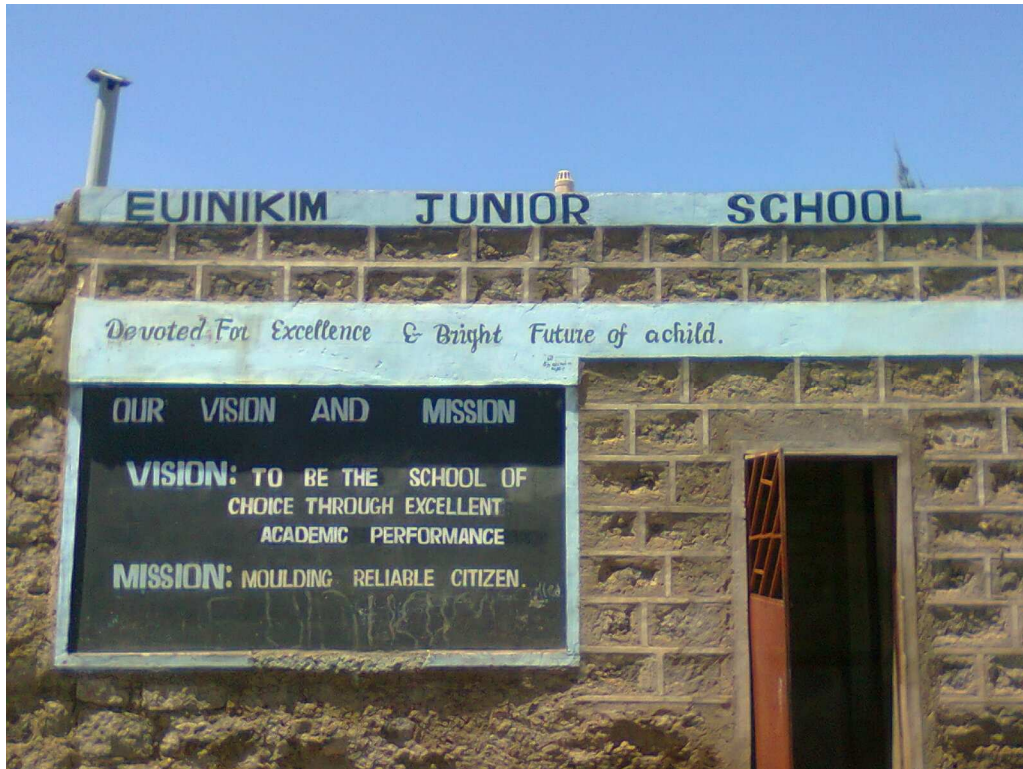
Plate 11 – A private school on more than two acre plot



Source – field survey (2008)

This is one of the well performing private schools and is on a relatively spacious ground.

Plate 12 - A private school on less than half an acre plot



Source – field Survey (2008)

Please note the size of the entrance which is rather small. This is a typical private school in the study area which have mushroomed all over the place with no regard for standards.

Plate 13 – A day care centre next to a flooded area



Source – Field survey (2008)

Note the flooded entrance and the garbage at the rear and the fore ground. The children run the risk of drowning in the dirty water. There are no planning standards being adhered to in the development of the day care centre.

PLANNING STANDARDS FOR EDUCATIONAL USER

The provision of learning facilities and land allocations depend on the age of the pupils/ students and their numbers. Land requirements for a primary school should be at least 3.25 ha. Unlike a primary school, a secondary school needs more for laboratories, workshops and assembly hall and playground for varied games. In the study area only the public institutions meet this basic land requirement. All the private schools in study area do not meet the standards as seen on plates 9, 10 and 11.

Causes

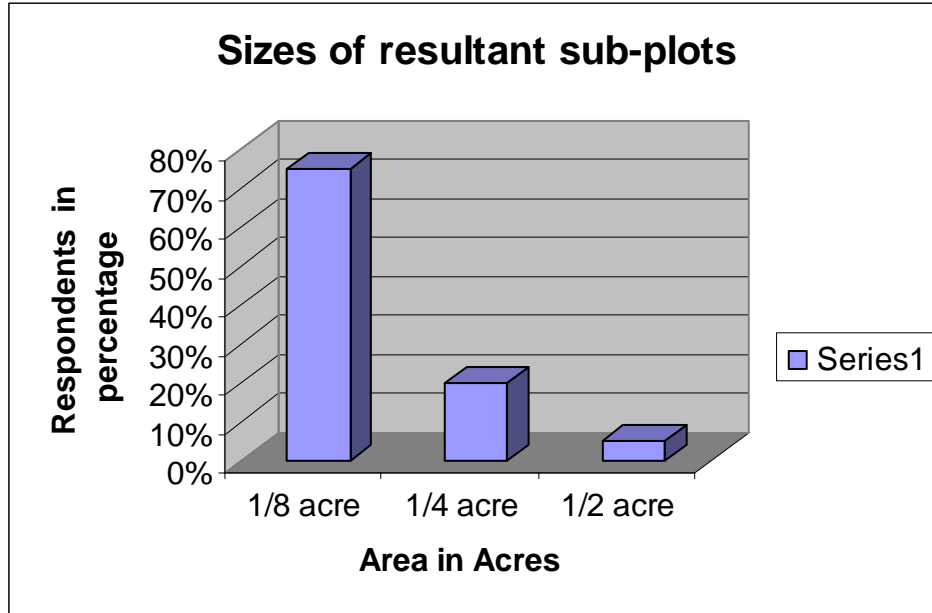
All the above competing different land uses were observed to have occurred owing to lack of spatial framework to guide growth, freehold land tenure system where there are no development conditions on the title among other factors as discussed under 5.2 and 5.3 on assessment on legal and institutional framework in land management respectively. The weaknesses, gaps and overlaps all contribute to the land management challenges.

5.1 LAND SUBDIVISIONS

Land subdivision means the division of any land, other than buildings into two or more parts. The reasons for the subdivision may be for a transfer, partition, sale, gift, lease among others. In the study area, the original plot size as surveyed by the 'Nyakinyua' Land buying company was one acre. The user was agricultural and on freehold tenure. However the one acre plots have since been subdivided into uneconomical plots ranging from ½ acre to 1/8 acre. The procedure of subdivisions as per the provisions of the Physical Planning act is never followed. The user and tenure of the resultant plots remains the same making controlling development difficult. It is worthy noting that Title Deeds do not have the user clause or other development conditions attached to them. One can therefore develop their plots as they wish. There is no law prohibiting the use of land as one wish.

The following figure illustrated this phenomenon

Figure 14 – sizes of resultant sub-plots



Source – Field survey (2008)

From the bar chart it is clear that majority at 75% of the residents subdivide their land into 1/8 acre plots. This can be explained by the fact that the control is lacking and it is out of this small subplots that one reap maximum profit from the sale of the plots. About 20% had subdivided their land into a 1/4 of an acre. Only 5% of the interviewed residents had subdivided their land into 1/2 acres. When probed further it was found out that the plots were being partitioned and there was no issue of sale.

Causes

It was noted that sub division of land into uneconomical units resulted from lack of adherence to planning regulations as provided for in the Physical planning Act.

5.2 AN ASSESSEMENT OF LEGAL FRAMEWORK IN LAND MANAGEMENT

5.2.0 The Constitution of Kenya.

The constitution of Kenya is the supreme law and all other laws must be consistent with it. The old constitution in chapter IX vests Trust land in County councils to hold it trust for the benefits of the residents of the Councils areas of jurisdiction. Under the new Constitution all land in Kenya belongs to the people of Kenya collectively as a nation, as communities and as individuals.

5.2.1 THE LAWS RELATED TO LAND REGISTRATION

The Registration of Documents Act, Cap 285

This Act came into effect in 1902 and is the simplest. It was intended to create a register of document. Under it, any document can be registered at the option of the owner, although at the time of its enactment the most important document that needed to be registered were those relating to land being mainly grant of land by the government in the highlands and towns. The most common documents which are registered at the options of the persons holding them include building plans, Agreements, wills, powers of Attorneys and trust deeds. It is important to note that this Act had serious shortcomings in that; there is no system of reference as the documents are registered numerically in order of presentation hence difficult to locate any particular entry in a volume (Register) and no page is reserved for individual piece of land thus making it quite difficult to trace the transaction relating to a particular piece of land. Due to these shortcomings, there was need for a more organized system of land registration.

The Land Titles Act Cap 282

The Act was enacted in the year 1908 and it became operational mainly at the coast to serve the interests of the Arabs who were close subjects of the sultan of Zanzibar on whose behalf the Protectorate government was administering the country. The Crown land Ordinance had been enacted in 1902 for the purpose of

encouraging white settlement in the highland and other fertile areas. The Act created land Registration court. Under this Act, the registration of land and documentation of records was enhanced

The Government Lands Act Cap 280.

The Act was passed in 1915 and prior to its enactment, all grants of Government land and transactions relating thereto required to be registered under the Registration of documents Act. This act was enacted to provide for registration of government grants and subsequent dealings with the land thereafter. It provided that all past documents relating to government land be registered a fresh under the new act.

The Act vests all administration powers of Government land to the commissioner of Lands who is an appointee of the President. Under Section three, the president has powers to alienate, allocate, approve or nullify any development proposal through the commissioner of lands. The Act regulates all transactions and dealings on land emanating from government alienation. It empowers the commissioner of lands to:-Determine the tenure of land allocated, sanction all transactions, authorise setting apart of land for alienation, determine rent and stand premium on new allocations, allow the public to carry out searches of any information concerning any land registered in the country.

However, it was later felt that the system of Registration was still inadequate even with the enactment of the Government Lands Act since it had not guaranteed any security of title.

The Registration of Titles Act Cap 281

The Act was enacted in 1920 and provided for the transfer of land by registration of titles. Unlike the earlier Acts which provided only for the recording of document without conferring any additional benefit, this act conferred on the land owner an indefeasible title which is guaranteed by the state. It provided that all future grants of government land and certificate of ownership of land at the coast would be registered under it and all other previous registration under

the other Acts. However Re – registration was not made compulsory and the three Acts continue to apply side by side.

The Registered Land Act Cap 300

The system of title registration under the earlier Acts required accurate surveys and preparation of Deep plan for each piece of land this proved to be very expensive and time consuming and was clearly impractical where many titles were to be issued. The registered Land Act was therefore passed in 1963 to simplify land registration and transactions and to bring land registration under one Act. It also aimed at getting land registration closer to the people (district level) and to speed up land registration at minimal levels (simplified surveys on general boundaries).

Under the provisions of the Act, all land that was adjudicated in the African reserves and that which was offered to Africans for settlement in the settlement schemes would be registered under this Act. It further provided that all that land previously registered under the earlier Acts would be re-registered under the Registered Land Act. This is the current practice, and it is expected that finally all land in Kenya would be registered under this Act. Since however, re-registration (conversion) is not yet complete, we still have five different systems operating concurrently.

The Act is used to administer both Government and Trust land. It is used for the purpose of land use planning, control and development monitoring. Under this Act the leasehold titles have restrictive special conditions which specify how the lessee is to utilize her/his piece of land. The restrictions include:-The building condition, the user condition, the subdivision condition, restrictive condition on transfer, sale, subletting or any other disposal of land, Site coverage condition and re-entry condition. The restrictions are meant to control and regulate how land is utilized in order to ensure orderly urban development. In the case of agricultural land the ownership is usually absolute or fee simple and its use is regulated through the Land Control Act (cap 302).

For the purpose of this study this is the Act that is applied in the study area.

Weaknesses, gaps and overlaps.

In the study area the land owners have title deeds implying that they own the land privately and on freehold tenure. Title Deeds have no user clauses, thus making controlling subdivision and development difficult. It is worth noting that the users of the plots remain agricultural while in reality they are converted to residential, commercial, educational or light industrial. This is done without any due regard for law.

The user clauses ensure that individual land holders who have leasehold tenure are subject to legislative and planning control by the state. Through this system, the state is able to have direct control of the use and development of land as the head Lessor of the land through special conditions of the lease. When the breach of conditions is committed then the redress is through the judicial system. The land can be forfeited to the state for non compliance. This notwithstanding, this regulatory aspect does not provide for the effective measures of controlling land use and development activities because: the Government does not have powers to re-possess the land even though a breach of conditions has been committed as this can only be achieved through a court order, the Government lacks capacity to follow up the legal processes to ensure compliance, the enforcement of the special conditions which define the user of the land, density of the development, subdivision regulations, and building standards and requirements is left to the Local Authorities, the Local Authorities also lack capacity in terms of technical expertise in areas of land administration and planning to carry out inspections and enforcing the special conditions of the leases, the current freehold land tenure system in the study area poses several challenges for the Ruiru Municipal council: The Municipal council of Ruiru has very limited control of the land since it is private and therefore planning becomes very difficult, the owners have unlimited control of their land and therefore not restricted by any law to carry out developments of their choice. This has led to

uncontrolled and uncoordinated developments, subdivision of land into uneconomical sub plots is rampant pushing away agriculture and paving way of other more competitive users.

The Trust Land Act Cap 288

The notion of trust land is a way of giving recognition to group and native rights. Trust land consist of areas that were occupied by the natives during colonial period and which have not been consolidated, adjudicated and registered in individuals' or group names and native land the has not been taken over by the government. It is governed by Trust Lands Act and is vested in local authorities designated as councils. Councils manage all the resources within the Trust Land under their jurisdiction and control the development of that land. The Act empowers the Commissioner of Lands to administer the land as an agent of the County Councils, empowers the County councils to grant leases and licences in trust lands, confers the President with administrative powers over trust land.

Land (Group Representatives) Act Cap 287

This is where a group of people, clan or community would come together and have their rights registered collectively. It involves individualization on a large scale of the rangeland of residents by adjudicating directly collective rights of ownership to groups who claim it. This registration was successful for pastoralist groups but did not guarantee non-subdivision of land into individual parcels

THE NEW LAND ACTS

Pursuant to the Constitution of Kenya, three Acts of Parliament were enacted and came into force on 2nd May, 2012 namely the Land Act No. 6, 2012, Land Registration Act No. 3, 2012 and the National Land Commission Act, 2012.

The Land Act No. 6, 2012

The Land Act is the substantive law and it's an Act of Parliament which is meant to give effect to Article 68 of the constitution, to revise, consolidate and rationalize land laws, to provide for the sustainable administration and management of land and land based resources, and for connected purposes.

The highlights include the preliminary, management and administration of Public and private land, General provisions on leases and charges, Compulsory acquisition of interest in land, Settlement Programmes, easements and analogous rights.

The Act recognizes four categories of tenure namely; freehold, leasehold, customary land right and partial interest defined in the act or any other written law. The Act provides that title to land may be acquired through compulsory acquisition, settlement programmes, allocation, prescription, land adjudication, long term lease exceeding 20 years and transfer and transmissions.

This Act repeals; The Way leaves Act, Cap 292 and The Land Acquisition Act, Cap 295.

The Land Registration Act No 3, 2012

The Act is the procedural Law. It was meant to revise, consolidate and rationalize the registration of titles to land, to give effect to the principles and objects of devolved government in land registration, and for connected purposes.

The highlights include the preliminary, organization and administration i.e., land registers and registries, maps, parcels, boundaries and effects of registration. Disposition affecting land, leases, charges, transmission and trusts restraints on disposition, rectification and indemnity, co tenancy and partition and creation of easement and analogous rights. The Act provides for two types of title to land Certificate of Title in case of freehold and Certificate of Lease for leasehold properties. The Act makes it mandatory for geo-referencing of all properties before registration.

This Act repeals; The Indian Transfer of Property Act 1882, The Government Lands Act, (Cap 280), The Registration of Titles Act, (Cap 281), The Land Titles Act, (Cap 282) and The Registered Land Act (Cap 300).

Weakness

The Acts are yet to be operationalised. The Acts were hurriedly enacted to meet the constitutional deadlines but apparently a lot of thought was not put in their formulation and as such cannot be operationalised in their current form. The Acts have errors both minor in terms of grammar, typing mistakes, wrong citation on marginal notes and major ones in term of inconsistencies, gaps and overlaps as summarized here below.

Inconsistency within the two Acts on the lease term section (7) (h) of the land Act gives 21 years and section (30) (2) (b) of the Land Registration Act gives 25 years thus calling for harmonization. Section (49) to (51) on transmissions in the Land Act is duplicated under section (60) to (67) of the Land Registration Act. This requires harmonization.

The general provision on charges as provided under section (78) to (105) in the land Act ought to be in the land registration Act since they are registration issues. Land settlement fund as provided under section (135) of the land Act is also provided in the Agriculture Act cap 317 as Agriculture Settlement fund under section (167) to (177). It is not practical to have the two funds operating simultaneously and performing the same function hence need for review.

The definitions as provided in both Acts need to be reviewed and harmonized and also with other statutes for example allocation of land to be restricted to public land, matrimonial property to be harmonized with the definition under the marriage Act and also align it with the constitution that emphasis the special position of a matrimonial home.

The National Land Commission Act No. 5, 2012

It is an Act of Parliament to make further provisions as to the functions and powers of the National Land Commission, qualifications and procedures for appointments to the Commission ; to give effect to the objects and principles of

devolved government in land management and administration ,and for and connected purposes. The Highlights include preliminary, composition and administration, financial provisions and transitional provision.

Weakness.

It is yet to be operationalised. There are conflicting roles of the commission and the Cabinet Secretary for example the powers of the Commission under the Act do not include the powers set out in section (6) and (7) of the Land Registration Act. Under Section (18) there is provision of establishment of County Land Management Board whose function is also performed by the Land Control Boards especially on agricultural land. There is another Board established by the urban areas and Cities Act No, 13 of 2011 under section (20). There is need for harmonization of the Boards under different statutes for effective service delivery.

5.2.2 LAND USE PLANNING AND CONTROL LAWS

Land use planning and control laws are important in land management since they direct the manner in which land should be utilised in a sustainable manner.

The Physical Planning Act Cap 286

The Act makes provision for the preparation and implementation of Physical Development plans. The Physical Planning Act Cap 286 was enacted in 1996 but became operational in October 1998. Development for the purpose of the Act is defined to include the making of any material change in the use or density of any land.

The Act outlines the functions of the Director of Physical Planning, provides for the preparation and implementation of Physical Development Plans, the strengthening of Local Authority in the planning and control of developments in their areas of jurisdiction. The planner's role is advisory and ensuring that development activities comply with the plan for the area.

Under section 24(1) of the Act the Director of Physical Planning has the powers to prepare Local Physical Development Plans with 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 market centre. Section 29 of the Act gives Local Authorities enormous powers to prohibit or control the use and development of land and buildings in the interest of proper and orderly development of its area. Under section 29 (b) the local authorities have the power to control or prohibit the subdivision of land or existing plots into smaller areas.

The Act requires that development permission should be obtained for any development from the Local Authorities as per section 31(1). The planning statute under this section gives very wide powers and discretionary powers to the Local Authorities to regulate and control physical development.

Weaknesses, gaps and overlaps.

One of the main challenges facing implementation of this piece of legislation especially in the study area is that the area is already developed. Ideally planning should precede developments. There should be a local Physical development plan to guide growth. At the course of this study a plan was prepared but nobody follows it. The council lacks the mechanisms to ensure its compliance.

Another major problem of the Act is the commercialization of the planning profession. Section 31 (1) requires development applications for example change of user, subdivisions to be submitted to the Clerk of the local authority in a prescribed form. This is done by a register planner who of course charges for the consultancy work. In reality the planner just endorses what the client's wants since he/she is being paid. The problem is compounded by the council's lack of capacity to critically examine the applications as submitted.

Another challenge of implementing the Act is its use of existing local Authorities, whose composition is more political than professionalism in land management. Another weakness of the Physical Planning Act is that, while the mandate to prepare Physical Development Plans has been vested on the Director of Physical Planning the implementation of the plans is left to the Local Authorities.

The Act falls short of providing for large area plans based on compatibility of land uses. It is rigidly concerned with maintaining existing uses and does not provide for rehabilitation measures where existing land uses are not in line with sustainable management of land and other natural resource.

Under section 24 (1) of the act the Director of Physical Planning is empowered to prepare Local Physical Development Plans while the Local Authorities are only required to comment about the plans prepared. This means that the local authorities do not own the plans, as they are denied the right to prepare them. This is also in conflict with the provisions of the Local Government Act Cap 265 section 166 where local authorities are mandated to plan.

Local Authorities also lack skilled manpower, adequate personnel, finances and equipments for effective development control policing and enforcement. This leads to conflicting land uses and uncontrolled development activities in the Peri-urban areas.

The other shortcoming of the Physical Planning Act is that the mandate to prepare Physical Development Plans has been vested on the Director of Physical Planning who has no capacity to do so. The office is not able to prepare Physical Development Plans on time for all Local Authority areas and/or towns due to the lack of adequate skilled manpower, equipments, and finances to carry out its plan preparation mandates. This limits the capacity of the Local Government to control developments without a guiding plan.

Another shortcoming of the Act is the requirement that the Plans must be signed by the Minister for lands. It is worth noting that the Minister is a politician and not a land professional and this only adds to the bureaucratic process of plan preparation.

The Act does not make provisions on the management of development activities within 500 metres radius of major highways in the country. This would control speculative land subdivisions, the illegal conversion of agricultural land into urban uses within this radius. This has resulted in haphazard development activities along the Nairobi - Thika -super highway in the study area.

The Act also provides mild punishment for contravening development control measures. This makes it easier for developers to undertake illegal developments and pay the minimal fines. For example, under section 30 (2) of the Act it is stated that “ any person who carries out development within the area of a local authority without a development permission shall be guilty of an offence and shall be liable to a fine not exceeding one hundred thousand shillings or to an imprisonment not exceeding five years or both”. The fine is not severe enough to deter wealthy developers who are keen on maximizing profits from uncontrolled land subdivisions.

The other weakness of the Act is the duplication of authority for land use planning and management. For instance, the approving Authority for development according to the Government Lands Act Cap 280 was the Commissioner of Lands while under the Physical Planning Act Cap 286 this is the role of the Local Authority. This has led to overlaps and conflicts between the department of lands and Local Authorities. The two continue to work hand in hand with none taking responsibility whenever a major problem arises. The Physical Planning Act should have repealed section 9 of the Government Lands Act before giving local authorities the powers to approve developments in their areas.

The Land Control Act Cap 302

The Land Control Act was enacted in 1967 with an aim of regulating, by means of public control, the manner in which the landowner or the owner of an interest in land is supposed to deal with it. It owes its origin to the Land Control Ordinance of 1944. This Ordinance put an end to the exclusive European dealing in land as was earlier envisaged by the Crown Lands Ordinances of 1902 and 1915. It ensured that only those who were capable of developing land could own it. This was perhaps necessitated by the fact that the Second World War had caused dwindling farm production as farms were neglected. It was therefore necessary to take steps to ensure that land would be used for the benefit of the country. The land tenure committee appointed in 1941 recommended that "any system of land tenure would be unsatisfactory which permitted unrestricted transfer and unrestricted use and misuse of land." The 1944 Ordinance, therefore, established a Land Control Board whose consent had to be obtained before any transaction in land was seen as valid. The Board was given power to impose conditions as to the development of land and failure to comply with these conditions would lead to one's forfeiture of his land. The membership of the board comprised of the Commissioner who was the chairman, a finance secretary, a director of agriculture and six other persons. Appeals were to the land Control Appeals Tribunal whose decision was final. The 1944 Ordinance was only for the control of land in the "white highlands."

After the Second World War, the administrators saw the African Reserves as productive units and wanted to encourage the growing of cash crops. They therefore needed a change from communal land ownership to individual land tenure. In advocating for this, Swynnerton stated that Africans "must be provided with security of tenure through an indefeasible title as will encourage him to invest his labour and profits towards development of his farm as will enable him to offer it as security against such financial credit as may be open to him." The idea was further developed by the East African Royal Commission which suggested that for the Africans to develop their land, they needed to own

it individually. There was therefore need for a system to control productivity of the land. The recommendations of the two groups formed the basis of land registration and land control. The aim was to prevent the Africans after registration from sub-dividing, selling and living on the land without adequately developing it. These were the reasons for the enactment of the 1959 Land Control (Native Lands) Ordinance. It provided for establishment of Divisional and Provincial Land Control Boards without whose consent dealings in land would be void. Under this Ordinance, all transactions in land were to be controlled except:

- the transmissions of land by virtue of the will or intestacy of a deceased person, unless the transmission would result in the division of the land into two or more parcels to be held under separate titles; or a transactions to which the Government or Settlement fund trustees or (in respect of trust land) a County Council is a party. Consent would not be granted to any transaction which would cause the creation of smaller pieces of land and reduce productivity. At independence, the provisions of the 1944 and 1959 Ordinances were incorporated in the Kenya (Land Control) Transitional Provisions Regulations 1963. These regulations were to serve until provisions could be made by law. These rules served from 1963 to 1967 when the Land Control Act (Chapter 302) was enacted. This Act however did not depart from the system that had earlier existed except with regard to the composition of the Board and the application of the Act to most areas of the country. It is under this Act that the regime of land control in Kenya is today embodied.

Section 5(1) of the Act gives the Minister in charge of lands the powers to establish Land Control Boards for every land control area. There are three types of land control boards which can be established under the Act, namely:- rea Land Control Boards/Divisional Land Control Boards, Provincial Land Control Appeals Board and Central Land Control Appeals Board.

Section 6(1) of the Act outlines the following transactions that require consent of the land control board:- The sale, transfer, lease, mortgage, exchange, partition or other disposal of or dealing with any agricultural land which is situated within

a land control area, the division of any agricultural land into two or more parcels to be held under separate titles and the issue, sale, transfer, mortgage or any other disposal of or dealing with any share in a private company or cooperative society, which for the time being owns agricultural land situated within a land control area.

Operations of Land Control Boards are governed by this Act. It controls transactions in agricultural land. Some of the reasons for controlling transactions on agricultural land according to Section 9(1) of the Act are to ensure:-Due regard to the effect which the grant or refusal is likely to have on the economic development of the land concerned or on the maintenance or improvement of standards of good husbandry, in case of division of the land into two or more parcels, the division would be likely to reduce the productivity of the land, the intended use of the transferred land and the nationality of the person receiving the land.

For the purpose of this study this is among the statutes applied in the study area

Weaknesses, gaps and overlaps

While the provisions of the Land Control Act are well intentioned, the Act has not achieved the government's intended objective of increasing productivity by ensuring economical use of land and also in conservation of land for future production. The Land Control Board jurisdiction of agricultural land has ceased to have any impact since most of the land is already converted to other uses. The membership of the Board lacks the expertise in land management. The Act does not require the members to have professional knowledge on land matters. This has led the Act to be ineffective in controlling subdivisions and developments in land.

Section 9(1) of the Land Control Act does not specify the minimum size resulting from subdivision of agricultural land leading to fragmented portions which cannot sustain agricultural use. An attempt by the then Minister for Lands and Settlement Hon Amos Kimunya to amend the section to provide for minimum

acreage on subdivision of agricultural land into not less than 2.5 acres in June 2005 was met with hostility from people of all walks of life including the land professionals.

Furthermore the country lacks a clearly defined Land use Policy where economically viable units would be defined according to the ecological zones.

The Agriculture Act Cap 318

The main objective among others is to provide for the conservation of the soil and its fertility, promote and maintain the development of agricultural land in accordance with the rules of good husbandry. Wide discretionary powers are vested in the Minister for Agriculture concerning the preservation and development of agricultural land. The Minister and /or Director of Agriculture may make land preservation orders for agriculture in consultation with the appropriate District Agriculture Committee to ensure that land is not depleted. Regulations made under these enabling provisions proceed by way of prohibitions with respect to bad land usage to secure the objective of good land management. The Act identifies a number of agencies to assist the Minister undertake these tasks. These agencies include the District, Provincial and the Central Agricultural Committees. To achieve its objectives, the Act gives the minister the authority to determine ownership of agricultural lands. The Act gives the Minister, and the various sub-organs of the ministry, authority and powers to undertake the following tasks on land use: Ensure production of food crops by declaring essential food crops or "scheduled crops" and special crops, and enforcing the production of such crops, enable new settlements and provide rules that govern such settlement, including outlining the crops to be grown, the number and type of livestock to be kept, and the agricultural production procedure, limit activities that exploit land and damage the environment. Under this prerogative, the Ministry, through and in consultation with its various offices, can demarcate land for preservation with a land preservation order, order land development and alter land development procedures in consultation with other

stakeholders, make rules for preservation, utilization and development of agricultural land including the control of erection of buildings, limit the size of land available to farm workers for utilization, and empower local authorities to make by-laws for the same purposes, dispossess owners of land if they violate land preservation orders, crop delivery specifications and land development orders.

This legislation covers most of the activities that have contributed to massive land degradation in the study area.

Weaknesses, gaps and overlaps

The weaknesses of this Act include :The scarcity of good agricultural land, pressure from human settlement making the legal prohibition an ineffective tool in regulating Improper land use practices, the Law neither offers incentives for proper land- use practices nor encourages free public participation in their implementation, the holders of private property aim at maximizing the use to which their land can be put and the capacity of the government machinery to police the use of land is limited by the high costs and lack of funds and land preservation orders that the Minister for agriculture could apply on poor land uses is never applied (Kameri Mbote ,2002).

Local Government Act Cap 265

The Local Government Act enacted in 1963 provides for the establishment of authorities for local Governments. Section 5 (I) (a) gives the Minister, powers to cause any area to be or cease to be a Municipality, County or Township Council. Section 1 (d) gives the Minister, powers to alter the boundaries of a Municipality, County or Township Council by adding or subtracting from its area or otherwise.

Under section 166 of the Act every Municipal Council, County Council or Town Council may subject to any other written law relating thereto, prohibit and control the development and use of land and buildings in the interest of proper and orderly development of its areas.

Section 162 (g) of the Act gives Local Authorities the power to control the subdivision of land into smaller areas by demanding that such subdivision should not be transferred until the issuance of approval certificates by the clerk of the Local Authority or such other person the Local Authority may appoint for the purpose has been produced to the land registration officer. The clause also prevents the alteration of any sub-divisional plan which has been approved by the local authority without its consent.

Weaknesses, gaps and overlaps

The major weaknesses of the Local Government Act is that it confers on local authorities far reaching powers to regulate land use in the trust-land under their jurisdiction. The Act empowers local authorities to manage forest reserves and regulate land use in already settled areas. The Act also confers on the authorities powers to alter boundaries, and acquire land. County Council by-laws made under section 201 of the Act empower County Councils to prohibit or regulate the performance of certain activities on land. These by-laws are regulatory in nature but some recognize the residual rights of the local communities.

These powers are rarely applied in the study area

Section 5 (i) (a) gives the Minister, powers to cause any area to be or cease to be a Municipality, County or Township Council. Section 1 (d) gives the Minister, powers to alter the boundaries of a Municipality, County or Township Council by adding or subtracting from its area or otherwise. This process of expansion brought into the municipality's jurisdiction on privately owned land.

This poses a major challenge as the private land get subdivided and converted informally into urban uses like Light industrial, commercial and residential. Legally, the Municipal Council of Ruiru has at its disposal the means to regulate and control the use of land that falls within its areas of jurisdiction. However in practice this regulatory role by the council is never exercised in study area.

Under section 166 of the Act every Municipal Council, County Council or Town Council may subject to any other written law relating thereto, prohibit and control the development and use of land and buildings in the interest of proper and orderly development of its areas.

Section 201 (1) of the Local Government Act empowers Local Authorities to make by-laws in respect of all such matters as are necessary or desirable for the maintenance of the health, safety and well-being of the inhabitants of its area. Related to this is section 29 (e) of the Physical Planning Act which empowers Local Authorities to formulate by-laws to regulate zoning in respect of use and density of development. Section 201 (3) of the Local Government Act confers on officers of local authority the powers of inspection, inquiry and execution of works for the proper enforcement of their by-laws.

Section 162 (g) of the Act gives Local Authorities the power to control the subdivision of land into smaller areas by demanding that such subdivision should not be transferred until the issuance of approval certificates by the clerk of the Local Authority or such other person the Local Authority may appoint for the purpose has been produced to the land registration officer. The clause also prevents the alteration of any sub-divisional plan which has been approved by the local authority without its consent. This notwithstanding the sub – divisions continue unabated due to lack of enforcement mechanisms. (Kemoni, 2007)

Environmental Management and Coordination Act (EMCA 1999)

The act was enacted on the premise that every Kenyan is entitled to a clean and healthy environment and has the duty to safeguard and enhance the environment. The Act provides for the establishment of an appropriate legal and institutional framework for the management of the environment and related matters. Major land Development applications must be subjected to an Environmental Impact Assessments to ensure that they comply with the laid down environmental regulations.

The Act is intended to ensure that the current developmental activities do not compromise the capacity of the resource base to meet the needs of the present generation as well as those of future generations (WCED, 1987).

Weaknesses, gaps and overlaps

Undoubtedly, the Environmental Management and Co-ordination Act has both long term and short-term effects on land use in Kenya. Local authorities are supposed to ensure that big projects in their areas of jurisdiction are evaluated using approved Environmental Impact Assessment Reports by the National Environmental Management Authority. This, in the study area is yet to be complied with. The study area is experiencing rapid mixed development activities such as light industrial, residential and commercial and the role of NEMA has not been felt. This could be explained by the fact that EMCA is a recent piece of legislation and as such expertise in this field are few.

5.3 AN ASSESSEMENT OF INSTITUTIONAL FRAMEWORK IN LAND MANAGEMENT.

The institutions that are mandated to manage land in the study area are outlined here below.

MINISTRY OF LANDS, HOUSING AND URBAN DEVELOPMENT

For purpose of this study the concentration will be on the land docket .The Ministry, through the land docket is charged with responsibility of ensuring efficient administration and sustainable management of the land resource which is critical to the socio-economic and cultural development of the country. The Ministry of lands comprises of four technical departments namely, Lands, Survey, Physical Planning and Land Adjudication and Settlement. It is charged with the responsibility of efficient administration and management of land aimed at ensuring security of tenure, access, equity and optimality in land use.

In addition to the above technical departments, the Ministry has the Administration and Planning Department to coordinate the services of the

technical departments as well as providing the necessary support services.

The mandate of the Lands docket as given in the current presidential Circular is to:-Promote, coordinate , implement and administer land policies and strategies, Implement land adjudication and settlement programmes and rural settlement planning i.e eco-villages, Land reclamation, Land registration, Prepare land physical and development plans, Provide advisory services on issues affecting land, Undertake of facilitate studies and research in respect of physical planning, Coordinate programmes on issues affecting land, Provision of survey and mapping services, National spatial Data infrastructure, Land information System, Land transactions, Land and property valuation Services, Collecting, maintaining and managing information on land. For purpose of this study only three departments will be highlighted namely, Lands, Physical Planning and Surveys.

Department of Lands

The Department is headed by the head of Land administration Division and is responsible for the following functions: - Management and custody of the land resource records, Administration of Government and Trust Lands, Registration of titles and various land transactions, e.g. approval of subdivisions scheme plans, approval of building plans among others, Land valuation for various purposes, resolution of land and boundary disputes, generation of revenue through assessment of stamp duty, land rent and collection of A.I.A, management of Land Control Boards and Land Tribunals. This is the Department that operationalizes the various land Registration Acts as seen above.

The National Land Commission

The Commission is headed by a chairman and has eight commissioners. It is charged with the following functions: - Management of Public land, Advice on Public Land Policy and Registration programmes, Research on land, Policy and management of historical injustices, Monitoring and oversight over land use planning, Assessment of land taxes as authorized by law and traditional dispute resolution mechanisms, on behalf of, and with the consent of the national and

County Governments alienate public land, monitor the registration of all rights and interests in land, ensuring that public land and land under the management of designated state agencies are sustainably managed for the intended purpose and for future generation, developing and maintaining an effective land information system at national and county level, managing and administration of all unregistered trust land and community land on behalf of the county government.

For purpose of this study the emphasis is on private land.

Department of Physical Planning

The department is charged with the responsibility of preparing appropriate spatial framework to guide socio-economic development in an integrated and sustainable manner. The department is responsible for the following functions:- Initiating national, regional and local physical development policies and guidelines, preparation of regional and local physical development plans, provision of advisory services on appropriate land use and alienation of land, requiring local authorities to ensure proper execution of physical development controls and preservation orders, undertake or direct studies and research in to matters concerning physical planning.

Given the many competing land uses such as agricultural, residential, industrial, and commercial and public utility, it is important that the land be well planned to achieve optimal utilization. The guiding principles in land use planning are to achieve physical order, economy, efficiency, convenience, safety and environmental quality. The continued transformation of the traditional rural to modern urban-based economies, further underscores the need to regulate development. This is the Department that partially operationalizes the Physical planning Act.

Department of Surveys

The Department is the official government agency for land surveying and mapping. It was founded in 1903 to support Government policy of sustainable

use of land and natural resources. The Department is responsible for the following functions: Provision of Survey (Geodetic) Control Networks, surveying and Mapping, photogrammetric and Remote Sensing Services, Map Printing and general publishing, quality control and quality assessment of surveying and mapping data, Maintenance of land registration maps, inspection and re-establishment surveys of National and International boundaries, Provision of Hydrographic Survey Services. In the land use planning and management process the department undertakes survey and production of registry index maps for settlement schemes, company and co-operative farms. It also checks and comments from survey view point on proposed development and part development plans including subdivision and amalgamations scheme plans, change and extension of users to ensure compliance with good land management principles.

The Ministry as represented in the study area has quite a number of challenges. The ministry lacks enough personnel to ensure compliance with the laid down guidelines in land management. It is worth noting that land administration processes of planning, surveying and registration of resultant sub plots arising from subdivisions are carried out by the various departments of the ministry.

There are no land offices at Ruiru District where the study area is situated. The offices are in Thika which is far from the study area and also serves other Districts like Gatanga, Kandara, Gatundu North and south. This makes it less attractive due to congestion. Land administration and management is currently governed by numerous laws as seen above some of which are outdated and conflicting. This poses a challenge to the Ministry in operationalizing them.

Low funding for Ministry's programmes, plans and projects also hinders effective service delivery, land information and management. The ministry still relies on manual system of management of land records making it inefficient in the face of rapid growth of real estate in the study area. Land management activities are a preserve of several institutions which are not well coordinated thus duplicating roles.

RUIRU MUNICIPAL COUNCIL

The Municipal council of Ruiru was established under the act of parliament as provided by the Local Government Act CAP 265 laws of Kenya. It is mandated to among other things provide local service delivery, local governance and local development. The council has got three departments namely: The Town Clerks department, the Municipal Engineer's department and the Municipal Treasurer's department

The Clerk's Department

This department provides general council administration and oversees the overall running of the council. It interprets local government Act Cap 265 to help in administration. It also initiates and coordinates council projects. It is also charged with the responsibility of management of personnel matters. The town clerk is the chief executive officer and acts as the liaison between the officers and the policy makers.

The Treasurer's Department

The department handles all financial matters of the council e.g. budgetary process, revenue collection, maintaining books of accounts, interpretation of financial regulations and preparation of annual abstracts of accounts. The municipal treasurer is the chief financial advisor of the council.

The Engineer's Department

The engineer's department is in charge of general development of the council. It offers technical advice to the council on development control through approval and inspection of buildings. It is responsible of all council civil works e.g. roads construction, drainage system, parks and open spaces. This is the department that ensures that the development taking place within the jurisdiction of the council complies with the laid out guidelines.

Civic Wing

The civic wing is the policy making body in the council. It is composed of 9 members: Six elected County Assembly members –representing the six wards within the municipality, two nominated Members of county Assembly, and one government representative

The County Assembly members, elect amongst themselves a leader to head the civic wing, who is assisted by his/her deputy. They also elect chairmen to head various committees.

Number of Staff.

The council has a total of 105 workers, working in the three departments. The majority of the staff members are junior officers in the lower cadre, with only eight serving as senior/chief officers. The following are some of the services that the council offers to its residents: - Street lighting, recreational facilities e.g. stadium, parks, garbage collection, provision of litter bins and cleaning of the public places (markets, streets, bus parks, recreational parks), provision of security, approval of building plans, provision of basic education, provision of health facilities, poverty eradication programs, e.g. supporting community- based organizations and relief of distress and housing. (Ruiru website)

The Ruiru Municipal council faces a number of challenges in its effort to operationalize the statutes. Key among them is lack of competent land personnel. There is only one professional in the whole municipality. There is also a lot of politicizing of projects in the council as most of the departmental committees are dominated by councilors who are basically politicians. They have no basic training in land management.

There is also lack of funds available to the council to effectively inspect ongoing developments to ensure that they comply with the various statutes. Approval of building plans is also not effective due to lack of enough man power.

LAND CONTROL BOARDS

Section 5 of the Land Control Act Cap 302 makes provisions for establishment of Land Control Boards with the responsibility of controlling all land transactions in Kenya. These Boards have wide powers to either permit a transfer of agricultural land to take place or refuse a transaction in agricultural land. Section 6 of the Act lists the following transactions as null and void without the Boards' consent: The sale, transfer, lease, mortgage, exchange, partition or other disposal of or dealing with agricultural land, which is situated within the land control area, the division of any such agricultural land into two or more parcels to be held under separate titles, the issue, sale, transfer, mortgage or any other disposal of or dealing with any share in private company or co-operative society which for the time being owns agricultural land situated within a land control area.

The board's decision on whether to grant or refuse consent to proposed transactions in agricultural land is governed by certain considerations including the impact of the transfer to the economy, the intended use of the transferred land and the nationality of the person receiving the land. There are three main types of Land Control Boards that is, Divisional, Provincial and Appeals Board and the Central Land Control Appeals Board. For the purpose of this study the land control board that operates, is on Divisional level ie Ruiru Land control board.

A Land Control Board is composed of: - The District Commissioner of the District in which the land control area or division is situated, or a District officer deputed by him in writing, who shall be chairman, not more than two other public officers, two persons nominated by the county council having jurisdiction within the areas of jurisdiction of the board, and not less than three and not more than seven persons resident within the area of jurisdiction of the board, All appointed by the Minister provided that: not less than eight and not more than twelve persons shall be appointed as members of the board: and more than one-half of the members of the board shall be owners or occupiers of agricultural land within the area of jurisdiction of the board.

The membership of the Land Control Boards as constituted lacks the professional touch to effectively manage land. The Act is silent on the qualifications of the members of the board as seen above. The Board convenes their meeting only once a month and people have to wait this long for service delivery. The Board also illegally convenes special sittings and go ahead to issue consents.

MINISTRY OF ENVIRONMENT AND NATURAL RESOURCES

The Environmental Management and Co-ordination Act, 1999 provides for the establishment of an appropriate legal and institutional framework for the management of the environment. The Act became operational on 14th January 2000. The Act covers virtually all diverse environmental issues which require a holistic and coordinated approach towards its protection and preservation.

In order to manage the environment in a holistic manner, the Act establishes two administrative bodies:-The National Environment Council (NEC) and The National Environment Management Authority (NEMA). While NEC has the responsibility of formulating policies, setting national goals, and promoting cooperation among stakeholders, NEMA's role is to supervise and coordinate overall matters relating to the environment viz: To promote the integration of environmental considerations into development policies, plans, programmes and projects with a view to ensuring proper management and rational utilization of environmental resources on a sustainable manner, to establish and review in consultation with the relevant agencies, land use guidelines, examine land use patterns to determine their impact on the quality and quantity of natural resources, to consider and approve or reject all Environmental Impact Assessment and study reports for development projects applications to its office before commencement of the projects intended.

The regulatory power of the national Environmental Management Authority (NEMA) is yet to be felt in the study area. Supervision and coordination of all matters related to the environment is unheard of in the study area .There is

neither a NEMA office nor an Environmental officer in Ruiru Municipality. There are no Environmental Impact Assessments that are carried out on the rapidly upcoming developments in the study area.

5.4 AN ASSESSMENT ON USE AND ACCESSIBILITY OF SERVICES OFFERED BY THE LAND MANAGEMENT INSTITUTIONS

In the study area the residents expressed reservations in seeking professional advice in land matters from the recognized institutions. The land matters in the study area are: sub-divisions, partition, change of user, approval of building plans among others.

Residents termed the institutions as being corrupt, bureaucratic and not easily accessible. Thika Lands' office from where the residents should normally get their services from was regarded as very unfriendly since the place was always congested. The Ruiru Municipal council offices were regarded as inadequately staffed as there was only one land professional.

The land control boards were regarded as surrounded with mystery as few influential people could always get their way out using the illegal special boards. Other residents felt that the membership of the land Control board is biased as they are unknown to them.

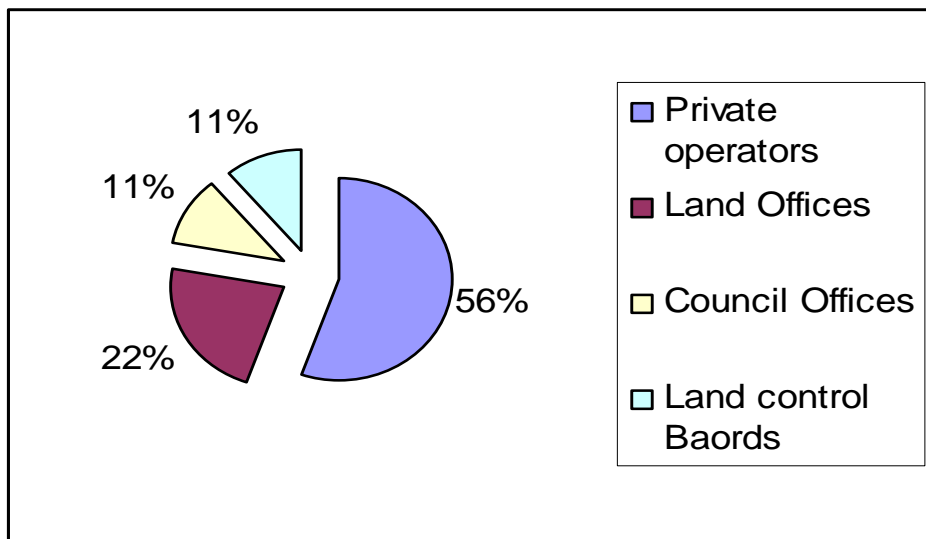
Residents expressed their preference in seeking the services of private operators locally known as 'brokers'. The emergence of these brokers is directly related to the failure of the Land management institutions to offer services efficiently, effectively and in a transparent manner. The land brokers are usually just lay people who have no professional expertise in the management of land. For example, when they subdivide land, the subdivision scheme plan is never approved by the council as provided for by the Physical planning Act. Furthermore resultant sub plots are not usually legally registered. It is in the

process of approving and registering the subplots that the sizes would be found to be too small to remain agricultural. The land professional would then be able at this point to advise the land owners to have the user and tenure changed. When the tenure changes from freehold to leasehold, then, the user clauses become applicable, thus making controlling development possible.

The ownership of the resultant subplots is more often than not defined by Share Certificate, which the brokers give to the prospective buyers. It is worth noting that the land that they purports to issue share Certificates for does not legally belong to them. The result of this is complexity in land ownership, uncontrolled and uncoordinated developments.

The figure below illustrates the residents' preference in seeking for services in land matters

Figure 15 - Residents' preference in seeking for services in land matters



Source – field survey (2008).

From the pie chart it is clear that majority at 56% prefer to seek services on land matters from the private operators (Brokers). 22% prefer land offices while 11%

tie between the council offices and the Land Boards. This can be explained by the fact that brokers are regarded positively in terms of accessibility and the residents perceived view of efficient service delivery. It is worth noting that there is no bureaucracy in accessing their services, no filling of forms, queuing as is characterized in the formal land management institutions.

CHAPTER SIX

SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSIONS.

This chapter presents a summary of findings that arose from data analysis and observations made during the fieldwork in relation to the stated objectives in chapter one. This forms the basis upon which a summary of findings, recommendations areas of further research and conclusions are drawn. The chapter opens with an overview of a summary of emerging issues, followed by recommendations and areas of further research. The chapter closes with conclusions.

6.1 SUMMARY OF FINDINGS

From the study findings it is evident that there exist land management challenges in the Murera ward of Ruiru Municipality. The challenges emanate from legal and institutional frameworks as well as the competing and conflicting land uses. The challenges are manifested in the uncontrolled developments brought about by the structure of land ownership, rapid land use conversion and the failure of land management institutions to effectively control land use within their area of jurisdiction. The inefficiency in land utilization is manifested in the form of uncontrolled and informal land fragmentation into uneconomical units, and conversion of freehold agricultural land into urban uses.

The study acknowledges the ineffectiveness of land management institutions to develop an efficient land use policy, strategies and approaches that would guide efficient utilization of land resources in the study area.

The holders of private land on freehold tenure on the other hand aim at maximizing the use to which their land can be put and the capacity of the regulatory machinery i.e the central government, the local authority (now county

governments) to police the use is limited by the high costs and lack of funds. Further the institutions lack capacity in terms of personnel and equipments to effectively manage the land resources. The study also noted that the development control statutes lack clear coordinated approach in their implementation. There is also clear lack of coordination between the institutions notable the Ministry of lands, land control baords and the Local Authority. This is especially pronounced in the preparation of physical Development plans by the Ministry and implemented by the local authority. This leads to lack of ownership of the plans by the local authority.

Below is a summary of the principal land management issues drawn from the research:-

- Lack of land management expertise within Ruiru Municipal council.
- The study area is already registered and developed. There was no spatial plan to guide growth. The Physical Development plan that has recently been done has had no impact as the land is freehold and there are no development conditions in the title Deeds. However even in the upcoming developments the plan is not been followed. There is clear lack of enforcement. Ideally planning should precede development.
- Lack of development control on freehold land even where the Municipal council could introduce by-laws and enforce them to the letter.
- Land fragmentations into small uneconomical units continue unabated, the land Control Act section (9) is silent on the minimum acreage in agricultural lands.
- Land use conversion is done informally and as such the land remains agricultural on paper but on the ground the user is different. If the conversion was to be done formally the owners would loose the freehold status and convert to leasehold status where development conditions are applicable.

- The land control Act should legally be applied in agriculture land. In the study area the Act continues to be applied even where the land in question is too small to remain agricultural. The membership of the land control Boards also lacks professional expertise to effectively handle the land management issues brought to its attention. The members are drawn from the local area and there are no specifications of academic /professional backgrounds save for representation of Council, Government and the jurisdiction of the land control area.

6.2 RECOMMENDATIONS

A summary of the recommendations for addressing legal and institutional challenges as well as land use sustainability in the study area and other satellite towns includes:-

Recommendations for Policy makers

- Harmonize the legal framework in land management and ensure there is enough professionals and coordinated institutions to enforce compliance.
- There should be a well coordinated approach between the land Development control measures and land registration. There should be no registration of land whose acreage is too small (less than a quarter of an acre) to remain agricultural.
- Convert the land tenure system from freehold to leasehold. This will ensure that the title instruments have development conditions that legally bind the land owners to comply. At the point of approval of building plans the local authorities will be guided by the user clause in the title.
- Efficient coordination of the implementing agencies. Point of convergence of all institutions dealing with land matters should be clearly established and laws thereof followed to the letter.

- Remove the overlaps and conflicts which now exist. The process of planning and implementation should at all times be consultative to ensure there is ownership of the process.
- Enhance capacity in terms of personnel, equipment and financial resources. Deliberate efforts should be made to professionalize land management at the local authority level. Politics should be separated from the management of land.
- A comprehensive peri-urban land use policy should be formulated as per ecological zones and ensure legal backing for effectiveness. This will protect rich agricultural areas from being converted into urban uses. This in the long run will ensure that the country is food sufficient.
- There should be legal modalities of incorporating physical Development plans into already developed areas regardless of the land tenure systems.

6.3 AREAS FOR FURTHER RESEARCH

The findings in this study are not exhaustive and further research could be undertaken in the following areas:-

1. The relationship between arbitrary extension of municipal boundaries into prime agricultural land and urban sprawl.
2. The relationship between the land conversion and environmental quality-
Land conversion- a bane or a boon?

6.4 CONCLUSIONS

In conclusion this study has found out that indeed the incompatible different land uses, uncontrolled land subdivisions and current haphazard development pattern in the study area has been occasioned by:-

- The poor institutional framework for land management
- Uncoordinated legal framework which have weaknesses gaps, overlaps and conflicts.

- The prevalent freehold land tenure system which has led to informal land management practices.
- Lack of adequate resources in terms of finances, equipments and professionals to undertake development control and enforcement both at the Council and the Ministry level.
- Lack of spatial plans to guide growth.

Land is used for different purposes and changes in response to emerging needs as the country develops. It is therefore important to identify the most appropriate use for a particular area, and time that best serves the interest of all those involved. Different land uses compete, whereas people have different interest in land. This calls for a consultative, participatory multi-sectoral approach in the continuous land use planning and management. This is necessary to mitigate problems arising from competing land uses and the different interests, and the study's recommendations for policy makers if adopted are a good starting point in realizing prudent land management practices in the peri-urban areas.

REFERENCES

1. Agevi, A.H.G (1981), Problems of Urban Boundary Extension in Kenya: A Case Study of Kitale Municipality. M.A Thesis, Department of Urban and Regional Planning, University of Nairobi, Kenya.
2. Avijit G. & Mukul G.A (1998), Environment and the developing world, principles, policies and management. John Wiley and sons, England.
3. Chege O. (1978), Land Constraints to Urban Development: The Case of Nyeri Town, M.A Thesis, Department of Urban and Regional Planning, University of Nairobi, Kenya.
4. Conachar A. J. & Man S. eds., (1998) Land degradation in Mediterranean environment of the world. John Wiley and sons, England.
5. Dale, P. and J. McLaughlin (1988): Land Administration. Oxford University Press, UK.
6. Dennis O. et al eds., (2005), Global Land project, Science plan and implementation. IGBP Secretariat, Stockholm.
7. Denscombe, M. (1998), The Good Research Guide for small scale social research projects. Open University Press, Buckingham.
8. George G. V. & Peter A. E. eds., (1996), Urban Habitat, focusing on infrastructure and environmental limitations. Faculty of Architecture, Eindhoven University of Technology.
9. Goran, T. F. (1995), Towards an urban world, Urbanization and Development. Swedish International Development Agency.
10. Gustafson, R. C. (2005), Land Degradation and the global environment Facility. United Nations publication.
11. Haile M. et al (2006), Sustainable land management, a new approach to soil and water conservation in Ethiopia. Berhanena Selam Printing Enterprises.
12. Hotz M. C. G & Bell B. G eds., (1986), Land and its uses, Actual and potential, an Environmental approach. Plenum Press, New York.

13. Kameri P.M. (2002), Property rights and Biodiversity Management in Kenya, a case of Land tenure and wildlife. ACTS press.
14. Kangethe S. et al (2006), How to write a winning Research proposal. English press Limited, Nairobi.
15. Kathukya, T. (1979), The Problems Facing Machakos Township in the preparation and implementation of physical development plans. M.A Thesis, Department of Urban and Regional Planning, University of Nairobi, Kenya.
16. Kemoni, J O. (2007), Institutional problems and constraints in land utilization in the peri-urban areas of Mavoko Municipality: A case of Namanga road – stony Athi corridor. M.A Thesis, Department of Urban and Regional Planning, University of Nairobi, Kenya.
17. Kenya, Daily Nation accesses on 28th June 2007.
18. Kenya Republic of (2012), Draft Concept paper on National Land use policy Unpublished.
19. Kenya Republic of (2007), Draft Ruiru Physical Development Plan. Unpublished.
20. Kenya, Republic of (2003), Economic recovery strategy for wealth and Employment Creation for the period 2003-2007. Government Printer, Nairobi.
21. Kenya, Republic of (2005), Issues and Recommendations report. Unpublished.
22. Kenya, Republic of (2006), Kenya Country Report at the world urban forum Vancouver, Canada. Government Printer, Nairobi.
23. Kenya Republic of (2004), National Atlas. KISM, Nairobi.
24. Kenya Republic of (2008), National Boundary Data Sets. KISM, Nairobi.
25. Kenya Republic of (1996), National Report and Plan of Action on Shelter and Human Settlements, The second United Nations Conference on Human Settlements Habitat – Government Printer.
26. Kenya Republic of (2008), Physical Planning Handbook. Ministry of Lands, Nairobi.

27. Kenya, Republic of (2001), Poverty Reduction Strategy Paper for the period 2001-2004. Ministry of Finance and Planning, Nairobi.
28. Kenya, Republic of (1965), Sessional paper No. 10 of 1965 on African socialism and its application to planning in Kenya. Government Printer, Nairobi.
29. Kenya, Republic of (1986), Sessional paper No. 1 of 1986 on Economic management for renewed growth. Government Printer, Nairobi.
30. Kenya, Republic of (2007), Sessional paper No. 3 of 2009 on National Land Policy. Government Printer, Nairobi.
31. Kenya Republic of (2008), Strategic Plan for the period 2008-2012. Ministry of Lands, Nairobi.
32. Kenya, Republic of (2007), Vision 2030. Government Printer, Nairobi.
33. Khan, B. J. N. (1981), Uncontrolled Development: A Study of Development Problems in Siaya Town, Kenya. M.A Thesis, Department of Urban and Regional Planning, University of Nairobi, Kenya.
34. Kivell P. (1993), Land and the City, Patterns and Processes of Urban Change. Routledge, London.
35. Kombo P. K. & Tromp D. L. A (2006), Proposal and Thesis writing, An Introduction. Paulines Publication Africa.
36. Kothari C.R. (2004), Research methodology, methods and techniques. New age international publishers, New Delhi.
37. Lash F. T. et al eds (1986), Land and its uses, an environmental approach. Plenum press, New York.
38. Lecture Notes by Dr Owour S, O and Mr. Nyaganga. (2006)
39. Manasseh, J.M (1975), Problems of planning and management within the Nairobi City Council. M.A Thesis, Department of Urban and Regional Planning, University of Nairobi, Kenya.
40. Mather. A.S (1986), Land use. Longman Group Limited, England.
41. McGregor et. al eds., (2006), The Peri Urban Interface, Approaches to Sustainable Natural and Human Resources Use. Earthscan, London.

42. Mugenda O. M. & Mugenda A. G. (2003), Research Methods: Quantitative and qualitative approaches. ACTS press, Nairobi.
43. Ngeti, R. (1997), An Assessment of the Impact of Land Use Regulations and Policies on Land Utilization in Mombasa Municipality. M.A Thesis, Department of Urban and Regional Planning, University of Nairobi, Kenya.
44. Njoroge, C.G.M (2005), Examining Spatial Dynamics of an Urban Fringe: A Case of Nairobi Kiambu Corridor. M.A Thesis, Department of Urban and Regional Planning, University of Nairobi, Kenya.
45. Olima W.H.A. et al (2002), Urban Land Management in Africa. Spring Research Series, Dortmund.
46. Rego, at al (2003), Environmental Education Essential Knowledge for Sustainable Development. Longhorn Publishers.
47. Shibira, N.A (1978), Land use Planning Policies for the Physical Development of Peri-Urban Areas M.A Thesis. Department of Urban and Regional Planning, University of Nairobi, Kenya.
48. Simiyu, L.B (2002), Effects of Urbanization on the Use and Control of Land: A Case of Ngong Fringe. M.A Thesis, Department of Urban and Regional Planning, University of Nairobi, Kenya.
49. Tiffen M. et al (1994) – More people, less erosion, Environmental recovery in Kenya, Acts Press.
50. Tudor J. (1978) – the Law of Kenya: an Introduction- Kenya Literature Bureau.
51. UN (1992), Earth summit Agenda 21, the United Nations program of actions from Rio. United Nations Publications.
52. UN, (2002), Environment and Urbanization, globalization and Cities-Vol 14 No. 1. United Nations Publications.
53. UN (2003), Environment and urbanization. Rural Urban transformation vol. 15 No 1. United Nations Publications.

- 54.UN (1996), United Nations Conference on Human Settlement on World Resources, A guide to Global Environmental, the urban environmental. New York Oxford University Press.
- 55.UN (1998), Urbanization and Environment, sustainable cities revisited vol. 10 No. 2. United Nations Publications.
- 56.UN, (2002), Urbanization and sustainable development in the third world, unrecognized global issue. UN Habitat Nairobi. Government of Kenya.
- 57.UN (1996), Land Administration guidelines, with special reference to countries in transition. United Nations Publications. New York
- 58.UN (1983), Sustainable Cities. United Nations Centre for Human Settlement. Nairobi
- 59.UNCHS. Habitat, (1996), An urbanizing world, global report on human settlements. Oxford University Press.
- 60.UNDP (1995.) United Nations Development Programme– Urban management Programme Annual Report. UNCHS (Habitat) World Bank and UNDP.
- 61.UNEP (2000), Protecting the environment from Land degradation in the framework of global environmental Facility. United Nations Environmental programme publications.
- 62.UNEP (2005), Unep's strategy on Land use management and soil conservation approach, a strengthened functional approach. United Nations Environmental programme policy series.
- 63.UN-Habitat (2001), Cities without Slums – United Nations Publication.
- 64.UN-Habitat, (2001), The State of World Cities. United Nations Centre for Human Settlement. Nairobi.
- 65.UN-Habitat, (2008), The State of World Cities. United Nations Centre for Human Settlement. Nairobi.
- 66.WCED (1987), World Commission on Environment and Development.
- 67.Websites. www.int./global change/ecosystem, accessed on 10th July, 2013; www.en.wikipedia.org, accessed on 30th June, 2007. United Nations Publications.

68. Yahya, S.S. (1976), Urban Land Policy in Kenya. A Published P.H.D Thesis

ACTS OF PARLIAMENT

1. Kenya, Republic of (2010), The Constitution of Kenya. Government Printer, Nairobi.
2. Kenya, Republic of (2012), The Land Act No. 3. Government Printer, Nairobi.
3. Kenya, Republic of (2012), The Land Registration Act No. 6. Government Printer, Nairobi.
4. Kenya, Republic of (2012), The Land Commission Act No. 5. Government Printer, Nairobi
5. Kenya, Republic of (1962), The trust land Act, Cap 288. Government Printer, Nairobi.
6. Kenya, Republic of (1970), The Government Land Act, Cap 280. (Repealed).Government Printer, Nairobi.
7. Kenya, Republic of (1970), The Registration of Titles Act, Cap 281. (Repealed).Government Printer, Nairobi.
8. Kenya, Republic of (1970), The Land Registered Act, Cap 300. (Repealed).Government Printer, Nairobi.
9. Kenya, Republic of (1999), The Environmental Management and Coordination Act. Government Printer, Nairobi.
10. Kenya, Republic of (1970), The Land Control Act, Cap 302. Government Printer, Nairobi.
11. Kenya, Republic of (1963), The Agriculture Act, Cap 318. Government Printer, Nairobi
12. Kenya, Republic of (1970), The Land (Group Representative) Act. Government Printer, Nairobi
13. Kenya, Republic of (1970), The Local Government Act (Repealed). Government Printer, Nairobi

14. Kenya, Republic of (1996), The Physical Planning Act cap 286.
Government Printer, Nairobi

APPENDICES

APPENDIX 1

QUESTIONNAIRE FOR LAND CONTROL BOARD SECRETARY (RUIRU LAND CONTROL BOARD)

UNIVERSITY OF NAIROBI

***Master of Arts in Environmental Planning and Management 2006/2007
Land Management Challenges in Satellite Towns. A case study of Ruiru
Municipality***

Declaration: - The information obtained will be used for research only and will be treated with the confidentiality it deserves.

1. As Secretary of Land Control Board, what are the transactions that are brought to your attention? Transfers....., Subdivisions.....change of users.....Amalgamation....., Charge..... Correction of name.....(tick as appropriate)
2. Which transactions are most common?.....
.....
3. How often do you meet?.....
4. What is the membership of the board in terms of level of education, gender and the organizations that they represent? Level of education.....Gender.....organizations represented.....
5. What are the main problems the Board faces in carrying out its functions?.....
.....

-
6. What in your opinion are the effects of land conversion from agricultural to other uses in Murera ward?

.....

.....

.....

.....

7. In your view do you think the board has been instrumental in encouraging the rapid development being experienced in Murera ward?

.....

.....

.....

8. How do you relate with the other organizations dealing with land notably Ministry of Lands and the Council?

.....

.....

.....

9. In your opinion what do you think can be done to improve the efficiency of the Board?

.....

.....

.....

Thank you for taking your time to answer the questions.

APPENDIX 2

SCHEDULED QUESTIONNAIRE FOR LAND OWNERS UNIVERSITY OF NAIROBI

Master of Arts in Environmental Planning and Management 2006/2007 *Land Management Challenges in Satellite Towns. A case study of Ruiru Municipality*

Declaration: - The information obtained will be used for research only and will be treated with the confidentiality it deserves.

A: **LAND OWNERS INFORMATION**

1. Name of the the land owner, (optional.....)
 2. Personal details
 - Sex.....F.....,M.....
 - Level of Education.....Primary level....., Secondary level.....College Level.....
 - Occupational status....Formal Employment.....self employed.....
 - Marital status....Marrried.....Single.....
- (Tick as appropriate)

B: **LAND MANAGEMENT ISSUES**

1. Do you own this land you are currently occupying? Yes/No.
2. If yes how did you acquire the land?Sale.....family land.....
3. What is the size of your land?....1/8th of an acre....., 1/4 of an acre....., 1/2 of an acre.....1 acre and above.....
4. What ownership documents do you have for your land? Title Deed..... Share Certificate.....others specify
5. If you have a title deed for your land, what approach did you follow in acquiring it?Lands office... direct....., Agent.....others.....
6. How long did it take you to process the title for your land?

-
7. If your have a share certificate for your land, why have you not pursued the issuance of title deed?.....
 8. What transactions have you carried out on your land?
Subdivision.....Change of user.....
Transfer.....Charge.....change of name.....others.....specify.....
 9. If yes to any of the above, what procedure did you follow to get the approval from the relevant authorities?.....
 10. Did you seek any professional consultancy...yes.....No.....
 11. If yes whose professional advice did you seek? Land official.....provincial administrator.....agent.....Any other please specify.....
 12. What in your view is the major challenge affecting land use in this area?.....

C: ENVIRONMENTAL ISSUES

1. Do you have access to water?.....Yes.....No.....
If, so what is the source of your water?
 - Piped
 - Borehole
 - Well
 - Rain water
2. What is the mode of Human waste disposal on your plot?
 - Pit latrine
 - Septic tank
 - Others (specify)
3. What method do you use to dispose your household garbage?

.....Open pit.....Dust bin.....Share communal dumping ground.....collected
by private collectors.....Collected by Council.....

4. What other environmental problems do you face in this area?
Flooding.....Inaccessible roads.....dust.....noise
pollution.....others specify.....
5. What in your opinion are the major land management challenges in
this area? Uncontrolled developments..... uneconomical land
fragmentation.....land conversion.....Any other please
specify.....

Thank you for taking your time to answer the questions.

APPENDIX 3

STRUCTURED QUESTIONNAIRE FOR TOWN CLERK RUIRU MUNICIPAL COUCIL

UNIVERSITY OF NAIROBI

Master of Arts in Environmental Planning and Management 2006/2007 Land Management Challenges in Satellite Towns. A case study of Ruiru Municipality

Declaration: The information obtained will be used for Research purposes and will be treated with confidentiality.

1. Do you have a development control section in your municipality?
Yes...../no.....
2. What principles guide the operations of the section?
.....
.....
3. Do you have adequate manpower and resources to run the
section? yes...../no.....
4. Do you have an approved plan for the municipality? Yes.....No.....If
yes what are its contributions towards effective land management
in the areas
5. If no, what is your entry point in enforcing development control?
.....
.....
6. What tools do you use to effectively enforce development control?
.....
.....
7. What factors have led to the rapid growth of the Ruiru
Municipality?.....

-
8. What is the frequency on monthly basis of applications handled by your office in respect of following land transactions situated within Murera ward? Subdivision of freehold land.....Change of user..... Approval Building plans
 9. What land management challenges are experienced by your Council in Ruiru Municipality?
.....
.....
 10. In your opinion how do you think these problems can be solved?
.....
.....
 11. Do you relate with other land management agencies? Yes....No.....
Thika District Lands office.....District Physical Planning office.....District surveyor.....Land Control Board.....NEMA.....(Tick as appropriate)
 12. Do you have a forum where you exchange ideas in as far as land managements issues affecting the municipality are concerned?
Yes.....No.....
 13. If no, what in your view should be done to ensure proper coordination to ensure effective land utilization and management in the area?
.....
.....

14. What do you think are the major limitations of land use regulations, institutional structure and legal framework currently mandated to manage land?

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.....

15. In your view, what should be done to effectively manage land in the area?

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.....

Thank You for your cooperation

APPENDIX 4

STRUCTURED QUESTIONNAIRE FOR DISTRICT LAND ADMINISTRATION OFFICER/ PHYSICAL PLANNER- THIKA DISTRICT

UNIVERSITY OF NAIROBI

Master of Arts in Environmental Planning and Management 2006/2007 *Land Management Challenges in Satellite Towns. A case study of Ruiru Municipality*

Declaration: The information obtained will be used for Research purposes and will be treated with confidentiality.

1. What is the role of your department in regard to management of land in terms of land administration and planning in the district?

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2. What policy guidelines are in place to guide your department in guiding developments in satellite towns like Ruiru?

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.....

3. Does the Ministry have land use planning policy to cater for the development requirements of the satellite towns? Yes /No.....

4. If yes do you have the capacity in terms of personnel and equipment to ensure the implementation of the policy? Yes..../No.....

5. What has been your office's role in the land use conversion and

development taking place Ruiru Municipality?

.....

.....

.....

6. What is the frequency on monthly basis of development applications forwarded to your office in respect of: - Subdivisions.....Change of userapproval of building plans

7. What land management challenges are being experienced as a result of the emerging land use conversion in Ruiru?

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8. What do you think are the major causes of uncontrolled developments in Ruiru Municipality?

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9. What do you think are the major weakness of the land use and management statutes in ensuring compliance with development control?

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10. What is the way forward?

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.....

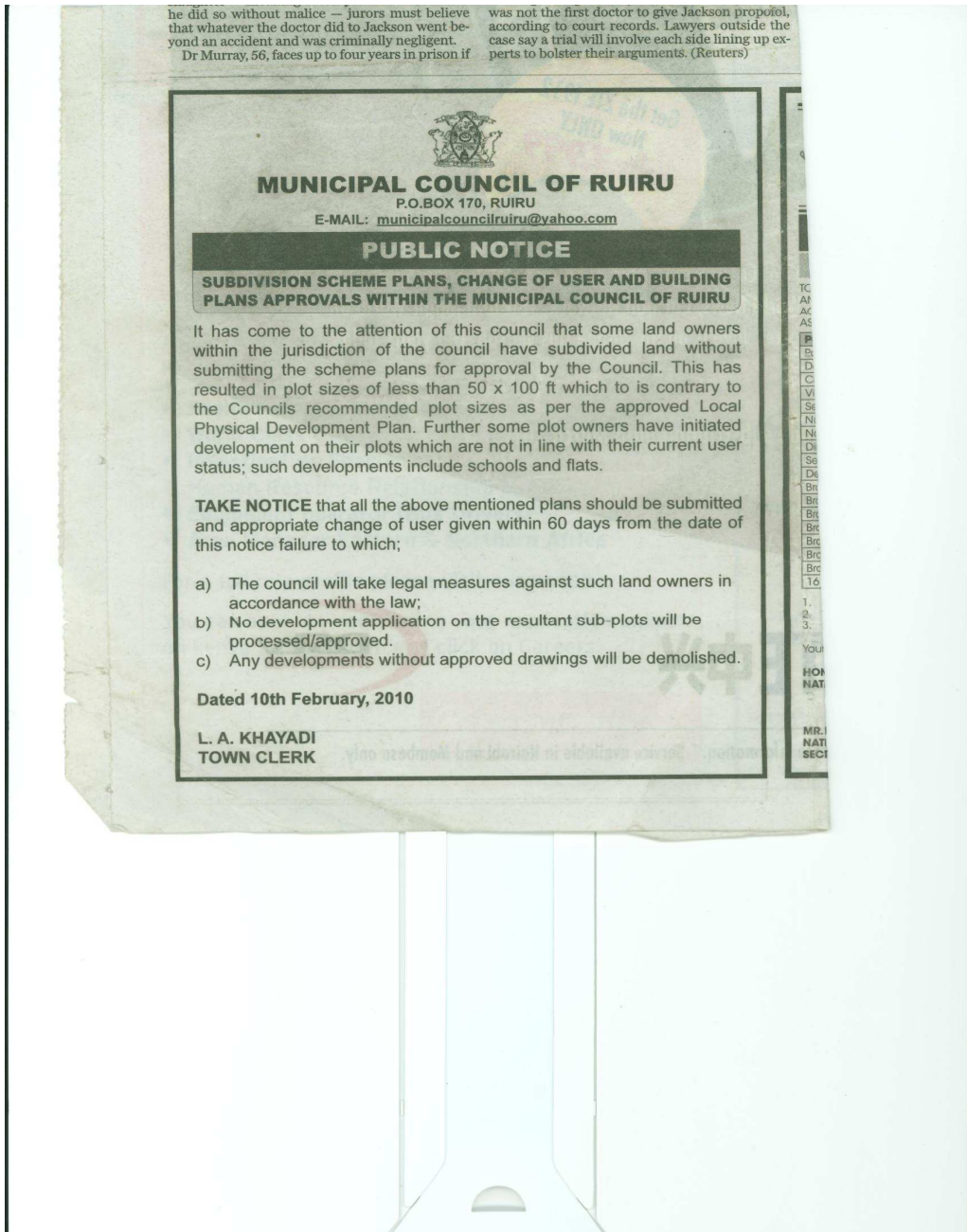
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11. Any other comments.....

Thank you for taking your time to answer the questions.

APPENDIX 5

A typical notice by the council warning land owners against subdividing land into less than 1/4 an acre of land



Source Daily Nation 10th February, 2010

APPENDIX 6

OBSERVATION FORMS

1. **Land uses**
 - Residential
 - Commercial
 - Light industrial
 - Educational
 - Urban agriculture
2. **Types of houses**
 - Bungalow
 - Flats
 - Maisonnette
 - Single rooms
 - Hostels